DEVELOPMENT AND UTILISATION OF WORK SKILLS SCALE FOR ASSESSING JOB PERFORMANCE OF SENIOR UNIVERSITY NON-ACADEMIC STAFF IN SOUTHWESTERN NIGERIA

BY

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ABSTRACT

Job performance entails scalable activities and behaviours that are assessed with the Annual Performance Evaluation Report (APER) form among University Senior Non-academic Staff (USNS) on grade levels 6-12 in Nigeria. However, the APER form has been regarded deficient in objective assessment for its lack of job factors, and indices and rubric on work skills. Previous studies focused largely on work performances of service oriented employees such as teachers, engineers, nurses and doctors but little on work skills scale that can objectively measure USNS job performance. This study was, therefore, designed to develop a work skills scale to measure USNS performance and determine the predicting effects of demographic factors (highest qualification, school ownership, age of staff, age of university and years of experience) on their skills.

Katz's Theory of Work Skills and Koopmans' Heuristic Performance Framework guided the study. The analytical survey of the e*x-post facto* design was adopted. Three phases and three sets of samples were involved after establishing the scale's content validity (0.9) with the Lawshe ratio method. Phase 1 entailed pilot testing of an initial pool of 202 work skills items using 251 randomly selected respondents (r=0.95). The six states in southwestern Nigeria were sampled. One each of federal and state universities per state were purposively selected owing to existence of one each per state, while a private university was randomly selected per state. Phase II entailed item selection, validation and calibration of the scale. Random sampling was adopted to select 2,748 USNS from 12 non-academic units across the universities. Phase III entailed utilisation of the scale involving 305 respondents. Data were analysed using Exploratory Factor Analysis (EFA), Parallel Analysis (PA), Confirmatory Factor Analysis (CFA), Graded Response Model (GRM), descriptive statistics and Partial Least Squares (PLS).

Nineteen factors were extracted through EFA, but 10 factors comprising 60 items, were retained for further analysis. The remaining items were reduced to 39 which loaded on three factors denoted as Basic Skills (BS)=(20), Personal Attitude to Work (PAW)=(13) and Workplace Value (WpV)=(6) through PA. The factor structure was confirmed by CFA giving moderate fit indices, Root Mean Square Error of Approximation (0.8) and Root Mean Residual (0.03). Item calibration using GRM, slope (a_1 - a_3) ranged from 1.75 to 4.80 and intercept (c_1 - c_5) from 0.26 to -11.21. These indicate that the items possessed high discrimination and model fit was fair and satisfactory. Ordinal reliability index of the multidimensional scale was 0.97. Composite reliability of sub-scales were BS=(0.97), PAW=(0.95) and WpV=(0.79). The group $\bar{X}$=3.87 revealed that the USNS job performance is high. Regression of the sub-scales and demographic variables, using PLS indicate that PAW contributed mostly to work skills (0.93, t=89.63). Also, academic qualification with (t=4.1; $p<0.05$) predicts work skills, while school ownership, staff age, years of experience and university age did not.

The developed Work Skills Scale effectively measured job performance of University Senior Non-academic Staff with academic qualification predicting their work skills in the selected universities in southwestern Nigeria. The scale is recommended for university stakeholders.

Keywords: Work skills scale, University senior non-academic staff, Annual performance evaluation report, Job performance.

Word count: 495

CERTIFICATION

I certify that this study was carried out by Arowojolu, Foluso Agnes under my supervision at the International Centre for Educational Evaluation, Institute of Education, University of Ibadan, Ibadan.

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DEDICATION

This thesis is dedicated to the Almighty God for His love and mercies that saw me through; and to my father, (Late Mr. M. B. Ogunleye) who would have loved to witness this great feat because of his love for education.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Problem

One of the factors that determine the success of any organisation is availability of skilled workers. This made values and measures of work skills to be cherished in the workplace such that in the late 20th century, management of organisations and industries began to look out for these skills in their employees. These skills are also referred to as employability skills and emotional intelligence that aid competence. Work skills are made up of hard skills and soft skills that are needed to accomplish tasks at the workplace. Some of these skills transcend educational degrees, certifications, licenses in the workplace. Changes in the rule at workplace in the 21st century culminated in new approach to employees' performance assessment. The new yardstick consists of smartness, training, expertise, self management, and managing colleagues (Goleman, 1995). However, subjective assessment of these skills still remains an unresolved problem in the workplace, particularly in a bureaucratic system in Nigeria. Also, researchers have found that the general work skills required in the labour market in recent times seems not to be adequately developed by University graduates (Ajayi, 1994; Evers, Rush and Berdrow, 2001, Iwintolu, 2014).

According to Finch and Madux (2006), work skills are special knowledge and abilities used to perform a specified task. Most of these skills are latent but observable in an individual because they are evident in an individual's attitudes, habits and values. Davies, Fidler and Gorbis (2011) posit that before 2020, researchers ought to increase their understanding of the skills workers would need in a technologically advanced and changing world. Work skills are numerous as identified by different researchers and surveys. The 2009 National Association of Colleges and Employers (NACE) Research Report, and Hodge and Lear (2011) highlight different work skills that can be measured in an employee; these skills are: oral communication skills, work ethics,

teamwork skills, initiative, interpersonal skills, problem-solving, analytical skills, flexibility/adaptability, computation skills, technical skills, detail-oriented and organizational skills, creativity skills, critical thinking, listening skills, leadership skills and personal management.

In the same vein, Ohlsson, Hedlund and Larsson (2016), Laker and Powell (2011) and Blass and Ferris (2007) noted that there are numerous relevant skills that employees ought to possess and usein the workplace in order to be productive. These skills are: efficiency, timeliness, organisational skills, commitment, self-confidence, competency/proficiency, leadership skills, communication skills, adaptability, flexibility, problem solving, expression on paper/writing skills, teamwork, self management, record management, numerical ability, conscientiousness, punctuality, creativity, presentation skills, integrity, honesty, fidelity, respect, courteousness, networking, helping others, ability to learn from criticism, knowledge management, patience/perseverance, resilience, acuteness, alertness, proactive skill, proper appearance, analytical skills, persuasiveness, conflict resolution, assertiveness, being versatile, resourcefulness, effectiveness, adroitness, innovation, time management, anger management, quality of work, information management, motivation, accuracy, responsiveness, work ethics, stress management and enthusiasm.

Many researchers have applied different approaches to conceptualise work skills; Ashton, Davies, Felstead and Green (1999) conceptualise measurement of work skills in Britain as qualification, autonomy (when an employee uses his/her discretion) and variation of task (reducing the costs of task allocation by a supervisor). Burkus (2010), Finch and Madux (2006), Brady (1983) and Katz (1955) divide work skills into three; which are:

(i) Technical skills – these are specific skills required for a particular profession. They are skills that accompany competencies such as data analysis, writing clearly, planning/event planning, computer competencies, ability to organise and prioritise task (time management) among others.

(ii) Human skills – these are skills that are related to inter and intrapersonal relationships. They enable an individual fit for performing job role/s and ability to relate with other people at their different levels without bias. They are general skills that can be useful in a variety of jobs. These include conflict

resolution, team-working skills, respect for co-workers, good language skills among others.

(iii) Conceptual skills are related to ability to think creatively and working with ideas. They consist of analytical skills, critical thinking, comprehension, conscientiousness, to mention but a few. Wade and Parent (2001) categorise work skills into two basic categories: organisational skills and technical skills.

One of the advantages of Work skills in the workplace is its contributions to achieving organisations' goals and the growth of an individual. According to Misra and Mishra (2011), work skills are needed to retain employment over a lifetime. It determines employees' ability to perform their job. Work skills are essential for economic success, enhancement of greater efficiency of employees and they help individuals to access the opportunity/opportunities available to them. Kechagias (2011) concludes that some skills are important for individual development, interpersonal relations and success of the workplace.

According to Aworanti, Taiwo and Iluobe (2014), Bhushan, Vikas, Nadeem, Nilima and Tandon (2011), Curtis (2010) and Talavera and Perez-Gonzalez (2007), in order to achieve success at the workplace, the individual should possess these essential work skills. Moreover, Bhushan, Vikas, Nadeem, Nilima and Tandon (2011) recommend that medical practitioners should develop their practice with the help of developing their work skills in order to achieve success. In the same vein, Joseph, Ang, Chang and Slaughter (2011) assert that identification of the level of possession of work skills of employees in a workplace has implication on recruitment, training and growth of future employees. Therefore, to assess the work skills of the employee of an organisation such as University Non-academic Staff, there is a need to use a scale that suits the organisation.

A University is a government or private organised body that provides higher education to the citizens. It consists of students and staff. The University is a planned society, a formal and complex organisation. It is the place of highest level of education where academic pursuits or dissemination of knowledge and research in various disciplines take place. The University system is an elaborate and complex one that consists of a

strong administrative structure that is based on separation of power, as well as checks and balances, which have been very effective.

The University is unique with its elaborate structure of administration and heterogeneous units. The employees are in two categories; the academic staffers that are involved in the academic matters of the students and carry out research (Obeki, 2014). The second category of staff is the Non-academic, which is divided into two, Senior University Non-academic Staff (SUNS) and University Junior Non-academic Staff (UJNS). The SUNS consists of staff that is on Consolidated Tertiary Institution Salary Scale (CONTISS) 06 and above. Obeki (2014) describes the University system as a complex organisation with multiplicity of goals which comprises inter-dependent parts that perform a variety of activities.

A University operates a eline-staff organogram with the Visitor, who is the President of Nigeria, being at the apex of the organogram. This is followed by the Chancellor, the Pro-Chancellor, Governing Council members made up of some members who are non-staff of the University but who have been nominated by the President, as well as some internal members who are staff of the university. The Governing Council, which is the highest decision making organ is headed by Pro-Chancellor. Next in the hierachy is the Vice-Chancellor, who is like the Chief Executive Officer, and he/she implements Council's policies. Following the Vice Chancellor are the Deputy Vice- Chancellors, which in some Universities are two (Academic and Development, or Academic and Administration) or in some Universities are three in number (Academic, Administration, Research Innovation and Strategic partnership, or Academic, Administration and Special Duties). The Registrar (the Chief Administrative Officer of the University) is followed by the Bursar, the Librarian, Deans of Faculties/Directors of Institutes and Centres, and then Heads of Departments/Units. However, the operational headship is vested on the Vice Chancellor. The Deans/Directors and Heads of Departments/Units perform supervisory functions at some levels. The non-academic staff is in each of the units as assistants to the head of unit in order to pursue and accomplish the University's mandate.

The Senior University Non-academic Staff (SUNS) is a category of staff in the University. It is heterogeneous in nature due to a different assemblage of professionals

that are in this category of staff in the University system. Nevertheless, there are some specific skills and job knowledge (administrative knowledge) that are common and relevant to the job, which they perform to enhance productivity.

Therefore, for this category of staff to be successful in their workplace, they need to possess work skills that are related to the job performed by individual members of staff or the Unit each belongs to. Some of the Units in which SUNS works include the Registry, Bursary, Information Communication Technology (ICT) Centre, Academic Planning Unit, University Health Services, Library, Works and Services, Physical Planning Unit, Sports Centre, Public Relations Unit, Internal Audit and Science Laboratory/Technologists/Technical Unit (University of Agriculture, Abeokuta Career Structure, 2013). The SUNS play supporting roles to the Academic staff in the University system. In addition, they are in charge of good health services, water and electricity, maintenance of the school and hostel buildings, ICT and many more to the University community; the Academic staff, students and the 'town'. According to Nwosu, Olaore, Oyenuga and Oladipo (2014), the Non-academic staff services are absolutely necessary and very important to achieving excellence in the tripodal mandates of academic, research and community extension of the University.

Assessment of staff skills is a rigorous exercise in the University system and it is a major key for determining promotion and salary increment of the Senior University Non-academic Staffyearly. Performance assessment is a regular and continuous process that appraises employees' quality and styles related to responsibilities or performance of task/duties assigned to an employee (Odejobi, 2005). According to the Federal University of Agriculture, Abeokuta Rules and Regulations for Senior Staff, the assessment parameters for promotion of the SUNS are: qualifications, length of service, administrative and professional duties, contribution/s to the University in terms of special duties assigned to a staffer aside the normal schedule/duty and proficiency (the possession of certain competencies, values, ethics and principles). Moreover, assessment of work skills is done by assessing the level of possession of certain competencies, values, ethics and principles among this category of staff. During the promotion exercise of staff, these skills are usually assessed using Annual Performance Evaluation Record (APER) forms. However, these skills are usually not

well assessed during promotion exercise in the Universities because the skills are not adequately presented in the APER forms.

Assessment of Senior University Non-academic Staff (SUNS) job performance is based solely on the scores in the APER form to determine their promotion and salary increment. The APER form consists of three sections: biodata, target/work schedule and the character traits/personality section under which the skills are embedded. In the Public and Civil Service, performance is measured on the basis of officers' work, conduct and conformity with the rules and regulations of the service, and public expectations. In case of the public Universities, assessment of performance is based solely on the character or personality trait which carries the highest weight. However, most of the government organisations in addition to APER, use a written test that carries the highest weight of the total score for performance to determine the promotion of Civil and Public Servants. While the APER form carries just 20 marks. Again, the assessment of the academic staff in the University is more precise, objective and reliable because it has bench marks which are clearly stated in the APER Form. The academic staffers' promotion is based on number of publications in both local and foreign journals which attract certain and agreed values and it carries the highest weight among the parameters used. Other parameters also have agreed values or scores. These make assessment of performance of the academic staff objective.

A personal close examination of the APER forms used in the Nigerian Universities reveal that input (personality traits) are assessed and not output, the Work skills that are appraised are few and do not reflect all areas of skills that are supposed to be assessed. Moreover, measure of frequency of the exhibition of the work skills by the staff is missing in the form. The rubrics and indices in the form are not clear enough for an objective assessment. Atakpa, Ocheni, Basil and Nwankwo (2013); Ijewereme and Benson (2013) note that the APER form is faulty and highly subjective assessing the staff. Atakpa *et al.* (2013) attribute manipulation of scores for staff being appraised by the supervisors to fear of being hated and childed by their subordinates, favouritism, fear of any form of retaliation and approval of personal loyalty more than performance/output as pitfalls of the APER form. In the same vein, Adekunle (2006) highlights the pitfall as lack of job-related items as baseline for assessment (that is the APER form does not put into consideration various tasks performed by the staff as

well as their job characteristics). In addition, some assessors lack training, experience and ability to handle performance appraisal forms effectively. Also, some assessors display partiality and some are “high handed” and always take undue advantage of the appraisal format to victimise their “enemies”.

In view of the above deficiencies of the APER form, Hussaini (2013), Dogarawa (2011), Adekunle (2006) and Odejobi (2005) suggest the need to review and correct or modify the Annual Performance Evaluation Record (APER) form, which is in use in both the Civil and Public Service in Nigeria. Aworanti *et al.* (2014), Kechagias (2011), Joseph *et al.* (2011) and Dogarawa (2011) have developed different scales to measure work skills in diverse professions. Unfortunately, most of the available instruments to measure work skills in Nigeria and outside Nigeria as at the time of this research were not developed to assess work skills of the SUNS. Also, validations of the scales were not properly done. This is because more robust statistical tools were not used. Also, the rubrics and the indices are not clear enough to guide the assessors to give an objective assessment.

Again, one of the organisational norms is high job performance. Campbell, McCoy, Oppler and Sage (1993), Viswesvaran and Ones (2001) define job performance as behaviours and scalable activities that are relevant to the goals of the organisation. Campbell, *et al.* (1993) state that performance should be defined in terms of behaviours other than output and that job performance includes only behaviours that are important in performing tasks that are peculiar to a particular organisation. Koopmans, Bernards, Vincent, Schaufeli, Henrica and Allard (2013) describe job performance as a compendium of latent concept that comprises multiple components or dimensions that cannot be assessed in a straightforward manner. It is the dimensions, in turn, that have indicators that can be assessed directly. Bhushan, Vikas, Nadeem, Nilima and Tandon (2011) state that dimensions may be common to all jobs but the real activity that shows the dimension may be different between jobs.

Consequently, the deficiencies of the existing APER forms that the Universities are using and in furtherance to the required skills in the workplace in the 21st century call for new techniques of measuring work skills of the Senior University Non-academic Staff (SUNS). It is also worthy to note that in order to achieve objective assessment,

there must be a reliable and credible scale. One way to achieve these is by developing a robust work skills scale that reflects job factors with indicators that can fit into the University system and adequately cater for job requirements of staff in different Units in the University. Assessing the level of possession of work skills to determine job performance of the SUNS for promotion and salary increment, there is the need to develop and validate work skills scale using more roburst statistical tools.

Scale development requires steps to be followed. According to Toland (2013) and Reeve and Fayers (2005) the procedure of constructing a reliable and valid scale that has multiple items to measure certain unobservable variable consists of the following: support of experts in the field of interest, experts in item writing, and psychometricans. Worthington and Whittaker (2006) suggest eight steps to follow in order to develop a good scale. These steps are:

(a) Determine clearly the construct you desire to measure
(b) Generate pool of items
(c) Determine the format of the measure
(d) Have experts review the initial pool of item
(e) Consider inclusion of validation of items
(f) Administer items to a defined sample
(g) Evaluate the items, and
(h) Optimise scale length.

Albeit, construction of a measuring instrument is not complete without finding the psychometric properties of the items and the whole scale, as well as calibration of the items. Margono (2015) noted that it is essential to get the psychometric properties of any measuring instrument before use. A measuring instrument is valid when it measures what it intended to measure. The quality of the measurement is determined by the internal consistency and construct/constructs' validity. These have three indicators, which are: Average Variance Extracted (AVE) of the measurement, composite reliability and the coefficient Cronbach Alpha for the reliability (Margono, 2015). These processes of evidence are based on the content, response processes, internal structure and the relationship with other variables (Reeves and Marbach, 2016).

There are different types of validity to subject a newly developed instrument. These are: content validity, construct validity, criterion validity and face validity among others. To ascertain the reliability of an instrument centres around three broad strands – Test of stability (suggested methods are: test-retest, split-half, inter-rater reliability among others), Test of Equivalence (different versions of a test which are designed to be equivalent) and Test of Internal Consistency (it deals with reliability of individual items of a test), The argument on reliability is that items with poor Cronbach alpha of less than 0.7 should be considered for removal. Problematic items with cross loading, multicolleanity should also be identified. Rattray and Jones (2007) postulates that an item should be removed if it has greater than 80% or less than 20% of respondents' endorsement. According to Kline (2005), in developing a questionnaire, items with a corrected item-total correlation of less than 0.3 are deleted. Sijtsma (2009) suggests that ordinal alpha is more appropriate to use to ascertain the reliability of an instrument that contains polytomous items.

Other means of reliability coefficient of a scale are Omega coefficient and Greatest Lower Bound (GLB). McDonald (1999) noted that omega coefficient can be rendered as the squared correlation between a scale score and the latent variable that is mutual to all the indicators. According to TenBerge, Snijders and Zegers (1981) GLB represents the smallest possible reliability considering the observed covariance matrix of the items under the restriction that the sum of the error variances is enlarged for the errors that present $r = 0$ with the rest of the variables.

There are different statistical tools that are designed for validation of measuring instrument such as Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) and Item Response Theory (IRT). EFA is used to check the dimensions of a test or scale. Also, the Scree test and the Parallel Analysis are used to determine the factors to retain. CFA is used to confirm the factor structure produced by EFA and to also get the fit indicies of the data. This can be derived from a new sample different from the EFA sample. Rattray (2007) recommends that factor analysis, Structural Equation Modeling (SEM) and IRT could be appropriate for item analysis because these will identify items that lack clarity. IRT can be Unidimensional Item Response Theory (UIRT) or Multidimensional Item Response Theory (MIRT). Models

of IRT include Graded Response Model (GRM), Credit Partial Model (CPM) and Classical Test Theory (CTT) among others.

IRT is a fairly recent strategy for determining the interaction between the items on a scale. Under IRT, there are dichotomous and polytomous models. Polytomous models include the Rasch model and GRM. These are useful in the validation of the questionnaire. Furthermore, Graded Response Models (GRM) of IRT can give information on the allocation of appropriate item and response option weightings. The assumptions of the IRT model include: unidimensionality (that is, the items in a scale are measuring only one latent trait) and local independence (that is, the probability of the person correctly responding to an item does not depend on the other items in the test.

Moreover, usage of a newly developed scale is necessary in order to test the internal consistency or stability of the reliability coefficient of a scale and to provide more information from the sample that can be generalised. It is worthy of note that some demographic factors or characteristics such as age of staff, gender, years of experience, academic qualification and institution's years of existence, among others, usually affect certain outcomes depending on the focus of a research. Therefore it is expedient to use the newly developed scale to establish some empirical findings such as the demographic factors that contribute to the possession and exhibition of certain traits and skills which invariably affect performance.

Ashton, Davies, Felstead and Green (1999) noted that qualification as a skill affects an employee's competence and therefore upgrade in qualification is required in the workplace. In the same vein, Akorede and Olaniran (2012) state that individual performance at the workplace is affected by their characteristics. In a similar vein, Abdulrahmon, Adeleye and Tanimola (2018), Owolabi and Adedayo (2012) and Odinko (2002) noted that academic qualification affects performance of employees. Owolabi and Adedayo (2012) affirm that years of experience of employees are significant at impacting performance. However, Wachira (2016) find out that staff who acquired additional qualifications lack advanced skills and competencies.

In conclusion, the identified deficiencies of the current APER forms used in the Universities stated earlier still pose a lot of concerns to professional administrators and researchers. It is against this background that this study in attempting to identify relevant work skills that are related to the job performed by the SUNS developed a 39-item work skills scale. The dimensions, validity and reliability of the rating scale were obtained by employing exploratory factor analysis, parallel analysis and confirmatory factor analysis for its validation and Graded Response Model (GRM) of Item Response Theory (IRT) for calibration of the items. The provision of rubrics assist the supervisors to rate their subordinates considering frequencies of occurrence of a particular skill rather than the usual one simple word rated along unclear figures on the APER form. In addition, the developed 39-item work skills scale was used to assess the SUNS. The aim was to determine whether the SUNS possess the skills to perform their job, determine the prediction of the work skills by the demographic factors and identify the sub scale that contributes more to the new scale.

1.2 Statement of the Problem

Unfeigned assessment of officers' work skills in the Nigerian civil and public services has been a major concern to researchers, especially with the use of the Annual Performance Evaluation Report (APER) form. Assessment of work skills of the Senior University Non-academic Staff with the APER form serves as the basis for their promotion and salary increment. However, the APER form is inadequate for its purpose because the items lack: job factors, clarity of rubrics and indices for objective assessment, and frequency of the manifestation of the skills by the officers. The personality traits which entails work skills in the APER form carries more weight than other parameters but lack clarity of the skills and behaviours that are to be assessed. These shortcomings have reduced the exercise to a mere routine.

Furthermore, literature has shown that there are validated scales for measuring work skills in the field of technology, education and medical professions. Nevertheless, the scales were not subjected to comprehensive reliability and validity procedures with robust statistical tools such as Confirmatory Factor Analysis and Graded Response Model (GRM) of the Item Response Theory (IRT). Moreover, none of the literature reviewed in this study indicated any development and validation of work skills for assessing Nigerian Senior University Senior Non-academic Staff. However, literature

have revealed that some demographic factors determine performance of employees that need further investigation.

In the light of this, there is the need to fill these gaps by developing an instrument that has job-related skills with clear rubrics and indices to reduce the subjectivity of the appraisal instrument and further investigate the demographic factors which influence work skills. Therefore, in this study, a valid and reliable 39-item work skills scale was developed, validated and calibrated using EFA, CFA, GRM of IRT from a pool of initial draft of 202 items for assessing the performance of Senior University Senior Non-academic Staff. The developed 39-item work skills scale was used to ascertain the extent to which demographic factors influence work skills of staff.

1.3 Research Questions

To evaluate the reliability and validity of Senior University Non-academic Staff Work Skills Scale (SUNSWS) and its use, the following research questions were addressed in the study.

1. (a) How many factors were extracted from the initial draft of 202 items of Seenior University Non-academic Work Skills Scale?
   (b) How consistent is the developed scale with the empirical data?
2. (a) Do the Senior University Non-academic Staff Work Skills Scale items show convergent validity?
   (b) What are the discriminant validity indices of the identified factors of Senior University Non-academic Work Skills Scale?
3. (a) Are the items of each of the dimensions of Senior University Non-academic Work Skills Scale unidimensional?
   (b) To what extent are the items of Senior University Non-academic Staff Work Skills Scale locally independent of one another?
4. What are the item parameters of the Senior University Non-academic Staff Work Skills Scale?
5. (a) Is the Senior University Non-academic Staff Work Skills Scale reliable?
   (b) What is the reliability coefficient of the sub-scale of Senior University Non-academic Staff Work Skills Scale?
6. Do Senior University Non-academic Staff possess work skills to determine their job performance?

7. What are the composite and relative contributions of the predictor (demographic) variables (a) years of existence of University /age of University, (b) age of staff, (c) staff academic qualification, (d) staff years of experience and (e) school ownership to Senior University Non-academic Staffwork skills?
8. Which of the sub-scales of Senior University Non-academic Staff Work Skills Scale contributes most to Senior University Non-academic Staffwork skills?

1.4 Scope of the Study

This study covered all Senior Non-academic Staff in the Universities on CONTISS six (6) to twelve (12) (federal, state and private) in Southwestern, Nigeria made up of Oyo, Lagos, Ondo, Osun, Ogun and Ekiti States. The participants (SUNS) were assessed and rated by the heads or supervisors of the common different units in the Universities which are; Registry, Bursary, Internal Audit, Health Centre/Services, Works and Services, Academic Planning, ICT, Public Relations, Sports, Technologists/Technical Unit, Library, Security. Thus, the study developed, validated and utilised a Work Skills Scale for assessing this category of staff. The key variables considered were communication skills (verbal and non-verbal), teamwork skills, leadership skills, proactive skills, time management, punctuality, integrity, adaptability skills, ability to learn from criticism, problem solving skills, self-confidence skills, conflict resolution, knowledge management, information technology, courteousness, record and information management, creativity/creative thinking skills, commitment and self-management. All these have the potential to enhance good quality of work and productivity.

1.5 Significance of the Study

This study is useful to University stakeholders and other Tertiary institutions. The policy makers, Personnel Department of the Universities, Senior University Senior Non-academic Staff, evaluators and appraisal developers as well as human resources unit of both private and public organisations in Nigeria.

Firstly, the findings of this study will help the policymakers to include the frequency of exhibition of the skills in the measuring instrument for the Senior University Senior Non-academic Staff. It will also assist the personnel units in Universities to have a more valid and reliable instrument to assess employees' individual work skills. The

new work skills scale will help employees to have confidence in their boss(es) and the instrument can be used for assessing their work skills because of the inclusion of the frequency of the exhibition of the skills that are measured in the scale as rubrics to guide the assessors. This will reduce the subjectivity of the assessment of the skills. In addition, other organisations can modify the scale or adopt it for use.

It would serve as a source of diagnostic feedback to the Personnel Units and University Management about the effectiveness of the SUNS. It will also encourage the SUNS to be productive because the scale will serve as a guide to SUNS since the appraisal system serves as a major determinant of their promotion, salary increment and success of the organisation. It will help the SUNS to be more careful, duty conscious, socialise and seek a way of acquiring or developing relevant work skills.

The findings of this study would assist the appraisal developers to use a robust validation procedure when developing a scale. The implication is that, the end users of such instrument will have confidence in the assessment that the instrument is used for. The end users include the Personnel Units of higher institutions of learning, employers, decision makers and employees because the method of assessment will be an open system such that both the supervisors and the subordinates could judge assessment from the frequency of the exhibition of the skills. Another implication on the University Management is that some of the sub scales in the instrument can be used for the recruitment of future non-academic staff. It can form part of a structured interview process for recruiting.

1.6 Definition of Terms

The terms below were conceptually defined as follows:

Annual Performance Evaluation Report (APER): This is the instrument used in systematically measuring job performance of employees in the public and civil service in Nigeria.

Assessing/Assessment: To observe, study or judge the importance, value or true nature of some skills and behaviours of the University Non-academic Staff. These words were used interchangeably with ‘appraisal’.

Rubric: This is a set of instructions to guide something (the scoring of the items in the rating scale).

Indices: These are standards by which a level of something could be judged or measured.

Graded Response Model (GRM): It is used to grade responses, particularly, responses with ordered polytomous items. It is associated with polytomous items and one of the models of Item Response Theory (IRT).

Work skills: These are the technical abilities/skills and general social graces that the SUNS are expected to possess to enhance performance. These are: communication skills, integrity, teamwork, proactive, adaptability, learning from criticism, conscientiousness, analytical skills, creativity skills, problem solving, information/record management, knowledge management, courteousness, record management, leadership skills, self confidence, self management, punctuality, commitment, conflict resolution and time management.

Performance appraisal: This is the process of assessment and evaluation of employees' performance considering a baseline on the job for which they are employed.

Unidimensional: This is when single latent trait accounts for all the common variance among item response.

Multidimensional: This is when multiple content areas exist in a single test.

Unit heads: These are the heads of Units, Faculty/College (Deans, Directors and Head of Departments, Deputy Registrars, Principal Assistant Registrars). This phrase was used interchangeably with supervisors in this study,

School ownership: The type of government or individual that owns a particular school. These are Federal Government, State Government and Private entities.

Operational Definition:

Senior University Non-academic Staff: These are the University non-academic staff who are on CONTISS 6 -12 providing certain service/s to the Unit heads. They assist the senior academic and non-academic members of staff who are holding administrative positions in discharging their day-to-day administrative activities.

Senior University Non-academic Staff Work Skills Scale (SUNSWSS): This is the name given to the newly developed scale by the researcher to assess work skills of University Senor Non-academic Staff.

University Junior Non-academic Staff: These are the University non-academic staff who are on CONTISS 1 -5 providing certain service/s to the Unit heads.

Senior University Non-academic Staff Work Skills Scale: These are the University non-academic staff who are on CONTISS 6 and above.

Demographic factors: These refer to the age of staff, years of existence of University/age of University, staff academic qualification, staff years of experience and school ownership,

ACRONYMS:

SUNS	-	Senior University Non-academic Staff Work Skills Scale
UJNS	-	University Junior Non-academic Staff
CONTISS	-	Consolidated Tertiary Salary Scale
APER	-	Annual Performance Evaluation Report
CV	-	Core Values
ICT	-	Information Communication Technology
SUNSWSS	-	Senior University Non-academic Staff Work Skills Scale
GRM	-	Graded Response Model
IRT	-	Item Response Theory
NPS	-	Nigerian Public Service
EFA	-	Exploratory Factor Analysis
CFA	-	Confirmatory Factor Analysis
AVE	-	Average Variance Extracted
SEM	-	Structural Equation Models
UIRT	-	Unidimensional Item Response Theory
MIRT	-	Multidimensional Item Response Theory
CTT	-	Classical Test Theory
GLB	-	Greatest Lower Bound

CHAPTER TWO

LITERATURE REVIEW

Related Literature were reviewed under the following sub-headings.

2.1 Theoretical Review

2.1.1 Theoretical Background

(a) Socio-analytic Theory

(b) Skill Theory

2.2 Conceptual Review

2.2.1 Conceptual Framework

2.2.2 Nature of Work Skills and Traits

2.2.3 Steps Involved in Developing Scale in the Affective domain

2.2.4 Different Approaches Used to Rate Staff

2.2.5 Models of Measurement - Structural Equation Models (SEM)

2.2.6 Assumptions of Factor Analysis - Exploratory Factor Analysis (EFA)

2.2.7 Assumptions of Confirmatory Factor Analysis (CFA)

2.2.8 Item Response Theory: Polytomous Items - Graded Response Model (GRM)

2.2.9 The Three Basic Concepts in Development of an Instrument - Objectivity, Reliability and Validity

2.2.10 The Nigerian University and Core Values Guiding Best Practices in the System

2.2.11 Importance of Core Values in the University System

2.2.12 Multidimensionality and Dynamic Nature of Job Performance

2.2.13 Dimensions of Job Performance

(a) Task Performance

(b) Contextual Performance/Organisational Citizenship Work Behaviour

(c) Adaptive Job Performance

(d) Counter-productive Work Behaviour

2.2.14 Approaches to Measuring Organisational Effectiveness

2.3 Empirical Review

2.3.1 Scale Development and Validation

2.3.2 General Work Skills Required among University Senior Non-academic Staff

2.3.3 Different Approaches of Assessing Work skills

2.3.4. The Annual Performance Evaluation Record (APER) for Assessing Performance in Nigerian Public Service

2.3.5 Demographic Factors Determining Possession of Work Skills

. (a) Age of Staff and Work Skills for Performance

(b) Academic Qualification and Work Skills for performance

(c) Years of Experience and Work Skills for Performance

(d) School Ownership and Work Skills for Performance

(e) Years of Existence of University/Age of University

2.4 Appraisal of Literature/Gap Filled

2.1 Theoretical Review

2.1.1 Theoretical Background

There are many skills and work performance theories in management among which are Porter – Lawler Theory, Work Adjustment Theory (WAT), Socio-technical Theory, Need Hierarchy Theory, Expectancy Theory, Equity Theory, Skills' Theory and Socio-analytic Theory. This study is anchored on two of these theories, which are Skills' Theory and Socio-analytic theory.

(a) Skills' Theory:

Skills' theory was postulated by Robert Katz in 1955. The theory asserted that skills are quite different from the traits or qualities of a leader. Skills are what employees can accomplish while traits refer to who employees are. Burkus (2010) review Skills' Theory and noted that the idea of skills' theory stemmed out from the clear flaws in the traits' procedure. Traits are fixed while skills and abilities make leaders effective. Robert Katz believes that the Trait Theory and Skills' Theory are leader-centric and focused on the characteristics of leaders that make them effective.

Robert Katz proposed a model that consists three skills approach. The three skills approach model states that a leader who will produce a decisive effect requires three skills – technical, human and conceptual skills.

(i) The technical skills refer to having sufficient knowledge, ability or skills in a specific activity or type of work. That is working with things.

(ii) Human skills – refer to ability to interact with other employees in the workplace.

(iii) Conceptual skills – refer to the aptitude to perform tasks with unlimited or wide conceptions. The three skills procedure emphasised that while all skills are worthy of note for leaders, the levels of significance of the skills vary and the organisational level of leader determines this. As the leaders rise through the ranks in an organisation, the importance of skills changes from technical skills to human and to conceptual skills. Therefore, a cursory examination of the composition of the Senior University Non-academic Staffwho are CONTISS 6 and above revealed that this category of staff are supposed to possess and use

the three levels of skills (technical, human and conceptual skills) in order to be productive in the University system.

(b) Socio-analytic Theory (Hogan, 1991).

This framework involves interpersonal psychology as established by (Carson, 1969; Sullivan, 1953; Wiggins, 1979 cited in Hogan, 1991). It explains individual differences in career success. Socio-analytic theory was used to define the relationship between qualities that made up an individual and task performance. The socio-analytic theory revealed how interpersonal and intrapersonal skills contribute to the growth of an employee in the workplace and getting ahead of an individual at the workplace and productivity on the part of the organization. The theory was founded on two generalisations that are pertinent to organisational behaviours. The theory depicts that people exist at different places in subsets. These subsets are always structured in status and ranks. According to Hogan (1991) the socio-analytical theory planned for two broad patterns that metamorphosed into behaviour design, which are: a) getting along or interacting with other members of the group within which an individual finds himself/herself; b) getting ahead or achieving status ahead of other members of the group. Getting along and getting ahead are familiar themes in personality psychology (Adler, 1939; Rank, 1945; Bakan, 1966; Wiggins and Trapnell, 1996 cited in Hogan, 1991). The theory is based on career success as a result of social skills.

The two motives of the socio-analytical theory can be captured as people who cannot get along with others have reduced opportunities to be productive and successful at the workplace. Socio-analytic theory states explicitly that personal qualities should be marked out from the views of the doer and the observer. That is, the evaluation of the personal qualities of a doer should depend on the methodologies a person uses to accomplish tasks. Personal qualities have influence on an individual's social behaviour. From the observer's view, personal qualities show an individual's reputation, and researcher explained it in terms of trait assessment. Such traits are: conformity to rules and regulations, being helpful, outspoken, competitive, calm, and curious. among others. Hogan and Holland (2002) conclude that an employee whose performance had been adjudged successful gets ahead. Therefore, the Senior University Non-academic Staff Work Skills Scale was developed to assess work skills

of the SUNS and was founded on individual work skills taking into consideration the three dimensions of work skills by Katz (1955) and their indicators.

2.2 Conceptual Review

2.2.1 Conceptual Framework/Model:

Katz (1955) proposes three skills procedure model: technical skills, human skills and conceptual skills. These skills have indicators that depict behaviours and skills that are observed in employees for productivity at the workplace. In the same vein, Hogan (1983) establishes the link between personality and soft factor (intra and interpersonal skills) and success at the workplace. Various conceptual frameworks reviewed by Koopmans, Bernaards, Hildebrandt, Schaufeli, Henrica, Wilmar and Allard (2011) present a modified conceptual framework in which adaptive performance was included and resulted to the heuristic framework. This framework also linked the way personality behaviours assist skills and performance.

Koopmans *et al* (2011) propound a performance framework having four aspects of performance (contextual, adaptive, task and counterproductive). The dimensions covered all other dimensions proposed by other researchers such as (Campbell, Visveran and Ones, 1996; Gough, 1990; Stogdill, 1948; Hogan, Murphy and Hogan, 1994 cited in Hogan and Holland, 2002).

Koopmans *et al* (2011) aim at capturing the difficult and detailed behaviours and skills that make up an employee's performance at work. The study of Koopmans *et al.* (2011) identifies what individual work performance consists of as it exists in idealised form and latent construct that is not measured directly. Koopmans *et al* (2011) note that the indicators of the dimensions are geared towards excellence and productivity in the workplace. In the light of the foregoing, this study's conceptual framework borrows from the premises of work skills dimensions propounded by Katz (1955) and individual job performance indicators especially task performance, contextual performance and adaptive performance propounded by (Koopmans *et al.* 2011).

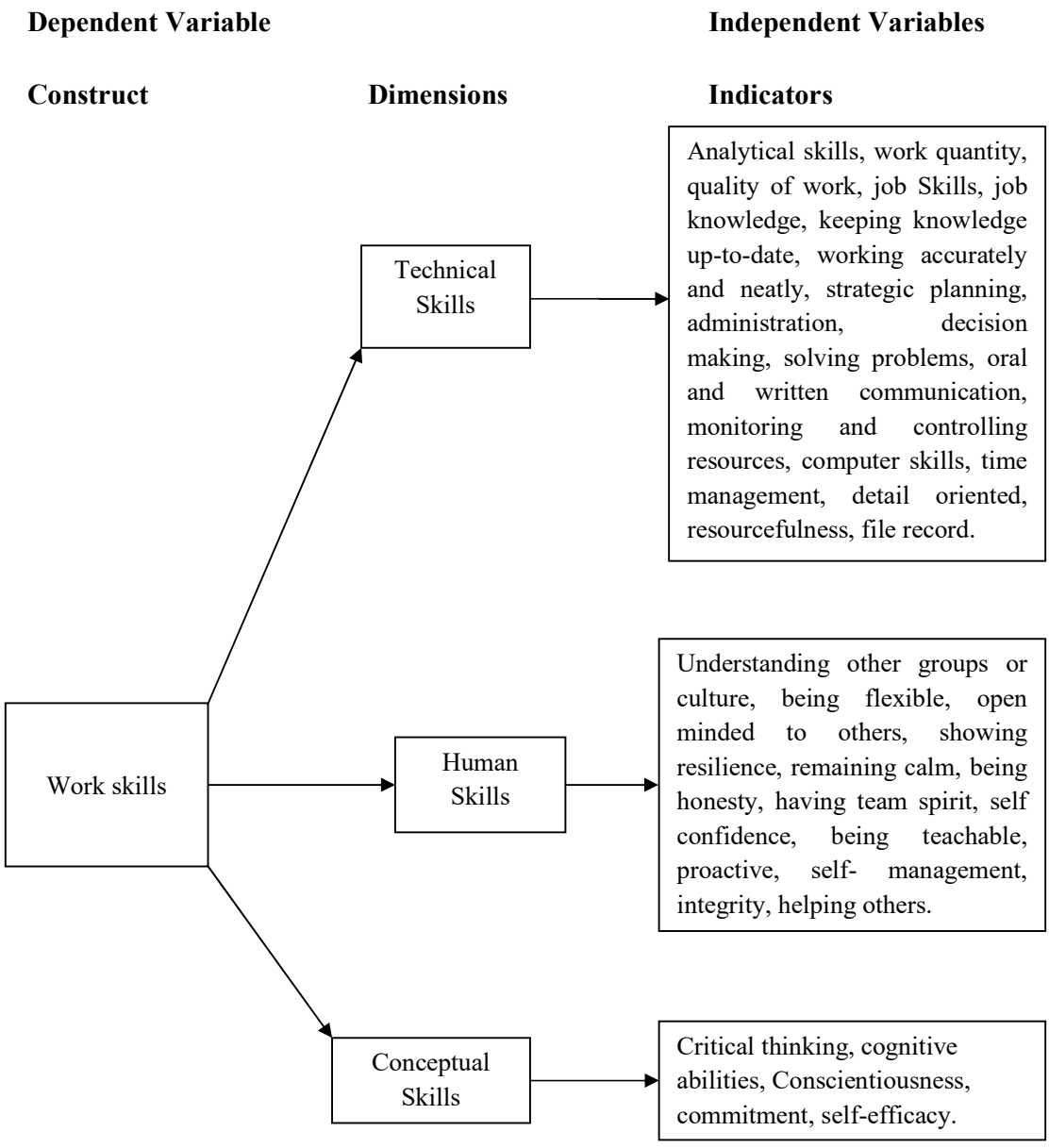

Figure 2.1: Conceptual Framework Model

Source: Adapted from Katz (1955) and Koopmans, Bernaards, Hildebrandt, Schaufeli, Henrica, Wilmar and Allard (2011).

The work skills' model shows the three dimensions of work skills; technical skills, human skills and conceptual skills as classified by Katz (1955). These skills also depict work behaviour, with the framework showing the dimensions of behaviours which determine work skills. These dimensions seem to capture the full range of behaviours and skills that make up work skills and invariably the performance in almost any job. However, the exact indicators may differ from one organisation to another due to the specific context of the type of job. The model also depicts the relationship among the three dimensions of work skills. For each dimension, the predictors or indicators are shown in Fig.2.1. These indicators are the skills needed in an individual to attain performance in any organisation.

The technical skills are special abilities and skills that accompany competencies. Brandy (1983) and Koopmans *et al* (2011) note that technical skills consist of techniques, knowledge and proficiency in a specific kind of task, activity, routine practices and processes needed to get a particular task performed by the senior employee. Human skills are also known as interpersonal relations. It requires communication, inter and intrapersonal skills, attention to relationships, perception and behaviour. Conceptual skills, on the other hand, are referred to as creative ability. It means working with ideas. It allows an employee to visualise the organisation and work with ideas, as well as visualise relationships between abstract concepts. It also requires ability to think creatively and understand complicated or abstract ideas.

2.2.2 Nature of Work Skills and Traits

Skills are tasks that an individual can perform well. They are learnt through experiences of life. Employees in any work place need skills. These skills, which are referred to as work skills comprise hard and soft skills. Soft skills have been in existence since ancient times, even though, it was not referred to as soft skills but categorised with such terms as: character traits, personality traits, and emotional intelligence. Some of these skills are also referred to as social intelligence. It was not until very recently that a generic name was ascribed to sum up all these traits as "soft skills". Soft skills takes root from personality traits, and personality is a product of the combination of innate characteristics and environment influences or growth process which make human beings behave in very different ways. These skills are so often underestimated that though people do not usually view them as vital, they are yet very

important in enhancing personal development, interpersonal relationship, as well as how an individual approaches life in every facet of human endeavour, be it among peers, religious centres of worship, market places and, most importantly, in a work place.

Success in any human endeavour, particularly in an organisation could be attributed to individual soft skills that were manifested, in addition to utilisation of other material resources. According to Liao and Lee (2009), human behaviour is important to organisational effectiveness, irrespective of the level of technological development being experienced. As personality traits show the real person of an individual so do soft skills show competence of an individual. Skills improve with acquisition of knowledge or understanding of a subject which could be through training.

On the other hand, traits are features of individual character. They are part of an individual through genetics or experience in life. The meaning of personality is complex and personality itself is unpredictable. Liao and Lee (2009) assert that human behaviour is majorly explained and predicted by personal characteristics. Prasad and Bannerjee (1994) were of the view that the evaluation concept of personality involves an individual's own assessment about himself with other people's view about the person. However, the response to a self-rating scale cannot be valid because the response cannot be objective. Existence of a particular personality trait can aid picking up particular skills. For example, it will be easy for an extrovert to become a public speaker.

Hitherto, from the 20th century, the workplaces had become dynamic and complex such that, there is an increasing knowledge that technical skills acquired through hard skills alone are not sufficient for the success of an individual in a workplace. This is due to the increase in consciousness of the prominence of soft skills. Soft skills entail intrapersonal skills, interpersonal skills, emotional intelligence and values. Intrapersonal skills are cluster of skills that are innate in an individual and help to achieve organisational goals. The second cluster skills which are known as interpersonal skills or capacity necessary to interact with co-workers and other people. These sets of skills are recognised and important for the success of both individual in a workplace and the organisation itself even at school among the students (Fiore,

Bedwell and Sala, 2011). These skills are used to win friends and influence people. Fiore *et al.* (2011) submits that these skills are creativity, communication skills, teamwork skills, problem-solving, self-management, trust, intercultural sensitivity, self-efficacy and social intelligence.

These skills have been recognised as significant to success in the school and the workplace (Fiore et al., 2011). In spite of the importance of these skills, the definitions for the skills remain elusive because it is being referred to as social intelligence, social competence, social or people's skills, social self-efficacy to mention but a few. Furthermore, a workplace is a social environment where people interact among themselves and therefore, there is a need for people to develop cordial relationships. People are supposed to be warm to one another and also to outsiders, that is, the customers and clients of the organisation.

Oshionebo (2001) submitted that employees/workers in an organisation should learn how to relate happily with their bosses, supervisors, colleagues, subordinates and outsiders irrespective of their qualification, proficiency, academic achievement and technical achievement. Oshionebo stated further that social skills determine the success of an employee and that a junior staffer who fails to give due respect and regard to his/her boss/es, may be frustrated out of the job; and if such individual is allowed to stay on the job, the individual may never grow on the job. Fiore et al. (2011) submits that interpersonal skills comprise attitudinal, behavioural and cognitive dimensions. Fiore et al. explains that 21st-century skills can be considered on three basic categories of skills. Fiore et al. (2011) affirms that work skills have diverse definitions. This has brought confusion in the theoretical meaning of interpersonal and intrapersonal skills. Therefore, this has hindered progress towards development of instruments for measuring the skills.

Nevertheless, managements of organisations have developed interest in the assessment of how well employees have used their traits to achieve goals as well as work skills due to its importance, especially in business settings, medical, scientific and technical fields as well as secondary and post-secondary education settings. Goleman (1995) submits that these skills contribute to performance of employees like general cognitive ability at the workplace. Researchers have noted advantages, which these skills centre

on. Sonnentag and Frese (2002) discover that team work skills influence high job performance among engineering and software development teams. In a similar vein, Nash and Colleagues (2003) show that cooperation skills or team work skills were key to success of scientists and researchers from different disciplines. These skills have been grouped into diverse ways by different researchers. However, these skills can be further split into eighteen relevant skills at all workplace and particularly the University system. These are:

problem-solving skills,	leadership skills,	adaptability/flexibility,
conflict management,	knowledge	team working skills,
self-confidence,	management,	creativity,
time management,	integrity,	courteousness,
record management,	proactive skills,	commitment,
communication skills,	ability to learn from	networking
conscientiousness,	criticism,	empathy

All these skills contribute to achieving both individual and organisations' set goals.

2.2.3 Steps Involved in Developing Scale in the Affective Domain

Many researchers have propounded different procedures of developing and validating instruments in the affective domain. A scale is a series of ordered steps at fixed intervals. It can be used to measure characteristics such as attitudes opinion and preference, interest, motivation, values (Margono, 2015). There are three types of single dimension or unidimensional scale: numerical, graphical and comparative scales. A scale can also be multidimensional, that is, having two or more dimensions.

Morgado, Meireles, Neves, Amaral and Ferreira (2017) propounded the competencies required to develop and valid instruments as follows:

1. Framing a title/topic:

Researchers can conveniently do this without much ado. According to Odinko (2014), this can be done by observing a particular phenomenon, concept, process in a place, among a group of people, organisation, state, or country, among others. During the period of observation, an individual can examine how a particular concept is being

carried out or done. This will inform the researcher that there is a problem that needs investigation. This is also coupled with in-depth relevant literature search and review. Moreover, there is a need for further consultation of relevant literature in order to couch the topic very appropriately and note the gap that needed to be filled from other literature. After this, define the problem operationally and determine whether to construct, adopt or adapt instrument. To adopt an instrument means a researcher did not alter anything in the existing instrument, which the researcher has decided to use. This indicates that the researcher will base the validity and reliability of the instrument on the ones reported by the originator of the instrument. Therefore, if a researcher is adopting an instrument, there is need to contact the originator of the instrument. A scale developer should ensure that the measured construct in the adopted instrument is the same as the construct purported to be measured. In addition, the researcher should endeavour to report the steps of development, validation, how the reliability coefficient alpha of the instrument was calculated and other studies that have used the instrument,

2. Item generation:

This is the second step in scale development. At this stage, a scale developer identifies the characteristics of the latent variables that the scale developer wants to measure. In constructing or developing an attitude scale, the researcher must specify the attitude to be measured and generate many items covering all areas of the construct. To generate items or statements for a useful instrument, one is expected to provide theoretical support for the initial pool of items.

Item generation can be through deductive or inductive source or a combination of the two methods. Deductive method involves generating items from the literature through consultation of initial writings or existing scales. Literature review must cover a wide area. The inductive method of generating items is based on qualitative information regarding a construct. It depends on information gathered or obtained from opinions from the target population such as information from a Focus Group Discussion (FGD), interview, expert panels, open-ended questionnaire and qualitative exploratory research methodologies. There are some parameters that regulate the setting of each item and of the scale as a whole. These parameters are (a) all items must be simple, clear, specific, remain unbiased (b) ensure the variability of response (c) appropriate item reduction and adequate format must be displayed.

3. Determine the direction of the items: The second step is to judge the direction of each item. Some judges will be recruited to rate the direction of the statement. The judges are to judge if the statement reflects a positive or negative attitude towards a particular issue. After the above step, items which at least 95% of the experts in the field of interest acceded to as favourable rating are retained and those that are negatively rated are either restructured or expunged.

4. Theoretical analysis: This involves assessment of the content validity of the new scale. The researcher must ensure that the initial item reflects the desired construct areas as stated by Morgado *et al., (*2017). In order to ensure content validity the researcher must seek other people's opinion. These are experts in the field, potential users of the scale or targeted population who will clarify the suitability of the item pool.

5. Psychological analysis: There is a need for the researcher to assess whether the new scale's psychometric properties are determined and in consonance with certain criteria. At this stage, the content and construct validity are necessary to be established. Some statistical tools such as Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA) and Partial Least Squares (PLS) can be used to determine the validity and reliability coefficients of a scale, Determination of the validity and reliability of a scale show the intensity at which the outcome of an instrument can be trusted. A reliable instrument is usually valuable and believable.

6. Format items to measure intensity: This can be achieved by trial testing the pool of items. Through this method, some items that are not contributing to the measurement of the construct are removed.

7. Pilot testing or pre-test: In testing the instrument or scale, a small sample that has a resemblance of the real sample is needed. The real method to be adopted for the study or research work must be used.

8. Scoring/coding of the items: At every stage, an instrument that has been administered is scored item by item. At this stage, data are cleaned, that is, responses

are scrutinised to study the sincerity and flow of responses of the respondents. Response to items that are confusing is cleaned so that the result will not be affected.

9. Validation of the Scale: There are three ways to demonstrate that a scale is valid.

(a) Item Score Comparison - After the pilot testing had been carried out, statements with most positive response, from 7.5 or differentiate between the highest scoring 25% (most positive toward the construct) are rejected. The statements with negative response, that is, lowest scoring 25% (most negative toward the construct) of respondents are retained.

(b) Analysis (Application of Factor Analysis) - Factor Analysis is a statistical tool that identifies items that hang together. It requires a large sample.

(c) A degree of responses of the respondents -.This indicates respondents' intensity of agreement with the items of a scale. Their responses depict both the direction and strength of their attitude. Item Response Theory (IRT) models can be employed. Work skills items are commonly polytomous. The different models that can be selected for polytomous items among the numerous models in IRT are: ominal Response Model (NRM), Partial Credit Model (PCM), Generalised Partial Credit Model (GPCM), Rating Scale Model (RSM) and Graded Response Model (GRM). Fit statistics of the instrument are also established by employing Confirmatory Factor Analysis (CFA).

10. Utilisation – The newly developed scale must be used on a sample that is drawn from the population that the scale was developed for. At this stage, the stability of the scale can be determined. This can be done about two to three times at three to four months interval on the same sample. The scale can also be used to carry out empirical studies.

2.2.4 Different Approaches used to Rate Staff

Rating Scales: This is the common way of assessing workers' performance. It is a useful instrument for observing and appraising employees' characteristics. It allows each employee to be subjected to the same basic appraisal process and rating criteria with the same range of response. It encourages equality in treatment. It encourages a

standard measure of performance of members of staff in an organisation. Rating scales can be in form of questionnaires used to obtain information or report observation of behaviours especially the overt behaviours. It allows a rater to observe, evaluate and record at the same time. It provides better discriminations of the attitude under observation. It can be used to rate attributes along-side observation. Types of Response Rating Scales are:

(i) **Graphical Rating Scale-** Here, the attitude to be rated is observed and the rating is placed on a horizontal line. This scale enables the supervisor to make an unambiguous judgment about the quality of each worker's performance on a specific response scale.

(ii) **Numerical Rating Scale**- This consists of statements describing a part and numerical values are assigned to each trait. The values are given verbal descriptions which serve as a common key for the observer to judge.

(iii) **Comparative Rating Scale**- It is also known as the product scale. It contains several standard samples of varying degrees of quality of the product or trait to be rated.

(iv) **Continuous Response Scale-** This is when a score is computed from one end to another on a scale.

(v) **Verbally Anchored Scale:** Her, abilities are measured with small number of distinct categories, which is stuck on either end of the scale. These scales can vary depending on the verbal anchors.

(vi) **Mixed Standard Scale (MSS):** MSS is used to assess specific job-related behaviours by assigning grades such as Good, Average and Poor performance. A number of items are used to assess each dimension of performance. The advantage of the MSS is that it refers to noticeable behaviour, and they require relatively sample judgments on the part of the rater. For example, a MSS to assess an administrative officer may measure the dimensions of judgment, interpersonal relations and job knowledge.

(vii) **Behavioural Anchored Rating Scale (BARS):** This scale is similar to a graphic rating scale but uses specific behaviours to anchor the scale. BARS requires extensive input from supervisors so as to identify which behaviours are task relevant and some important aspect of job performance it reduces across supervisor variability. BARS form overcomes the problem of

subjectivity by providing an actual description of the performance for rating along the contribution rather than one simple word.

This study developed a replica of the BARS. This approach was adapted due to the intention of developing a scale that can be used to obtain objective information about the SUNS.

(viii) Behavioural Observation Scales (BOS): It is believed that both graphic rating scales and BARs give room for supervisors to give subjective assessment. BOS also consists of a list of important behaviours that the supervisor rates in terms of frequency of its exhibition by the employees. The items indicate either desired or undesired aspects of work performance. This study adapts this type of scale that enables the Heads of Units to rate their subordinates objectively to a certain level. This is contrary to the usual method of job/work assessment.

2.2.5 Models of Measurement - Structural Equation Model (SEM)

Latan (2012) and Adegoke (2012) state that Structural Equation Model is a multivariate analysis method that consists factor analysis and path analysis. The method grants a researcher to examine and appraise the connection between exogenous and endogenous variables that has quite a number of directions. The modeling uses both analyses of covariance and variance structures. Geffen, Straub and Boudreau (2001) state that SEM is a multivariate statistical method that combines multiple regression which identifies the connection between constructs and factors.

There are two designs (models) in SEM, these are: measurement and structural models. The measurement model explains the connection between the observed and the unobserved variables. It also gives the relationship between the scores of the observed variables or indicator variables or items on a measuring instrument (scale). The measurement model explicitises the design by which each item loads on its corresponding factor. This is achieved with the help of CFA. This model is used to check reliability and construct validity of an instrument. It also establishes the acceptable levels of fit index. Structural model explains the connection among the unobserved variables. It defines the connection between constructs. It shows how a latent variable directly or indirectly affects the values of certain latent variables.

Margono (2015) affirms that SEM measurement model connects unobservable constructs to testable constructs by observation. That is, testable constructs are expressed by a combination of unobservable constructs. SEM reduces measurement error effects. It is an approach to confirm the measurement model. SEM is appropriate in generalisability theory analysis and item response theory. It compares measurement models and checks model accuracy. Example of a SEM model is factor analysis which is reliable for detecting dimension of an instrument. SEM can be used to determine construct reliability.

In psychology, most of the internal attributes or latent variables cannot be measured as a single entity but each as a construct. This is also obtainable from the measurement of other directly observable variables. This is because they are underlying factors which are complex phenomena but can be understood. Such traits and phenomena are: interest, intelligence, creativity, and attitude. Researchers, such as Adegoke (2012) and Rummel (1970) assert that Factor Analysis allows investigators or researchers to identify such underlying dimensions.

2.2.5.1 Factor Analysis

Factor Analysis is a statistical tool used for data reduction or structure detection method. It does this by seeking unobserved variables that are reflected in the observed variables (manifest variables). It was first introduced by (Thurstone, 1929). Factor Analysis is a means for finding relationship between two or more variables for a complex concept such as psychological scales, consumption patterns or socio-economic status. EFA allows researchers to find out concepts that are not easily measured directly by collapsing a large number of variables into a few interpretable underlying factors. Eigen value – explains as much variance in each factor. Factor Analysis performs a major goal; it presents relationships among sets of variables parsimoniously. That is, it explains the observed among the correlations, among the sets of variables using as few factors as possible. It also has a goal of giving meaning to the factors.

Tucker and MacCallum (1997) define the field of Factor Analysis as the study of order and structure of multivariate data. Tucker and MacCallum (1997) and Rummel (1970)

affirm that the major theoretical concept in factor analysis involves relating of surfaces to internal attributes. Factor analysis addresses the patterns of relationship among data. When factor analysis is performed, sequence of correlations or covariance between the observed variables is examined. Variables that are highly correlated either positively or negatively are probably controlled by the same factors while those that are, relatively uncorrelated are liable to be controlled by different factors.

2.2.5.2 Exploratory Factor Analysis (EFA)

The objectives of EFA are to determine the number of factors influencing a set of measures and the strength of the relationship between each factor and each observed measure. According to Decoster (1998), EFA is used to perform the followings: establish the identity and the nature of the constructs underlying response in a specific content area, ascertain what sets of items that hang together in a questionnaire, show the dimensionality of a measurement scale, ascertain what features are most important when classifying a group of items and generate "factor scores" representing values of the underlying constructs which could be used in further analysis

Ron, Leo and Steve (2007) recommend that when evaluating dimensionality in the context of exploratory factor analysis multiple criteria such as Scree test, the Kaiser Guttman Eigen values, parallel analysis, the Tucker-Lewis reliability coefficient, residual analysis and interpretability of extracted factor should be considered. EFA can be used to assess factorability of correlation matrix, item extraction, ascertaining rotation method, item deletion or retention, criteria for factor retention (Eigen values, Scree plot) and optimising scale length (limit total items per factor, reduce total scale length).

2.2.6 Assumptions of Factor Analysis – (Exploratory Factor Analysis) (EFA)

There are some rules to follow to perform factor analysis.

The first assumption is *normality* and next to it is the *sample size*. These two assumptions can be ascertained by Kaiser-Meyer-Olkin (KMO) coefficient and Bartlett sphericity test. The data must have both univariate and multivariate normality (Child, 2006). It is also important to note that there must be absence of univariate and multivariate outliers (Field, 2005). According to Leech, Barrett and Morgan (2005), if

the value of KMO of a scale is between 0.00-0.50 factor analysis will not be possible. Factor analysis can be run if the KMO is between 0.70-0.90. However, the excellent KMO that is adequate for factor analysis is one that is over 0.90.

When the variables are apportioned normally, multivariable normality seems to be available (Tabachnick and Fidell, 2007). This can be ascertained by Barlett's Test of Sphericity. When the Barlett's Test of Sphericity is high, then the result is significant (Tavşancıl, 2005). Barlett's Test of Sphericity ascertains the chi-square test and the significant value is checked in the test. Moreover, a straight line relationship is expected to be between the factors and the variables when computing the correlations (Gorsuch, 1983). A factor should have at least 3 variables or items, although this depends on the design of the study (Tabachnick and Fidell, 2007). Yong and Pearce (2013) state that rotated factors that have 2 or fewer variables should be interpreted with caution. Again, variables within a factor must be highly correlated with each other ($r > .70$) but fairly uncorrelated with other variables. Factor loading for a variable is a measure of how much the variable contributes to the factor. The correlation r must be .30 or greater since anything lower would suggest a really weak relationship between the variables (Tabachnick and Fidell, 2007).

To conduct factor analysis, Comrey and Lee (1992) recommend sample size of 250 as the least and the variables that are subjected to factor analysis should have at least 5 to 10 observations each. In the same vein, Yong and Pearce (2013) submit that the normal ratio of respondents to variables should be at least 10:1 and that the factors are considered to be stable and to cross-validate with a ratio of 30:1. However, Guadagnoli and Velicer (1988) suggest 150 sample if the dataset has several high factor loading scores ($> .80$). Albeit, it should be noted that large sample size reduces the error in the scale.

Another caution in drawing sample for factor analysis is the type of sample. Kline (1994) recommends that a heterogeneous sample should be used to conduct factor analysis rather than a homogeneous sample because homogeneous sample has lower variance and factor loadings. Again, factor analysis is usually performed on ordinal or continuous variables. However, it can also be performed on categorical and dichotomous variables. To prevent overestimation, Tabachnick and Field (2007)

recommend that cases with missing values should be removed. Finally, it is important to ensure that the dataset does not have items that are highly correlated (multicollinearity) or variables that are perfectly correlated (singularity) and Squared Multiple Correlation (SMC) or coefficient of determination should not be greater than 1 (Tabachnick and Fidell, 2007).

2.2.7 Assumptions of Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis is a statistical tool that researchers employ to conduct multivariate statistics. It is a model, *a priori* like Structural Equation Modeling (SEM). Adegoke (2012) described a priori as a process whereby the researcher must state explicitly a design, that is, diagram that aids to conduct the analysis. Also, the model must be supported by theory, results of prior research. In other words, CFA is used to assure the accuracy of the factor structure. It is used to either accept or reject a measurement theory. It deals with error explicitly. It considers the concept of unidimensionality between construct error variance and within construct error variance. At least four constructs and three items per constructs should be present in a research. CFA compares factors in a scale and shows the items that load on their corresponding factor. To conduct a CFA, a sufficient sample size ($n > 200$) is needed. The *a priori* model specification must come from a random sample.

Assessment of the measurement model validity occurs when the similarities and differences between the hypothesised or theoretical model and the real model are assessed to ascertain how well the data fits the Chi-Square test and other goodness of fit statistics such as Root Mean Square Error of Approximation (RMSEA), Exploratory Structural Equation Modeling (ESEM), Standardised Root Mean Square Residual (SRMR), CFI, Tucker Lewis Index (TLI).

1. **Define each construct:** The procedure of confirming the measurement theory is to ascertain each construct theoretically. This involves evaluation of the items.
2. **Develop the overall measurement model theory:** In CFA, we should consider the concept of unidimensionality between construct error variance and within construct error variance. A construct or factor should have a minimum of three items.

3. **Design a study to yield the empirical results:** The measurement model must be stated explicitly. The value of one loading estimate should be one per construct. There are two methods for identification; the first is rank condition, and the second is order condition.
4. **Assess the validity of the measurement model:** Assessment of the validity of the measurement model takes place when the theoretical measurement model is compared with the real model to determine how well the data fits. The number of the indicators helps to check the measurement model validity. For example, the factor loading of the latent variables should be greater than 0.7. Chi-square test and other goodness of fit statistics like RMR, GFI, NFI, RMSEA, AIC, BIC, to mention few are some key indicators that help in measuring the model validity because they all have acceptable values.

2.2.7.1 Advantages of Confirmatory Factor Analysis (CFA)

Adam, Malley, Michael and Marvella (2005) highlight the advantages of CFA as follows:

(i) Quantitation of direct and indirect link between independent and dependent variables. It yields more and better validity evidence.
(ii) Sequential analysis of larger numbers of variables.
(iii) Accessibility of fit indices that help in interpreting the goodness-of-fit of a CFA model to the data.

2.2.8 Item Response Theory (IRT): – Graded Response Model (Polytomous items)

IRT is a statistical method used to calibrate items in a newly developed test items and scales. It is used in assessment and evaluation to determine response to items in a test or scale. Particularly, IRT is used to ascertain item parameters, reliable and valid test items in both dichotomous and polytomus tests. It is used to evaluate, improve and score multi-item scales. DeAyala (2009) states that IRT consists of many statistical designs that identify the connection between a latent variable and item characteristics. IRT is also used to estimate the probability of supporting an item on a scale. The benefit of IRT is that its analyses focus on both the scale and each of the items that made up a scale. This has paved way for planning, reviewing, and improving test items

and scales for a particular use (DeAyala, 2009; Baker, 2001; Embretson and Reise, 2000 and Hambleton, Swaminathan & Rogers, 1991).

Besides, Chohen, Kim and Baker (1993) state that IRT technique of discovering Differential Item Function (DIF) was originally suggested for the dichotomous IRT model in which an item is scored as correct or incorrect. Nevertheless, Raju (1990) and Lord (1980) extended DIF detection method to Samejima's (1969) Graded Response Model (GRM). Baker (1992) extended the Item Characteristics Curve (ICC) method to the case of the GRM. Wright and Masters (1982) state that IRT models such as the Rasch rating scale model and Rasch partial-credit are employed to examine test score internal structure. A Rasch measurement model approach permits joint scaling of a test taker's abilities and assessment of item difficulties for mapping the relationship between latent traits and responses to test items (Linacre, 2010). Ying, Hong and Robert (2012) noted that once researchers have an idea of the potential latent dimension(s) of the test data from the exploratory approaches, they can move on with specific IRT models such as Multidimensional Item Response Theory (MIRT), testlet, and Unidimensional Item Response Theory (UIRT) models for confirmatory analyses.

There are different models that can be selected for polytomous items among the numerous models in IRT. These are Nominal Response Model (NRM), Partial Credit Model (PCM), Generalised Partial Credit Model (GPCM), Rating Scale Model (RSM) and Graded Response Model (GRM). In IRT, polytomous items are extensively used in the applied psychological measurement. It helps reduce test length. Polytomous items are items that have neither right nor wrong response. The response or answer to these type of items is graded or categorised. Therefore, scales are used to measure polytomous items. Any of the models mentioned above can be selected. Ostini and Nering cited in Tendeiro and Meijer (2014) listed the criteria to help in choosing the best model. These are data characteristics - (that is, nominal or unordered data, polytomous items, dichotomous items, number of response category and ordered data), measurement philosophy – (does the model reflects the psychological reality that produced the data?), mathematical approach to check fit – (statistical fit-test).

2.2.8.1 Assumptions of Item Response Theory (IRT)

IRT helps evaluation of whether items are equivalent in meaning to various respondents. IRT models are used to assess change. The assumptions of IRT are unidimensionality, local independence (LI), functional form and normalty (that is, the unobservable variable must be distributed normally in the population).

(i) **Unidimensionality:** Unidimensionality is a significant and relevant assumption of IRT. It shows occurrence of a single dimension in a data-set, that is all items assess the same latent construct. However, in many assessments, it has been discovered that each of the test items can assess different abilities or constructs. For this reason, it is necessary to evaluate if the test is unidimensional or multidimensional. Stout (1990) developed a linear factor analysis method for the nonparametric hypothesis in order to identify the dimensionality of a test data set. Unidimensionality is a fundamental assumption of IRT. Morizota, Ainsworth, and Reise (2001) define a unidimensional instrument as when a single latent trait accounts for all the common variance among item response. It also means the independence of a single trait. Moreover, DeAyala (2009) noted that to choose IRT model, dimensionality of the data must be determined first. There are different methods for determining dimensionality. Such methods are a) Exploratory Factor Analysis (EFA) or Confirmatory Factor Analysis (CFA). Toland (2013) argues that CFA would be suitable when the dimensionality of a scale has been identified while an EFA fits a scale that has not been explored with respect to dimension. EFA method is conducted and Eigen values are inspected. However, Hong and Robert (2012) stated that unidimensionality may be violated when multiple content areas exist in a single test.

(ii) **Local item Independence:** Local item Independence (LI) means that items are uncorrelated with one another when the latent trait/traits has/have been controlled. In other words, items in a test need not be related to each other. According to Embretson and Reise(2000) and Hambleton and Swaminathan (1991), local item independence occurs when the probability of the response to one item does not affect the probability of the response to another item after controlling for person and item parameters. Local item independence is one of the basic assumptions of IRT models.

When Local Item Independence is violated, Local Dependence (LD) of items is experienced. This indicates that there are different content areas in the scale. According to Castaneda (2017), Psychological tests intend to measure latent traits that denote opinion or a degree of endorsement, rather than proficiency. Shrout and Fiske (2014) highlight three special causes of LD in psychological testing, which are: context effects, serial order effects and similar or redundant question. In the same vein, Yen (1993) argued that different content areas within a test may impose LD on items measuring the same content area that is (content clustering).

2.2.8.2 Graded Response Model (GRM)

GRM was pioneered by Fumiko Samejima in 1969. It is one of the models of easurement of Item Response Theory (IRT). GRM is associated with the polytomous IRT. The polytomous IRT deals with ordinal data such as Likert scale and other tests with ordered multiple response options for each item (DeMars, 2010). According to Reeve and Fayers (2005), GRM can be estimated accurately with at least a sample size of five hundred (500). However, Thorpe and Favia (2012) recommended that two hundred and fifty (250) respondents could be used to estimate the same parameter. The Differential Item Functioning (DIF), which is used for making comparision of differences in respect of item parameters, was extended to GRM from the dichotomous response model. DIF item means invariance does not hold for item parameters, the item is said to be functioning differently. Such item is of concern due to the potential threat that they pose to the validity of the test.

GRM is an extension of the 2-PL logistic model. It is appropriate to use when item responses can be characterised as ordered categorical responses. Ron, Leo and Steve (2007) noted that each item is described by a slope parameter and between category threshold parameter with 0.50 probability. The spread of the item information and where on the trait continum information is peaked are determined by the between category threshold parameters. There are two types of Item Response Function (IRF).

Thorpe and Favia (2012) recommend that two hundred and fifty (250) respondents could be used to estimate the same parameter. According to Thorpe and Favia (2012),

the GRM of IRT can provide information on item difficulty and how the different response options function within each item. It can also inform the allocation of the appropriate item and response option weightings. Samejima polytomous models use the 2PL model Item Characteristic Curve (ICC). A sample of the item characteristic curve is shown in Fig. 2.2.

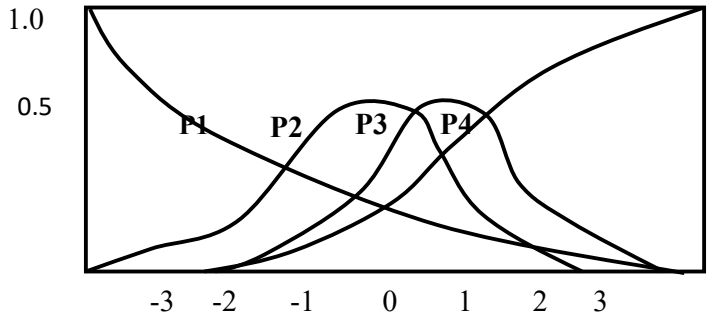

Figure 2.2: Category Response Curve (CRC)

Sources: Thorpe and Favia (2012)

Figure 2.2 is an Item Characteristic Curve for Category Response Function (CRF) with four Likert-scale response options (GRM). The graph shows the probability of answering an item against the examinee's underlying ability on the trait being measured. The ICC gives the model curve, the empirical curve, and the limit of the 95% confidence interval (Thorpe and Favia, 2012).

2.2.9 Multidimensional Item Response Theory (MIRT)

Margono (2015) claims that most psychological tests and scales turn to be multidimensional measurement rather than unidimensional in both cognitive and affective measures. Researchers such as Widhiarso (2009) and Hancock and Mueller (2001) have suggested that reliability and validity measurement of instruments involve a multidimensional model analysis technique. Many researchers such as Margono (2015), Widhiarso (2009) and Hancock and Mueller (2001) have shown that the assumption of unidimensionality is hard to achieve and eventually unidimensional instrument turns multidimensional.

Widhiarso (2009), Ying, Hong and Robert (2012) and Margono (2015) have expressed that multidimensionality model is better used more than unidimensionality model for measuring construct reliability coefficient in non-test instrument because it has greater measurement accuracy. Ying *et al.* (2012) noted that the Multidimensional Item Response Theory (MIRT) model has simple structure (that is, each item measures only one latent dimension), each content area is treated as a latent dimension. Multidimensionality indicates that a battery of test or a scale measures more than one dimension. Ackerman, Gierl and Walker (2008) state that MIRT is usually applied to a

multidimensional scale in order to have clear knowledge of what the test or scale is measuring and how accurate the measurements are. Widhiarso, 2009 explained five reasons why a scale can be multidimensional. These are:

(a) characteristics of the constructs,

(b) of items that were generated,

(c) the number of items in the instrument. If there are too many items that can add error variance potential in items, this may create new dimensions,

(d) method of item writing. Spector and Colleague cited in Margono (2015) observed that the method adopted or adapted in writing item response such as positive/negative used together may create new measurement direction, and

(e) measurement units. Psychological measurement is likely to have different measuring units between one item and other items.

2.2.10 The Three Basic Concepts in the Development of an Instrument - Objectivity, Reliability and Validity

The three basic concepts in measurement are objectivity, reliability and validity. Margono (2015) states that to understand a good scale or test instrument, the data must be better explained through a reliable, valid and objective process. Also, tests and assessments deal with objectivity, reliability, and validity. The three terms are interrelated but each describes different things.

2.2.10.1 Objectivity

It is the broadest of the three concepts. Objectivity measures are those that involve an impartial measurement that is without bias or prejudice. A test or assessment that is objective does not allow extraneous influence. For example, an objective test based on personality will return the same answers regardless of whether the person completed the test or the person used a pen or pencil. Objective measurement is the repetition of same value that maintains its size within an allowable range of error, no matter which instrument was intended to measure the variable of interest.

2.2.10.2 Reliability

Reliability refers to the extent to which a researcher obtains coherence or uniformity results with a test or an instrument. According to Wireman cited in Margono (2015) reliability is the internal consistency of an instrument. It indicates the level of stability

of the instrument after it has been administered repeatedly and the result is relatively stable. This determines the level of belief and trust that can be accorded to the instrument. Therefore, in evaluating human attributes, an excellent measurement should yield uniform scores especially when the sample is the same. If a test or an instrument is not consistent, it shows that there is a problem somewhere, perhaps with the scale of measurement or an individual taking the measurement. Consistency is usually germane and linked to assessments of any instrument that is used to assess aptitude, attitude, interest, perspective among others.

Gabel cited in Margono (2015) asserts that the reliability coefficient of the cognitive instrument is usually higher than that of affective instrument. Different researchers have proposed different reliability coefficients that can be accepted as good for an affective instrument. Some researchers suggested as follows: (Litwin, 1995 (0.70 and more); Naga, 1992 above 0.75). According to Nunnally and Bernstein (1994), reliability may be calculated in several ways. Internal consistency is the most common one done by researchers. Most cases Cronbach's alpha (α) and ordinal alpha are employed to calculate the reliability of instruments.

2.2.10.3 Validity

Any instrument of measurement for either a test or a scale must be objective and reliable before its validity can be determined. Ali (1996) and Reeves and Marbach-Ad (2016) described validity as the extent to which a test or a scale measures what it is supposed to measure. In other words, validity is expression of the level to which an instrument measures the qualities, abilities, skills and information which is designed to be measured (Green and Jorgenson 1988). For example, a personality test that asks for a person's shoe size is not valid to be taken as a personality test. Unless items (questions) on a test are shown to be related to what is being assessed, the test cannot be valid; likewise a construct must be related to what is being assessed.

Ali (1996) noted that a test which is not valid is worthless. A genuine test relies on the purpose of the test. That is, a test cannot be valid for two different purposes because each test is targeted to achieve different things. To obtain validity of a scale or a test, the instrument test's validity can be obtained through face validity, content validity, criterion-related validity and predictive validity. To Bergerson, Serberg and Dyba

(2014), a test or scale is genuine for assessing a latent construct, if the construct exists and variations in the construct usually produce variations in the result of the measurement procedure. The use of measurement theory is one of several ways to make generalised casual inference (Shadish, Cook, Campbell, 2002). Validity is different from validation (that is, the process of evaluating validity).

2.2.10.3.1 Types of Validity

To maintain good and strong construct validity, a test developer ought to determine the values of some subsets of construct validity of a test or measuring instrument. These types of validity are: convergent, discriminant or divergent, face, and content validity; others are predictive, concurrent, and consequential. Cronbach and Meehi cited in Westen, Drew and Rosenthal (2003) describe four types of test validity - predictive, concurrent, content and construct validity.

(i) Convergent Validity

Convergent validity, a subset of construct validity is the observation of a strong correlation among test items that are supposed to measure the same construct. It establishes whether two or more constructs that are purported to be related are indeed related. It also reveals degree in the similarity between the scores of items within an instrument as well as between two instruments that is supposed to measure the same concept. A subscale correlation validity range of at least 0.50 is considered moderate and 0.7 and above is considered to be high correlation.

(ii) Discriminant or Divergent Validity

Discriminant validity is another subset of construct validity. It examines whether constructs that are supposed to have no connection, really do not have correlation. Three distinct features of discriminant validity are supposed to be examined. The first is the ability to distinguish between two sub-scales that are related but with each measuring different concepts. Discriminant validity is the capacity of a measuring tool to show that the measure in each of the constructs assessed in a measuring tool is different from the rest. The criteria for adequate discriminant validity were determined at a correlation of 0.50 or less.

(iii) Content Validity

It refers to the extent to which a scale or test items covers the whole concept to be measured. It is also the value at which a test measures both the subject matter content and the instructional objectives designed for a given course (Groundlund and Linn 1979). Studies have shown that it is the most suitable form of validity for achievement tests because it will adequately cover the content and objectives of the test items as specified in the syllabus. The test content must be examined systematically to ascertain whether the measured variables represent the behaviour and subject matter of interest.

The content of certain concept can be confirmed by searching for the related literature, studies that explain the theoretical foundation of the measured construct. Secondly, the means of measuring the construct should also be searched for. This can be achieved through empirical studies. Lawshe Content Validity Ratio (CVR) method can be used to determine the value of content validity. It is used to measure raters' agreement or otherwise to know how item is important to the construct under consideration and it ranges between -1 to +1. Lawshe (1975) postulates that Content Validity Ratio can be employed to calculate the coefficient of content validity of each item with the below formula:

$$CVR = \frac{ne - N/2}{N/2}$$

N = Total number of raters

ne = Total number of rater rating an item correctly

(iv) Construct Validity:

Construct validity is one of the important validity evidences of a measuring instrument. It subsumes all other types of validity evidence. It shows the degree to which a test measures what it is supposed to measure. It is always theory dependent (Westen, Drew and Rosenthal, 2003). Trochim (2006) describes construct validity as a case of changing any construct into an operationalisation form. Construct validity was adjudged to be the most important one. It is a measure used as an index of a variable that is observable. Westen *et al.*, (2003) state that the best construct is the one around which we can build the greatest number of inferences in the most direct fashion.

Researchers usually establish construct validity by presenting correlations between a measure of a construct and a number of other measures. The aim of construct validation is to enable a purported measure of a construct in a nomological network. Evidence of construct validity is also based on certain theories (frameworks, especially the theoretical and the empirical). For example, a theory advocates that intelligence is a global entity and another advocates that intelligence has many facets. Therefore, intelligence tests based on the two distinctly different theoretical perspectives is expected to differ significantly.

Construct validity is used to determine if an assessment corresponds to other variables as predicted by some rationale or theory. Westen *et al.*(2003) upheld the rule which states that the procedure designed to help quantify construct validity should supply the index of the extent to which the researcher has accurately predicted the pattern of convergent or discriminant validity, the statistical significance of the match between observed and expected correlations and confidence interval for the match. Researchers have been using Analysis of Variance (ANOVA), Factor Analysis (EFA and CFA) and Structural Equation Modeling (SEM) to establish construct validity.

(v) Criterion Validity: It is the extent to which the tests' scores of respondents are in agreement. To have a well-established measurement procedure, criterion validity must be carried out. It helps to test the theoretical relatedness and construct validity of a well-established measurement procedure. Predictive and concurrent validity measures were also referred to as Criterion-related Validity.

1. **Concurrent Validity:** It is a type of evidence that can be gathered to defend the use of a test for predicting other outcomes. It is a parameter demonstrated when a test correlates well with a measure that has previously been validated. The two measures may be for the same construct but more often used for different but presumably related constructs. It deals with time at which the two measures were administered. The two measures were administered at approximately the same time so that the test scores/ratings can be statistical related with each other. The correlation result would be concurrent validity coefficient. This type of evidence might be used to support the use of the new scale for future use. This validity focuses on the power of the local test to

predict outcomes on another test or some outcome variable. Concurrent validity can be used as a substitute for predictive validity.

2. **Predictive Validity:** This is when one measure had been carried out earlier in order to predict some later measure. Concurrent validity predicts external criterion.

(vi) Face Validity:

This type of validity is the extent to which a test or scale covers the concept it purports to measure. It is also the relevance of a test or instrument as it appears to test takers or participants. It includes the font size that was used in typing the test items and clarity of the items.

(vii) Consequential Validity:

This type of validity is concerned with the consequences of the use of a measuring instrument or test. The use of any measuring instrument should be evaluated in terms of its potential impact on the population. According to Shepard (1993) some researchers have argued that consequential validity is not part of validity process.

2.2.10.3.2 Threats to Validity

There are some threats to validity of an instrument. Reeves and Marbach-Ad (2016) affirmed that there are two primary treats to test score validity, these are:

(i) **Under-representation of construct:** This happens when core aspects of the construct being measured are omitted. This can be caused by other categories of evaluation that do not reveal those constructs and dynamics from observed data.

(ii) **Construct-irrelevant variance:** Validity is recognised from the process of evaluating test or scale items. There are always some unrelated sub-dimensions that creep into measurement and contaminate it. For example, common variance for skills will be drawn out from the task performance data due to several observations of task performance as indicators of skills that were used. What will be remaining is known as error variance. Error variance can occur in

two ways; **(a) Random error variance:** This is "noise" that must be minimised to a very large extent, although it does not invalidate a measure.

(iii) **Systematic error variance:** This shows ordered procedure of similarity in the variances that are not part of the intended measure. Messick (1989) submits that systematic error variance is one of the two major threats to construct validity. It is otherwise referred to as *construct irrelevant variance*. This threat occurs when something other than the variable being measured systematically influences observations in unintended ways.

2.2.11. The Nigerian University System and the Non-academic Staff

The University is the community of lecturers and students that provides both undergraduate and postgraduate education. It is a place where intellectuals are trained in understanding research, values and character formation. The University system started in 1948 in Nigeria. One of the colonial legacies was that the colonial administrators left the University administration to employ suitable individuals trained in the culture of handling university administration and to be different from the civil service. However, the story changed when Nigerian Universities began to experience expansion and increase in students' population, academic staff and non-academic staff, infrastructure and other auxiliary facilities. These brought about the need for modification of the administration of the Universities. The new system was modified to conform to the American system of University management. This system was based on two registrar-ships one for academic and the other for administrative.

The personnel policy that established University in the 19th century has structured career in the University system into five broad categories, according to their nature and complexity.

(a) Administrative, professionals, scientific/researcher cadres
(b) Executive and sub professional cadre
(c) Secretarial cadres
(d) Clerical/ sub technical cadres
(e) Messengerial/miscellaneous cadres.

The University Senior Non–academic Staff consists of the first three categories i.e. the administrative, professionals, scientific/researcher cadres, the executive and sub

professional cadres and the secretarial cadres. The other two cadres are recognised as Junior Non–academic Staff cadres in the University system. The nature of work of the first category entails a lot of brain work making their work or activities to be mentally demanding. Therefore, the prescribed minimum qualification for this cadre is a University degree to make a career in such cadres as Administrative Officers, Medical Officers, Architects, Engineers, Accountants, Journalists/Information Officer, among others. The second category, made up of Technologists and Technical staff, request for lower qualifications such as OND, HND, while the third category combines the two requirements i.e. both University degree, HND and OND. This is the minimum requirements for Confidential Secretaries and Typists respectively.

2.2.12 Core Values guiding best practices in the Nigerian Universities

Core values represent statement of the framework that guides an organisation to achieve its mission. It forms the foundation of interaction with one another and the strategies employed to achieve the organisation's mandate. It is also the driving forces expressed in workers to perform any task assigned to them; it is also like a code of ethics. Apart from the technical skills which every public servant is supposed to possess, they should also have personal attributes. These are the ideals and values which public servants cherish and jealously guard. The core values generally connote behavioural patterns expected of public servants in their daily activities (Oshionebo, 2001).

In other words, the core values of public servants in Nigeria are the associated norms, conventions and traditions of officials in the conduct of government business which Nigerian Federal Universities are among. Awere (2013) state that core values are values that both employers and employees hold dearly and form the foundation on which they perform, work and conduct themselves. Therefore, these guiding principles bind all the Universities' staff. They largely constitute the written and unwritten laws and principles guiding the pattern of interaction and inter-relationships within and outside the public service.

These core values include: Cooperative attitude, Punctuality, Reliability and dependability, Human relation skills, Effective communication skills, Good appearance, Honesty and loyalty to one's boss and the organization, Discipline,

Operatijng within and obeying the rules and regulations meant for the conduct of government business, Patriotism, and Integrity. According to Mohammad (2015) dependence of an organisation on predetermined behaviours guided by the law will make the tradition and the routine of organisation. Awere (2013) highlighted the core values that are common to most Universities in Nigeria. He states that the core values which are derivable from the vision and mission statements of most Universities are: Excellence, Quality performance, Community spirit, Respect, Personal development and Integrity.

Excellence: Every University in Nigeria aim to be the best University. Therefore, excellence must reflect in the daily duty performed by the staff of any University. This can be seen in the quest for new ways of discharging duties by the SUNS.

Quality: In order to ensure quality in the delivery of assignment by this category of staff, there is need for commitment on the part of the staff. This invariably leads to good quality of work. Work quality refers to effort that consistently achieves desired outcomes with minimum errors and problems. Work must meet expectation, timeliness, effectiveness and efficiency before it can be regarded as good quality work.

Performance: Execution of assignments are expected to be flawless. This has led to search for new ways to improve the services of the SUNS in the Universities.

Community Spirit: That is ability to work in harmony with one's boss, colleagues, subordinates and the general populace. This has encouraged a spirit of belonging, unity and interdependence that is based on mutual trust and respect for each other (Awere, 2013).

Respect: University office staffers are to value one another and individual's unique talents, dignity and also be committed to excellent service or performance.

Personal Development: Members of staff in the University are expected to demonstrate commitment to the development of the University in order to strengthen the characteristics of the University.

Integrity: All staff members are expected to be honest, just and consistent in the delivery of University assignments. By doing these the Institution can achieve its goals.

2.2.13 Importance of Core Values in the University System

(a) The continued survival of an organisation depends on its level of efficiency and effectiveness. The human resources is the most vital resource in the University

and a section of the Senior Non–academic Staff has the largest strength of staff that play important roles in executing decisions, policies, plans and capital projects in their respective offices. To this extent, the destiny of the Nigerian University system is determined by the caliber of officers and their interactions within the system. Therefore, the continued development and survival of the University system, administratively, depends on the efficiency and effectiveness of the Senior University Non-academic Staff Work Skills Scale.

(b) Another importance of core values is that it guides and regulates the conduct of the work force in the discharge of staff daily work and other important responsibilities.

(c) It guides organisation and its workforce to achieve their mission and strategic goals.

2.2.14 Multidimensionality and Dynamic Nature of Job Performance

Job Performance means the possible output of an employee within available or competing forces. It is also the actual behaviour that can be ascribed to a staff or agency in the face of available resources and against sets targets. Performance criteria fall into three categories, inputs, activities and outputs. Job performance is a multidimensional concept. According to Campbell, McCloy, Oppler and Sager (1993) performance is what the organisation gives one to do and which such individual does well. Moreover, performance in the real sense can be seen in the behaviours which an individual exhibits while result reflects the outcomes of those behaviours. However, Campbell, McHenry and Wise (1990) state that performance ought to be seen in behaviours that are assessable in terms of proficiencies rather than outcome alone. Sonnentag and Frese (2002), Viswesvaran and Ones. (2001) and Campbell, McClay, Oppler and Sager (1993) submit that task performance is determinedby work behaviours which are relevant to organisational goals within the individual's control. These behaviours are observable and can be scored. In the same vein Ilgen and Schneider (1991), Motowidlo, Borman and Schmit (1997) describe performance as actions which can be scaled or measured.

However, authors have clamoured that when conceptualising performance, one has to differentiate between input (behaviours) and output (performance). Input is an action that is, behavioural aspect which deals with individual or group input performance and

an outcome aspect of performance which deals with the company or organisational productivity. The behavioural aspect is the activities of individual in the workplace. (Campbell, 1990; Campbell, *et al.* 1993 and Kanfer, 1990). Nevertheless, under the performance concept, not all behaviours are considered but only the ones that are relevant to the organisational goals. In similar vein, Sonnentag and Frese (2002) argue that in performance, not just any action constitute performance but actions that are relevant for achieving organisational goals. Therefore, an assessor needs criteria or guide that has relevant behaviours that aids effectiveness of an individual at the workplace in order to evaluate the degree to which an individual's performance meets the organisational goals.

Sonnentag and Frese (2002) describe three perspectives of judging performance which can be the sources of variation and hindrances in performance among employees, these are: individual differences, situational aspects perspective, and performance regulation (that is performance process). Factors that affect the dynamism of performance are: environment, availability of technological tools, experience, welfare package, good salary or remuneration, employees' characteristics and interaction among employees (Akintayo in Akorede and Olaniyan, 2012). Job performance is complex because of what counts for it and this invariably make measurement of job performance complex.

2.2.15 Dimensions of Job Performance

Many researchers have categorised performance into different dimensions. Mohammed (2015) gave five dimensions of performance as discipline, work quality, work quantity, relationship between an employee and his colleagues, and relationship between employee and higher level staff. Koopmans, Bernaards, Hildebrandt, Schaufeli, Henrica, Wilmar and Allard (2011) modeled multidimensionality of job performance in a heuristic study as: task performance, contextual performance, adaptive performance and counterproductive work behaviour (CWB). Druker (1999) was of the view that creativity or creative performance is also an important approach in the knowledge of work context.

2.2.15.1 Individual Employee Performance

Employees' performance is a multi-dimensional and dynamic concept. Good performance is important for an individual and it consists both behavioural and an

outcome aspect. The individual differences perspective focuses on individual or personal qualities as sources for difference in the level of performance. Individual performance is a central concept within work and Organisational Psychology. Individual performance means an individual's behaviours that can be assessed and can be relevant for achieving organisational goals. According to Sonnentag, and Frese (2001) performance research can be carried out using the three different perspectives; (i) Individual differences perspectives (individual characteristics as a source of variance in performance), (ii) a situational perspective which deals with facilitators and hindrances (iii) performance regulation perspective which addresses process of performance. However, literature suggests that there is a need to combine the three perspectives of performance. This is to understand why particular individual qualities and situational factors result in high performance of individual.

For Organisations to meet their goals, get quality service delivery and finally achieve competitive advantage, highly performing individuals are needed. Performance at a high level can be a source of satisfaction, with feelings of mastery and pride. Performance is usually rewarded if it is recognised by others within the organisation or management. Performance is a major prerequisite for career progression for individual and success in the workplace. Vanscotter, Motowidlo and Cross (2000), Vanscotter and Motowidlo (1996) affirmed that an individual whose performance is high gets promoted easily in an organisation and generally has better career opportunities than low performers.

Sonnentag and Frese (2002) carried out a research which covered a broad range of individual, group level and organisational level phenomena, and 146 meta-analyses within the past 20 years to the period of the research. Among the researchers used in the meta-analyses, about a half (54.8%) delved into individual performance as a major construct. It was reported that (72.5%) of the meta-analysis used individual performance as the dependent variable or outcome measure and (21%) of the researchers delved into measurement of performance. Therefore, the interest of researchers in performance as single studies and meta-analyses show that individual performance is a crucial variable in work and Organisational Psychology. However, individual performance is mainly treated as a criterion variable. Sonnentag and Frese (2002) conclude that using individual performance as dependent or criterion variable is

appropriate and that individual performance is something organisations want to enhance and optimise.

Individual performance has been an important variable in many researches in employment relations as noted by (Viswesvaran and Ones, 2001). Productivity and output have been used for individual performance. However, performance of individual is a reflection of many factors apart from the individual's effort. Other factors that combine with individual's efforts are: environment, availability of high standard equipment, resources, the support provided by co-workers and other systematic issues as pointed out by Waldman, (1994).

(i) Task Performance: Task performance is an individual proficiency used to perform activities. It forms the technical core. It is related to ability, it also constitutes in-road behaviours. Different researchers have conceptualised task performance in diverse ways. The formal job descriptions contain the expected actions an individual is to perform effectively. According to Arvey and Murphy (1998), Borman and Motowidlo (1993) describe task performance as the degree to which employees demonstrate proficiency in activities which are formally recognised and which contribute to the organisations' technical core either directly or indirectly.

Campbell (1990) noted that task performance is a multidimensional concept and therefore proposed eight performance components. Out of the eight components, five of them refer to task performance. According to Campbell, Gasser and Oswald (1996), Campbell, *et.al* (1993), Motowidlo and Schmit (1999) the five components of task performance are: job specificity, task proficiency - non-job specific, task proficiency as well as aspects of written and oral communication, supervision, leadership management and administration.

(ii) Contextual or Citizenship performance: Koopmans, *et al. (*2011) define Citizenship performance as individual behaviours that support the organisational behaviours which aid the functionality of the core technical skills. According to VanDyne and LePine (1998), citizenship behaviour is a multi-dimensional concept. VanDyne and LePine (1998) describe Contextual

performance as activities that support the organisational, social and psychological environment. This type of performance does not include behaviours alone; it also suggests how to improve work procedure.

Contextual performance behaviours include organisational citizenship behaviour with its five components which are: altruism, conscientiousness, civic virtue, courtesy and sportsmanship as noted by Organ (1996). Other aspects that were included by George and Brief (1992) are: helping others, that is, co-worker, as well as protecting the organisation. Brief and Motowidlo (1986) added pro-social organisational behaviours. Frees, Fay, Hilburger, Leng and Tag (1997) included proactive skills which entail initiative.

Looking at task activities in a workplace, many activities that are very important and have an impact on organisational effectiveness are not included in its capacity. Contextual performance involves actions that are directed at maintaining the interpersonal and psychological environment that requires being in existence in a workplace to aid performance. Contextual activity is independent of motivational and prepositional variables like personality which is rarely role prescribed. According to Borman and Motowidlo (1993), contextual performance activities entail volunteering to carry out task activities that are not formally part of one's schedule, persistence, enthusiasm, helping and cooperating with others, following organisation rules and procedure even when personally inconvenient and endorsing/supporting and defending organisational activities. More examples of contextual performance are: demonstrating extra effort, following organisational rules and policies, alerting colleagues about work-related problems (Borman and Motowidlo, 1993, Motowidlo, *et al.,* 1997). Katz and Khan, (1978) described task performance as prescribed role and considered contextual performance as discretionary.

Campbell, *et al.* (1993) state that the contextual or citizenship activities can be distinguished from task activities, in that contextual activity supports the environment within which the technical core of the organisation must function rather than supporting the technical core itself. While Campbell, *et al.* (1993)

noted that contextual activities emphasise on initiative, support and persistence Koopmans, *et al.* (2011) highlight indicators of contextual performance as:

Extra tasks, effort, initiative, enthusiasm, attention to duty, resogurcefulness, industriousness, persistence, motivation, dedication, proactive skills, creativity, cooperating with and helping others, politeness, effective communication, interpersonal relations and organisational commitment (pp. 863)

Smith, Organ and Near (1983) describe Organisational Citizenship Behaviour (OCB) as a category of performance that identifies and reflects a category of employee behaviours. Katz (1955) identifies these behaviours as innovative and spontaneous behaviours. In the same vein, Poropat (2011) and Konovsky and Organ (1996), describes the OCB as behaviours which organisations do not request for formally from employees to perform tasks. Nonetheless the behaviours are valued by the organisation.

OCB has two dimensions which are altruism and conscientiousness. The altruism dimension has been taken as citizenship performance towards individual while conscientiousness is citizenship performance towards the organisation. However, studies such as Organ and Ryan (1995) conducted in the area of contextual performance and others in the area of interpersonal facilitation and job dedication, refer to interpersonal measures as altruism, helping co-workers and other behaviours that aid performance, morale and cooperation. Others are job dedication, conscientiousness, discipline, rule following and taking initiative. Organ and Ryan (1995) stated that OCB consists of five components: altruism (that is, helping others), conscientiousness (compliance to the organisation), civic virtue (keeping up with matters that affect the organisation), courtesy (consulting with others before taking action) and sportsmanship (not complaining about trivial matters).

(iii) **Adaptive Behaviours for Job performance:** Pulakos, Arad, Donovan and Plamondon (2000) presented an eight-dimensional taxonomy of adaptive performance, which are: handling emergencies or crisis situations, handling

work stress, solving problems creatively, dealing with uncertain and unpredictable work situations, learning work tasks, technologies and procedures, demonstrating interpersonal adaptability, demonstrating cultural adaptability and demonstrating physically oriented adaptability. According to Koopmans, *et al. (*2011) indicators of adaptive performance are generating new or innovative ideas, adjusting goals and plans to situation, learning new tasks and technologies, being flexible and open-minded to others, understanding other groups or cultures, showing resilience, remaining calm, analysing quickly and acting appropriately.

(iv) Counter-productive work behaviour: It is identified as behaviour that harms the well being of the organisation (Koopmans, *et al.*, 2011). These include behaviours such as absenteeism, lateness to the workplace, engaging in "off-task" behaviour (such as selling of goods/items during office hours, gossiping), theft and substance abuse (drug abuse, alcoholism) during office hours. Murphy, 1989 referred to this dimension of work behaviour as destructive /hazardous behaviours, that is to mention but few behaviours that lead to a clear risk of productivity losses, damage or setbacks. Counter-productive work behavior can also be referred to as "off-task" behaviourrs such as unruliness, theft and drug misuse. Sinclair and Tucker in Koopmans, *et al. (*2011) incorporate counterproductive work behaviour as a separate dimension of individual work performance in a study.

2.3 Empirical review

2.3.1 Scale Development and Validation

Reeves and Marbach-Ad (2016) argued that developing and publishing instruments should be based on multiple forms of validity evidence. They state that at the point of developing a scale, the developer should firstly explicitly frame the construct, followed by reporting evidence-based validity. Adewale and Ibidiran (2012) develop and assess students'affective behaviour with a self rating scale. Albeit, the items of the scale were not calibrated and the scale is self rated. Marsh (1987) based the procedure for development of scale on four steps. These steps are defining the construct to be measured, designing of the scale, checking of the data and lastly, analysis for the data collected. Schwab (1980) identified three stages namely: developmental stage, scale construction and reliability assessment.

Wallen and Franenkel (2001) highlighted the procedure of developing scales as follows: description of the problem, identify the target population, determine the mode of data collection, preparation of the instrument, data collection and analysis. The instrument to measure professionalism developed by Marie and Jane (1990) followed the following steps: formation of a focus group to generate items after the administration of the instrument, and employing of descriptive statistics for data analysis. The data were evaluated to determine whether each item had suffered variance and proceded with further analysis. However, the content validity of most of the scales developed by the above mentioned researchers were not established. Hence the Content Vality Ratio (CVR) and Content Validity Indexes (CVI) were not reported.

Ojo (2013) developed a scale on teacher effectiveness in the College of Education. This study followed four steps in developing a scale for measuring lecturers' academic effectiveness by students in the College of Education. These steps were: development of items with the help of Focus Group Discussion and issuance of essay assignment to the students, administration of the items, scoring of the responses, data analysis. However, Ojo (2013) did not state clearly how the scale was subjected to expert judgement in order to ascertain the content and face validity of the instrument before administering it. Neither the scale was subjected to multiple forms of validation. Andres, Victor and Benito (2014) worked on the construction of a scale on student attitude towards Mathematics. The model specified five steps, which were: construction of items, instrument reliability coefficient, qualitative and face validity, pilot testing, validation of the instrument using different statistical analyses.

Rattray and Jones (2007) suggested nine stages to follow to enable Nurse Researchers to design, develop and find the reliability and validity evaluation of a measuring instrument such as questionnaire. These stages were: identifying the target/goal of the questionnaire, determining the type of scale that is available, item generation, pilot testing, item analysis, demonstrating reliability, determining the validity by employing factor analysis (exploratory factor analysis and confirmatory factor analysis) for pre-analysis checks and factor extraction. Hinkin, Tracey and Enz (1997) suggest seven steps in constructing a new valid and reliable scale. These steps are: Item generation,

Content Adequacy Assessment, Questionnaire Administration, Analysis (Exploratory Factor Analysis and Confirmatory Factor Analysis), Internal Consistency Assessment, Construct validity (Convergent and Criterion-related validity) and repeat the scale testing process with a new data set.

Sandeep, Purao and Suen (2010) designed a multi-faceted metric to evaluate soft skills of aspiring information system developers. The development involved a combination of meta-analysis of prior works on soft skills, data was gathered from novice systems developers and coding by experts to check the comprehensiveness of the metric. The item difficulty and discriminating indices of the instrument were calculated. However, the skills that were examined were not tested on the Senior University Non-academic Staff Work Skills Scale.

Ashton, Davies, Felstead and Green (1999) carried out an in-depth research on the work skills in Britain. The thrust of the research was to assess whether or not workers in Britain has become more skilled over a decade to the time that the research was carried out. This was done by assessing skills people use at work. Indices of various types of job skills were derived. The survey examined various aspects of the level and distribution of skills in Britain. The study gathered information from each job holder about various aspects of their job, which includes qualifications, training acquired, responsibilities and the tasks that people perform at the workplace.

Ashton, Davies, Felstead and Green (1999) administered a questionnaire of 36 items to a representative sample of 2,467 who were job holders. The questionnaire focused on 36 activities designed to cover the tasks carried out in a wide range of jobs. The questionnaire was self-reporting. However, the aspect of bias response was guided against by framing the questions as activities that the respondents perform in their workplace. The questionnaire covered skills such as key skills, problem-solving skills, communication and social skills and team-working skills. Factor analysis was used to analyse the questionnaire. However, the study did not employ Confirmatory Factor Analysis and Item response theory. In addition, the study covered only four skills.

Joseph, Soon, Roger and Sandra, (2011) developed an instrument named Soft Skill for IT (SSIT). The scale was to measure practical intelligence. To facilitate the validation,

a computerized version was developed. One incident for each of the ten dimensions of IT practical intelligence was presented. The participants were expected to generate responses to resolve the occurrence. The respondents' answers were automatically captured. There was time lag to respond to each incident using the system clock. Multivariate Analysis of Covariance (MANCOVA) was employed to analyse the data. In their findings, it was established that experienced IT professionals generated significantly more responses on the constructs than the novices did. Also, time taken per response shows that experienced IT Professionals took significantly less time per responses that were rated significantly higher in quality on managing vendors. This scale did not have indices nor rubric to guide its useage,

Aworanti, Taiwo and Iluobe (2014) developed and validated a modified soft skills scale known as Modified version of Assessing Soft Skills (MASS). The instrument was initially developed and used by twenty European researchers from five countries. The instrument was adapted to suit Nigerian setting and to establish if soft skills are teachable and examinable. Sample was randomly selected from the northern and southern parts of Nigeria. The researchers administered the instrument that consists of 15 points on 600 participants. The data was analysed using factor analysis. The scale was marked as section B while section C and D dealt with academic and assessment of soft skills respectively. The result revealed that the soft skills that are needed to enhance performance in the workplace can be taught and assessed. However, the instrument did not cover some construct or variables that are needed to be assessed for performance in a University setting. Also, the indicators of each skill are relevant to the job performed by the teachers.

Dogarawa (2011) developed a new model for measuring performance of staff in the Nigerian Public Service (NPS). The new model addressed the problem of staff disposition and provided room for continuous record of Public Servants' performance. Descriptive analysis and observation methods were employed in the study. Dogarawa designed a simplified Performance Measurement System (PMS) which requires each staffer to give a personal report of his monthly activities, identify key hinderances, proffer ways to deal with the problems and prepare the following month's activities. All of these are to be endorsed by their direct supervisor.

Dogarawa's instrument needs an automated system of operation so that all entries and submissions are done through the use of internet. This is to limit access to the instrument by all those who have a role to play and to also prevent any form of manipulation on recorded scores once they are processed. However, the model did not provide an objective measurement of the section that contains character traits and work skills/ job behaviours of employees.

Kantrowitz (2005) developed items to assess soft skills performance from self and supervisor's perspectives. The study examined the dimensionality of soft skills and validated the measure of performance in a nomological network. The study was divided into three. The first step was data collection. The data served as the stimuli for sorting. Study 2 dealt with reduction of items, dimensions of soft skills. Study 3 was on validation of the instrument. Construct and criterion validation approach were carried out. The instrument was used to measure soft skills performance in relation to individual differences variables. Results showed that the taxonomy of soft skills performance was unidimensional. Kantrowitz (2005) concluded that personality and motivational variables significantly predict performance.

2.3.2 General Work Skills Required Among Senior University Non-academic Staff

The SUNS members are responsible for many activities in the University. The administrative staffers are in charge of the smooth running of administrative activities in the University, the physical planning staffers are in charge of the infrastructural setup, the staff in Works and Services are responsible for maintenance of infrastructures and academic materials, the Library and ICT staff maintain the online Library and internet services respectively. The Bursary and the Internal Audit Units see to the financial compliance of the students and staff members, and disbursement of fund for both fixed and recurrent projects, while the Counsellors provide guidance and support for the students. In order to perform these duties, the SUNS members need to show their competences through the skills that they possess. These skills were assessed to determine their performance. The concept of work skills is encompassing and the ways of conceiving work skills construct reflect that these skills consist of components of both hard skills and soft skills. Soft skills are also known as transferable skills, generic skills, people skills, social skills and social self-efficacy. It has been classified

into diverse ways by different researchers. Schulz (2008) states that soft skills compliment hard skills which are the technical requirement of a job the students are trained to do. Schulz noted that work skills shapen individual personality

According to Kechagias (2011) noted that the generic skills are also called people skills, interpersonal skills, employability skills, competency skills, soft skills, social skills or transferable skills. In the opinion of Kechagias (2011):

> Generic skills include basic skills, core skills and key skills. In this grouping, Basic skills consist of the fundamental element of literacy and numeracy while core skills include communication, teamwork, safety, quality awareness and hygiene. Key skills cover communication, use of numbers, information technology, working with others, self-learning or self-development and problem solving (pp. 35).

Furthermore, Obanya (2014) categorises the generic skills into emotional intelligence, character formation skills, intra-personal skills, interpersonal skills, lifelong learning skills and perseverance skills. In the same vein, Owolabi, Ogunjimi and Sheu (2014) categorise the generic skills into interpersonal attributes and values and described them as skills like social and intellectual skills. Collins cited in Fior,e *et al.* (2011) categorise the generic skills into interpersonal, cognitive and personal skills.According to Fiore, *et al.* (2011) the skills consist of three different components – attitudinal, behavioural and cognitive. Fabio, David, Petra, Perez and Cinque (2012) grouped the generic skills into social, methodological and personal skills.

Moreover, Tracey (2004), Schulz (2008) and Kechagias (2011) referred to the generic skills as intrapersonal and interpersonal skills or socio-emotional skills. Kechagias categorised it into six common elements which are:

(a) Basic skills - literacy, using of numbers, using technology,

(b) People related skills – communication, interpersonal relation, teamwork. customer service,

(c) Conceptual thinking skills – collecting and organising information, problem-solving, planning and organising, learning-to-learn skills, thinking innovatively and creativity,

(d) Thinking skills related to the business world – innovative skills, enterprise skills,

(e) Personal skills and attributes – being responsible, resourceful, flexible, able to manage own time, having positive self-esteem and

(f) Skills related to the community – civic or citizenship knowledge and skills (pp.35).

Bhushan, Vikas, Nadeem, Nilima and Tandon (2011) submit that generic skills are personal attributes that enhance an individual's interaction, job performance and career prospects while in any employment. The study also recommended that it is helpful to all practitioners to implement generic skills so as to improve on their productivity. This view corroborates the position of Adeniji (1999) which states that the performance of an individual on a job depends on two variables, namely, ability or skills of individual and motivation. In the same vein, Schulz (2008) state that communication skills do not only have a significant effect on a person's professional career but it also contributes meaningfully to his/her competency and achievement of organisational goals.

Work skills are very important in all organisations because they aid the development of practices of different professions. Schulz (2008) states that good work skills are reflected at the workplace. Kechagias (2011) and Arindam (2013) affirm that some of these skills are required for hiring of employees in any industry and it is important to the success of an employee in any workplace because it aids career advancement. This is evident in the corporate establishments.

Besides, man needs to possess an innate ability to produce vital items like peace, order, justice and good governance. One of the resources that fall into this category is human resources and it is costly due to its usefulness. It needs to be developed and nurtured carefully before they can produce useful and satisfactory results. Awopegba (2002) states that Human Resources of a nation needs to be developed and education is one of the ways to develop these skills.

Since the skills can be learnt as detected by Aworanti (2012), Aworanti *et al.* (2014) and Onabamiro, Onuka and Oyekan (2014), it is pertinent to mention how to learn them. One of the ways of learning these skills is through the help of the school as it is

clear that education is an instrument of change for achieving social responsibility, social integration, personal competencies and formal qualification for pursuing further learning or employment (Federal Republic of Nigeria (FRN), 2014). While the educational system was designed to achieve these objectives, it becomes imperative and desirable to clamour for a system of education where most of its graduates can be justified individually to face behavioural expectation in the workplace. However, Ajayi (1994) noted that the signs of falling standards of education abound and one of it was the poor command of the English language (poor communication skills) among students and this has adversely affected employment in the nation. In other words, the signs of the falling standard of education have affected the quality of job seekers in the labour market in the nation. Also, Ayodele (2013) recommended that the government should establish an educational programme in which interpersonal relationship skills and communication would be taught to enhance success of employees in the workplace.

Human resources of any organisation need to acquire necessary skills and attitudes which when put together will enable them to use their resources most advantageously. These skills will also enable them to sell to the outside world whatever resources or product that are saleable in their organisation and spend the proceeds fruitfully and not wastefully. Again, productivity among the Senior University Non-academic Staff can be evident with the help of interpersonal and intrapersonal relationship. Tasks performed by the Senior University Non-academic Staff members are multi-dimensional, in the sense that this category of staff in the University consists of different professionals employed into different units/departments such as the Registry, Bursary, Health Centre, Audit, Procurement Unit, Works and Services. Information and Communication Technology (ICT) Department, Workshops, Laboratories, Physical Planning Unit, Academic Planning Unit, Public Relations Unit etc. However, they perform tasks that require common skills in order to perform maximally and productively.

2.3.2.1 Leadership Skills

Leadership is not by virtue of office or post or position in an office or work place. It has to do with influencing others to accomplish a mission, task, goal, and objective.

Leadership is a status of dominance and prestige acquired by the ability to control, use initiative or set the pattern of behaviours for others towards achieving group goals. This skill involves the use of initiation, being organised, motivation and direct actions of the members of a group in a specific situation towards the achievement of the objectives of the group. It is a skill that can be learnt in a work place. Leadership has been defined in diverse ways because different people have different views about leadership. Maxwell, (1999) views leadership as: the willingness to put oneself at risk, passion to make a difference with others, being dissatisfied with the current reality, taking responsibility while others are making excuses.

Reddin (1977) developed a 3–D leadership model which was based on two basic dimensions of leadership; task orientation and relationships orientation. Reddin introduced the effectiveness as the third dimension. Leadership skill is essential for all employees at the workplace because individual will eventually rise to the position of a leader. There are some indicators of leadership skills. An employee who has strong relationships with a larger number of co-workers will always have the tendency to possess leadership skill. According to Aliu (2005), other indicators include Influence (the individual will be able to influence people to follow him/her), taking of responsibility, security, self-discipline, servanthood heart (i.e. ability or desire to serve others), teachable heart, as well as being visionary or having a clear sense of direction. Maxwell (1999) itemises twenty-one vital qualities of a good leader as follows:

good character,	discernment,	problem-solving,
positive charisma,	being focused,	relationship,
commitment,	generosity,	responsibility,
good information	initiative,	self-discipline,
dissemination skill,	good listening skills,	servant hood,
competence,	passion,	teachable spirit and
courage,	positive attitude,	being visionary.

2.3.2.2 Communication Skills

In the list of most valuable skills employers seek in new employees, communication skills is usually at the top and it is the quality found most lacking in recent College graduates. Communication skills refer to the ability or arts involved in information

dissemination. In other words, it is the activity of sending or conveying information from a source to a recipient. Communication skills infer finding a barrier to communication and getting rid of the barrier. The word communication was derived from the Latin word "communis" which means 'common'. That is when an individual communicates; "commonness" is being established with someone or a group of people. Also ideas, knowledge, feelings, thoughts, views, opinions are shared. Communication is one of the factors that facilitate or inhibits the interpersonal relationship. Hampton (1981), states that the interpersonal relationship is viewd in the workplace as a network of friendships, affection, mutual respect and social bonds. Human interpersonal relations encourage warmth, humanistic sentiments, informal relationships and "*esprit de corps",* team spirit or comradeship among members of staff in order to enhance productivity.

The aforementioned attributes can be done through speech (spoken verbal communication), writing, signs or visuals when two or more people communicate, thereby promoting interpersonal relationship. Communication is the process of exchanging information, ideas and opinions so as to achieve greater understanding of the organisation. Oshionebo (2001) defines communication as the only tool for fostering group cohesion and cooperation. The ability to communicate is an individual's most effective weapon in applying the principles of human relations among the traits employee should develop. Again, proper utilisation of communication skills will enhance job performance, the orderly growth of the organisation, as well as industrial peace and harmony. Communication can take diverse forms in an organisation. It can be internal or external. It can be from employer to employee; it can be vertical (upward/downward communication) or it can be horizontal/lateral. The two prominent types of communication in an organisation are formal and informal communication.

Effective communication can come to play when an employer possesses the skill. Most of the issues that have to do with communication are handled by the Senior Non-academic staff of the University. They write memoranda, take minutes of meetings write meeting digests, write decision extracts, and originate circulars, bulletin and reports. If this medium of communication in the University system is not well handled or done effectively, it can lead to a lot of hitches that can affect the whole system or

the University community negatively. This medium of communication must be done in such a way that the decoder or receiver will understand in order to get appropriate feedback. Ineffective communication results in lower productivity which is characterized by tension, gossip and rumour which can eventually lead to chaos, pandemonium and anarchy among other possible consequences.

In any organisation there must be effective communication. The purpose of communication activity may be to inform, educate, persuade, connect or entertain. Each message must have a more specific goal. Information is crucial in effective communication in the University system. Communication skills are needed in interpreting both verbal and non-verbal information from others in order to suitably respond. A skilled communicator is able to select key points from a complex idea for clarity and understanding (Levy and Murrnane, 2004). Sotiloye (2013) affirm that communication is the moving force within an organisation and it helps to attain goals systematically and improve upon the goals of an organisation. This can be achieved only when there is a successful transfer of information from one person, level, or section to another. Communication skills entail, oral verbal, non-verbal and written which include different aspects. Oral or verbal has to do with presentation, audience awareness; Non-verbal has to do with audience awareness, dressing, personal presentation, critical listening, body language, while writing has to do with academic writing, revision and editing, critical reading, and presentation of data .For an individual to have good communication skill or language proficiency in Nigeria, he/she must have mastery of speaking, writing, self-esteem (reflects in conversation skills and body language), adequate discussion skills, good presentation skills in order to market his/her idea. All these connote all that is required to communicate effectively. Communication skills are important to a person's professional career and one's social competence.

2.3.2.2.1 Effective Communication:

According to Sotiloye (2013), effective communication in a workplace is an end product of careful implementation of the communication process. It also entails mastery of the medium and channels of communication by members within an organisation. This means what is to be said must be said clearly and correctly. To achieve this, according to Sotiloye the followings must be considered;

(i) Selection of appropriate language which must be understood by the encoder and decoder

(ii) Sending a clear and concise message

(iii) Selection of appropriate medium and channels.

(iv) Selection of appropriate mood

(v) Receiving/ hearing correctly and understanding the message that was sent

2.3.2.2.2 Important skills that show good communication skills

Levy and Murrnane (2004) describe important skills that show good communication skills as:

(i) **Precision –** workers are not expected to sit and chat in the workplace due to the tasks that have been scheduled to be accomplished within the limited working hours. Chating during office hours should be kept short or brief at the workplace. Communication facilitates achieving goals but it should be completed as quickly as possible.

(ii) **Courteousness -** respect begets respect, there must be decorum in the ways an individual in a workplace relates with other co-workers. Employees should always be courteous while speaking to anyone in the workplace, whether senior or junior.

(iii) **Language –** one should use official languages in the workplace. Slang terms should not be used by workers. Communication related to business should be crisp (sharp) and clear such that every other staff can understand. Slang terms are unprofessional. The use of it in the office should be avoided.

(iv) **Low speaking volume –** loud speaking volume should be avoided. Speaking loudly disturbs people around. Therefore, low speaking volume should be maintained in an office setting.

(v) **Clarity –** for easy comprehension and understanding of what one is saying in the workplace, clarity is essential. Hence, an employee should speak slowly and clearly. Also, to be cultivated is the habit of asking if people understood what has been said.

(vi) **Listening to others –** communication is in two ways, speaking and listening for the feedback. Therefore, employees at all levels should be good at both speaking and listening.

(vii) **Posture and body language** – the body speaks in a unique manner. At the workplace, the language of the body must be courteous, that is respectful, and it

must not be rude. The body speaks when an individual speaks by using the eyes, nose, nodding of heads as a sign of agreement or disagreement and gesture of all kinds. An individual can use the eyes by winking the eyes or turning the eyeballs. Whichever part of the body one uses to speak at the workplace must communicate courtesy.

In addition, dressing or physical appearance communicates to people. Some employees' dressing at the work place does not reveal or follow the ethics of the workplace; some dressing distracts colleagues and the opposite sex in particular. The Senior University Non-academic Staffought to dress decently to work, using mild perfume, as well as making moderate hairstyle or hair do. All the aforementioned are applicable to both the women and the men. Also, when an individual is being talked to he/she must sit erect. In addition, since the University environment is a place where students are trained regarding the virtue and values of a country, therefore, the staff must portray culture and values that the University intends to pass across to the students.

Effective communication techniques establish good rapport among employees at the workplace. Writing skills, is also important to employee's success in the workplace. The University system is not left out in this situation. Many of the Senior University Non–academic Staff members need good writing skills to climb the ladder in terms of promotion due to the nature of their work,

Besides, the skills of the SUNS extends to writing through emails, text messages on phones, whatsapp and other social media, and service forms. Therefore, abbreviations such as (LOL, TTYL, IJN etc.) should not be used by this category of staff in formal writings. The language of the SUNS must be clear and simple as stated by (Obeki, 2014). There are different tips for effective communication in a workplace and these are: clarity of message, brief presentation, presentation at the best time, medium and channels to use, consideration of the status of the receiver, availability of friendly atmosphere, listening to other people's points of view, as well as avoiding using non–verbal gestures that contradict words-for example smiling when irritated.

2.3.2.3 Time Management

Time is a limited commodity that has to be effectively managed. It is a very precious commodity to all human beings (Ayanda, 2012). Time can be defined as a moment or period allotted to an activity, event or purpose while Time management is the act of allocating our scarce time to our numerous daily activities, setting of goals, and determining how to achieve one's objectives. According to Claessens, Eerde, Rutte and Roe (2004), Grissom, Leob and Mitani (2013), time management skills include the ability to set achievable goals, identify priorities, monitor one's own progress and remain organized.

Time Management is ability to make skills, tools and systems work together to help one get more value out of one's time with the aim of improving the quality of one's life. Almutairi (2011) explores the impact of time management on the employee job performance at Saudi Telecom Company (STC). The findings depict that time management has positive effect on the employees' performance.

For an individual to manage time well, he/she must ensure that the available time at the workplace is used doing the right things, things that truly need be done at the workplace. Therefore, to be able to prioritise task, a good time manager should avoid procrastination, distractions or some other time wasters or doing irrelevancies. Researchers such as Jamal (1984), Green and Skinner (2005) have demonstrated that effective management of time predicts job performance, assists an employee to meet job demands, reduces stress encountered on the job and improves employees' performance. Grissom, *et al.* (2013) in the study carried out in the United State of America suggested that building heads of Secondary School's time management abilities has advantage, particularly creating enough time to deal with high-priority tasks and eventually reduce stress. The study also established that time management is germane to School Principals' daily achievement.

Another indicator of time management is using or investing time carefully. That is having a clear goal, planning well and pursuing one's plans single mindedly. Planning involves deciding what should be done, where, when, how and who should do or perform the task. To be able to manage time, employees should learn how to share tasks among subordinates instead of trying to do all personally. The time for

accopmlishment of tasks should be allocated, with inclusion of time for resting, leisure and social activities.

Adeyinka (2013) posits that professional adminstrators who form the major group in SUNS should skilfully manage their time and that of their boss effectively inspite of their preoccupations such as organising meetings, attending to other issues in the office.

Adeyinka (2013) state that time can be divided into three types.

(i) Discretionary Time or Controlled Time: It is also known as self-imposed time. This is the time available to the individuals which he can use at will.

(ii) Response time or uncontrolled time or system imposed time: This is the time used in attending to people, clients, co-workers, attending meetings or conferences etc. It is also referred to as business time.

(iii) Boss Imposed Time (BIT): This is the time spent on attending or completing official assignments given to people by their bosses.

2.3.2.3.1 Strategies to Effective Time Management

There are many strategies to manage one's time effectively. Some of these strategies according to Ayanda, (2012) are as follows:

- Prioritize tasks and set goals/objectives;
- Separate productive activities from non productive ones;
- Have a daily planer;
- Plan your time and stick to the plan;
- Always plan ahead of time;
- Keep your planner with you at all times and be guided by it;
- Allocate time to complete essential tasks;
- Avoid procrastination and interruptions;
- Do not allow unnecessary distractions by anyone or anything;
- Perform difficult tasks in the morning when you are at your best disposition;
- Delegate when you need to,
- Take advantage of spare time, use any of your spare time to update your planner or set goals for the day and be flexible with your plan.

- Allow and prepare for interruptions and last minute assignments and events.

2.3.2.4 Teamwork Skills

Modern models of communication have developed human and public relations in the workplace. There is a need to engender harmony and growth both within an organisation and groups of people. The strength of any society is based on how well individuals with different abilities and needs can co-operate without losing their sense of individuality and personal worth.

Teamwork skills are also referred to as human relations skills. Human relations skills are ways by which an individual's interest is merged with that of the organisation to bring about working unity, thus accomplishing the goals of each (the individual and the organisation) simultaneously. Human relations skills encourage people to press towards the achievement of the desired goal by ensuring good interpersonal relationship.

Eggland and Williams (1989) defined human relations as the relationship between people. Human relationships can be formal or informal since it takes different forms. A relationship may exist between peers, that is, two employees of the same calibre, and it can be with supervisors. Team working skills promote good human relationship in an organisation. Qualities of an effective team player are: being reliable, speaking constructively, good listening tendency, active participation, sharing openly and willingly, being cooperative, helping others, adaptability, showing commitment to the team, working as a problem solver and treating others in a respectful and supportive manner. Oakley, Darrin, Zenon and Felder (2007) found in a study that assigning work to student teams leads to learning benefits and student satisfaction which eventually promote good performance on the part of the students

2.3.2.5 Problem-solving Skills

This is the ability to be resourceful, adroit (to skillfully handle issues) and creatively solve problems that will inevitably arise in the workplace. It is also the ability to take ownership of problems in the workplace. Some of the indicators of problem-solving skills are having a stable mind when working under pressure or problems, critical and structured thinking and exhibiting analytical skills. There are seven steps for solving problem effectively; these are:

(i) **Identify the issues:** The problem must be clear. An employee that has problem-solving skills must be sure that he/she can identify the problem and also know that different people might have different views of what the issues are.

(ii) **Understand everyone's interests:** this step is very important and a lot of people do not usually think of this and it is therefore missing in their thinking. However, remember that the best solution to a problem is to fulfill the wishes of the parties. Also, the time of problem is the time to actively listen.

(iii) **List the possible solutions** – this involves brainstorming and the ability to be creative. List the options and evaluate the probable options.

(iv) **Evaluate the options:** After evaluating the probable options for a solution to the problem, select from the options.

(v) **Select an option or options:** Identify the best option/s from the ones that have been listed and gone through evaluation, and select the best from them.

(vi) **Document the agreement/s**: Do not rely on memory but write the agreement/s that is/were reached.

(vii) **Agree on contingencies, monitoring and evaluations:** Make contingency agreements about future circumstances, bearing in mind that conditions may change.

2.3.2.6 Punctuality

Punctuality is important in the workplace as it is one of the workplace ethics. It is a policy in any establishment. Ketchum (2018) describes it as an act of arriving on time at the workplace or to work-related activities. Punctuality sends a positive message to employers and individual's coworkers. Punctuality shows an employee's dedication to the job, interest in the work and capability of handling responsibility. Being punctual assists employee to display a sense of professionalism and commitment. Lateness to the workplace has effects which spread throughout the workplace. A senior staffer not being punctual to work sends a message of being an irresponsible person to the junior staff and the act can eventually lower the morale of the junior staff members. It can also lead to poor performance. The lateness of the senior staff can affect the entire work force. Punctuality of the SUNS can be observed at the time of arrival at the workplace through the signing of the attendance register and time of arrival at

meetings (Committee, Panel and Unit or Departmental meetings). Ketchum (2018) highlights some advantages of punctuality as: it enables the workplace operates more smoothly as a whole. This contributes to advancement of the organisation and enables an employee to be organised. Disadvantages of lateness were highlighted as follows:

(i) It may lead to resentment as co-workers who arrive at the workplace on time compares themselves to latecomers.

(ii) Employees who are latecomers usually miss important pieces of information. This eventually throws such employee out of the loop. This is applicable to the SUNS especially during Committee meetings and Board meetings among others.

(iii) It causes division among employees.

(iv) Lateness lowers morales of junior staff.

(v) It leads to stress which can lead to poor performance on the part of the latecomer.

2.3.2.7 Records Management/Information Management

One of the tangible or vital resources of an organisation is information. Information is needed in any organisation and it is indispensable. It determines the effectiveness and efficiency of the management. Nwankwo (1985) defines information management as structured data, that involves collection, storage, processing and dissemination of news, data, facts, messages, options' and comments required to help to react knowledgeably and to be in a position to take suitable decisions. Record is an account, information or facts set down in writing as a means of preserving knowledge. According to the American Heritage Dictionary cited in Udofia (2015), Record is a piece of information or data on a particular subject collected and preserved or an account officially written and preserved as evidence or testimony. Record has life cycle and each stage of the cycle has components with its objective. Record management starts from the time such record is created or generated. It passes through some processes till the time it is disposed off. It is also the way in which an organisation ensures the availability of records for use. This includes creation, storage, retrieval, retention and final disposition.

In the University system, records can be on; bio-data of staff or employee. This is referred to as organisational personnel, salaries and wages, assets, expenditure,

admission list, examination results among others. Records are pieces of information created, received and maintained as evidence and information by an organisation or person, in pursuance of legal obligations or in the transaction of business. A record consists of what we do when we do it and why we do it. The record provides evidence that an action or decision has taken place so that we can prove or discover what happened when it happened or who was involved and ideally why it happened (Udofia, 2015). Records are also referred to as information or data on any specific subject obtained and presented for future reference or use (Ifedili and Agbaire, 2011).

Record management is the making and maintaining of complete, accurate and reliable evidence of the business transaction in the form of recorded information. A University record is any document or other sources of information in any format including electronic document and websites that is made or received by employees of a University as part of their work. In the University system, record management is very important. Without a record of the transactions, instructions, agreements, and reports created every day throughout the University the efficient functioning of the University would be seriously impeded. According to University of Cali Berra cited in Udofia (2015), University records include: letters, memoranda, files, written and printed documents, maps, sketches, photographs, plans, models, sound recordings, coded storage devices, magnetic tapes or disks, microfilms, microfiche, films and video recordings among others.

Udofia states that record management can be carried out manually (by using paper), mechanically, or electronically or automatic system (with the help of computer and Information, Communication Technology (ICT)). In the University system, the minimum qualification of record managers who are referred to as clerical officers is school certificate. However, every University staffer is expected to be a good record manager because, information is usually passed across to members of staff through memorandum, circular and letters which are supposed to be kept for easy reference. Records are kept because of taking several decisions, for evidence, for reference, meeting government regulations and producing accurate, complete and meaningful information.

2.3.2.8 Self-Confidence

Confidence is important to performance. However, not everyone possesses self-confidence. Many people have to work hard to possess a little level of confidence and self-esteem. An employee who lacks self-confidence always feels unappreciated and finds it hard to succeed. However, it can be achieved with time and putting a lot of effort in practice. Self-confidence entails courage, strength and the ability to pick oneself up when something fails. Self-confidence will make one believe that he/she can do a certain job whether he/she has relevant experience to the job or not. It will also enhance employees' confidence in other people. In the workplace, self-confidence makes an individual to be bold to talk freely. Self-confidence enhances good presentation skills.

2.3.2.8.1 Ways of improving Self-Confidence

(a) **Be proud of what you have achieved:** To be able to do this, have a record of your success or achievement in a logbook or diary. Achievement in terms of promotion, successful project etc. An employee can do this in order to get what will encourage him/her in times of depression and dejection. This action will embolden or assure one that he/she can perform a task and also remind one that one can achieve more.

(b) **Be a goal-getter:** To achieve this, an employee must set realistic goals and stick to the goals. This also indicates that an employee should not allow any distraction. An employer should set a deadline to perform a task. To meet up with the goal of the task, an employee should also set goals that will highlight strength and minimises weaknesses.

(c) **Receive a compliment graciously:** Do not be very or excessively humble to receive a compliment that is being passed to you. An employee must acknowledge that he/she deserves the compliment because he/she has worked for it. Do not act as a pessimist.

(d) **Positive self–talk:** An employee who wants to build self-confidence must be positive in his/her thinking and dealings. This can be achieved by sticking positive colourful pictures on one's wall, car or any other place. Phrase of encouragement can be framed up and stuck to the office wall.

However, there are some things an employee must avoid, some mistakes that can make an employee lose his/her self- confidence. These are: waiting to be given what you

want, avoiding office politics, sharing too much personal information, decorating your office like your living room and over apologising –This erodes one's self-confidence and even the confidence people have for a person.

2.3.2.9 Ability to Accept and Learn from Criticism

The indicators of these skills are the ability to handle criticism without getting annoyed, being coachable, being open to correction and willingness to learn and develop as a person and as a professional. Criticism is not usually agreeable, but it is necessary, though it can be painful. However, Criticism is common at the early years of one's career but it can be well utilised if one knows how to deal with it effectively. It will help to maintain both professionalism and help an employee to gather impetus in his/her career. To show positive attitude to criticism gracefully can be done in the following steps – a) listen openly b) consider the source c) discuss the feedback d) measure the results.

According to John (2019) listening to criticism is a good way to learn. Surfice to infer that learning from criticism will assist employees to improve on their working skills with reduced possibility of errors. In the same vein, Cohen (2017), states that an employee will not get by in any professional environment unless such an individual opens to accepting positive and negative criticism.

2.3.2.10 Proactive Skills

This requires having the foresight and being accurate in anticipation. It is also a visionary trait in an individual. Arindam (2013) describes it as one of the most critical and difficult behaviours to develop in organisations and that it goes well beyond some visionary individuals. Proactive skills have increasingly become important in today's workplace. It is one of the skills that have consequences for conceptualising performance and as one of job performance predictors. it is an important predictor of task performance as shown by researchers such as Crant, (1995). Employee needs to go beyond what is formally requested (Frese, *et al*., 1997 and Parker, Wall and Jackson, 1997).

Proactive behaviour includes personal initiative and it is an important part of contextual performance. Besides, personal initiative is related to company performance

as stated by Koop, De Reuz and Frese, (2000). Therefore, being proactive to individual means to be an anticipator, a change-oriented and self-initiated in diverse situation, especially at the workplace. It deals with thinking and acting ahead. It entails taking initiative to prepare for the future.

Also, being proactive has to do with looking into the future, precluding outcomes and preparing for the consequences. An employee who is proactive will make conscious decisions as part of a larger and long term plan. Proactive employees are valuable because they control the situation and make things to happen rather than waiting to respond after things happen. They provide answers to issues. Proactive employees are resourceful. They are actively engaged and not passively observing. It entails thoughtfulness, imagination, anticipating future outcome, creativity and foresight. Major, Turner and Fletcher (2006) discovered that proactive skills had significant incremental validity and predicts motivation to learn than all relevant Big Five facets.

In order to be proactive, there are five steps identified by Chrissy (2010):

1. **Predict** – this is the ability to have foresight. Things rarely catch them unawares or by surprise. Proactive people look for patterns of how things happen, recognise the regular routines, the daily practices and natural cycles that exist in a workplace. Proactive people are always on their toes.
2. **Prevent** – they foresee potential obstacles and exert their power to find ways to overcome them before they constitute roadblocks.
3. **Plan –** they plan for the future, they bring the future into the present.
4. **Participate** – they are not idle observers. They are involved. They take initiative and be part of solutions.
5. **Perform** – they take timely and effective action. They deal with issues decisively. They are always willing to work. They do not procrastinate. They are also unstable.

Seibert, Kraimer and Crant (2001) developed and tested a model connecting proactive, personality and career success through a set of behavioural and cognitive mediators. The study was a longitudinal design with data from a sample of 180 full-time employees and their supervisors were used for the study. They employed Structural Equation Modelling and the result of the study shows that being proactive was

positively related to innovation, political knowledge and career initiative. The study eventually shows that all these variables had a positive relationship to career progression.

2.3.2.11 Adaptability/Flexibility

Michael (2019) asserts that an adaptability skill is critical to success in any job. An employee should be able to manage new situations, challenges, accept change and be open to accept new ideas since it is clear that change is inevitable in life. Change is also constant in the workplace. However, companies/establishments do not change but the people working there do change especially when they develop the skills to change or when they are redeployed from one unit to another within the company or establishment. The indicators of adaptability skills are flexibility, reliability, perseverance or patience and ability to interact and cope with a new set of people an employee are not use to in a new environment. Embracing change is key to being an invaluable employee.

According to Michael (2019) being adaptable is about remaining open and flexible in an individual's approach and that this skill is necessary in the workplace in order to learn and unlearn. Also, an adaptable leader or subordinate must be able to solve problemsin a fast paced environment and trust their jugement when making difficult decisions. Michael (2019) affirms that leadership failure which record is alarming in recent time in the workplace arose from the inablility to adapt and let go of old behaviours by different leaders.

2.3.2.12 Commitment

Commitment is referred to as dedication or loyalty. It is an individual's support of the organiation with involvement in things that concern the organisation and its goals. This is characterised by a strong belief in and approval of the organisation's goals, values and a willingness to put in considerable effort to achieve the organisation's goals. Vishwanath and Muhammad (1979) state that commitment consists of three components namely; commitment to the goals of the organisation, commitment to put in extra effort and a wish to stay in the company.

Meyer and Allen (1991) in Rawat and Somaiya (2011) noted three types of commitment. These are: continuance, normative and affective.

(i) **Continuance commitment:** This is when an employee remains in an organisation willingly. This could be attributed to his or her investment in form of non-transferable investments such as close relationships with co-workers which can lead to a nostalgic feeling after leaving the organisation.

(ii) **Normative commitment:** refers to the feeling of moral tie with the organisation. This stems out of generalised value of loyalty and commitment to duty (Weiner and Verdi in Rawat, 2011). Rawat (2011) attributed this to the outcome of personal norms. Some employees believe that it is right to show commitment in any workplace. Commitment can be measured by the extent to which a person feels that he/she should be loyal to an organisation and personal sacrifice to help the organisation and not to criticise it (Rawat, 2011).

(iii) **Affective commitment:** refers to emotional attachment. Involvement of an employee and his/her identification with an organisation usually leads to emotional attachment to the organisation and become a permanent member of the organisation. Rawat (2011) carried out a study to find out the connection between psychological empowerment and organisational commitment. The researcher found that psychological empowerment led to commitment in the workplace. Literature on organisational commitment have revealed that commitment has a relationship with demographic factors, background factors and job factors. Among demographic factors variously found to be related to organisational commitment are age, gender, education attained, marital status and income (Grusky, 1966; Jamal, 1976; Stone and Porter, 1975).

2.3.2.13 Conscientiousness

Conscientiousness is when an employee has penchant for self-discipline and aim for achievement against measures or beyond expectations. It is related to the way in which people control, regulate and direct their impulses. It has been linked with innumerable positive outcomes across all fields of life. Different models of personality have defined and measured conscientiousness in diverse ways and proposed different facet level structures. MacCann, Duckworth and Roberts (2009) state that the Big Five Inventory (BFI) revealed that conscientiousness has eight facets which are: industriousness,

perfectionism, tidiness, procrastination, refrainment, control, cautiousness, task planning and perseverance.

The BFI personality model by Digman (1990) classified efficiency, being organised, easy-going, carefulness, dependability, self-discipline and being dutiful under conscientiousness. Since the circumflex model allows factor overlap, some conscientiousness-facets were blend of conscientious and other broad dimensions such as reliability, responsibility and agreeableness. Liao and Lee (2009) reveal that extroversion, openness, agreeableness and conscientiousness relate positively and determine job performance of employees.

This trait is very important among the Senior University Non-academic Staffdue to the type of task performed by this category of staff. Conscientiousness has a lot of indicators among which are effectiveness, efficiency, ability to work under pressure, competency, patience/perseverance, versatility, accuracy, proficiency, hardworking, timeliness, orderliness and control All the above indicators pointed towards having a positive attitude to assigned duties. Positive attitude in the workplace can help an employee to enjoy his/her work more and achieve organisational goals more easily and faster. One can control his/her attitude to work every day. An individual that is conscientious is usually a perfectionist and a "worker-holic".

2.3.2.14 Computer and Internet Skills/Information Technology

According to Alison (2020) Information and Communication Technology (ICT) skills means ability to communicate with people through various technologies similar to information technology (IT). Information doubles within a short period in this information age. Therefore, employees should possess ICT skills that are critical to to any workplace such as; Microsoft Office, Microsoft, Excel, Microsoft PowerPoint, Data Managementand Queries, Online collaboration, Social media management, Online Research, email management and setup, smart phones and tables and Desktop Publishing. Alison (2020) states that ICT skills aid sending emails, making video call and conference, searching the internet, file sharing, the use of dropbox, hangoutsability to develop and manage data using spread sheet and analyse data.

Moreover, there is the need to disseminate information to the University community without wasting time and resources. This can be achieved through applying a fast method with the help of (ICT). The information could be relayed to the students or staff or the whole community. As a result of this, the staff is expected to be well versed in the use of the ICT to disseminate notice of meetings, circulars, digests or decision extracts of meetings, admission of students and registration of students among others. Sonnentage and Frese (2002) submit that individual performance depends on the use of technology. Such individuals are the Secretaries, Administrators, Accountants, Auditors, Doctors and all SUNS in the University system.

Besides, in the computer age, all information in each of the Units and Departments are supposed to be saved in the computer or electronically for easy retrieval. Also, all Senior University Non-academic Staffneed to be computer literate because of the nature of their job. They need the knowledge of computer in sending mails, storing of information, data and to be abreast with their counterparts in the outside world in getting new knowledge and interact with other colleagues from within and outside their location. They also need ICT knowledge in other to achieve more with fewer resources.

The use of technology in the workplace entails computer and information system such as the use of phones. All these play important role in most workplace and work processes in the present time. Virtually all establishments make use of the computer system. Therefore, proficiency in the use of computer is one of the indicators of job performance of establishment due to its usefulness. Besides, the fact that it is used to store data and information generally, it enables the employee to be abreast with what is going on in the world. They are better informed or educated on how to improve on their productivity/performance with the help of the internet and also make them current with the latest issues around them and the entire world.

Moreover, access to Information Technology (IT) assists employees to be effective in their job. With the knowledge of how to use a computer, some pieces of information are disseminated quickly. Therefore, it saves time. Also, technology contributes to a better way of record management unlike in the ancient time when the record is kept in files alone and any mishap could contribute to loss of information or record.

Alison (2020) states that many companies are yet to run as efficiently as possible even though technology has increased how organisations can be more productive. He was of the opinion that best communicators really understand what efficient communication is and how new technologies should be used to make communication more efficient.

2.3.2.15 Creativity Skills

Creativity skills are always misinterpreted to be useful for artists alone; this perception is wrong. Creativity involves thinking out of the box. This invariably entails using innovative approaches to tackle tasks, brainstorming and mind mapping (visual thinking tool which helps to structure information). A creative employee earns the respect of the boss or people under him/her and colleagues for contribution of superior information and logical reseasoning. Babalola (2001) highlighted steps to being creative as follows: 1. Capture and heed new ideas quickly as they come while in bed, in the bathroom, and inside the vehicle. 2. Challenge yourself with difficult tasks. 3. Broaden your knowledge and experience. The more knowledge an administrative staff has, the more diverse that knowledge is, and the greater the potential for creativity. 4. Surround yourself with ever-changing stimuli - always brainstorm and find the shift from private sessions to team meetings and vice versa.

Due to innovation in producing a product, value is added to such product. Technology and service dimension provides additional and relevant benefits to customers. One way of being innovative is discipline of revisiting the organisational composition from time to time in order to check if its competencies are in line with the requirements for the future. If the answer or result is negative, then there is a need for replenishment of skills. Arindam (2013) affirms that innovation is the building block for effective change and often times requires an extended period of time to achieve productivity. Good innovation requires competency and creativity, desperation to select when there are no substitutes to look up to, the eye to sense a problem and the application to resolve it. To acquire this skill, the individual at his or her workplace should overcome complacency and build patience.

2.3.2.16 Self-Management Skills

Poor management and utilisation of office time is easily observable in the public service and is manifested in a variety of ways such as reporting late to work, leaving office before official closing time, spending official time on purely personal matters such as an official telephone call, careless and unproductive conversations with peers, visitors, selling during official hours among others. Koopmans, *et al.* (2011) referred to these descriptions as counterproductive tasks/activities for the organisation's productivity. Ogunjobi (2004) states that many public servants fail to realise the implication of the loss of critical man-hours through these counterproductive activities. This implies that most of the public servants, to which the University staff belongs, fail to know that time is money. This has also contributed in no small measure to declining productivity and poor image of the public service.

Latham and Frayne (1989) conducted a study where the efficacy of self-management training course was tested. The experimental group was exposed to self-management training. The result revealed that the group that was exposed to treatment showed improved attendance, and enhanced self-efficacy was maintained for over nine months. Also, Godat and Brigham (2007) studied the impact of self-management training on employees of a mid-sized organisation. The result revealed that the employees were able to improve on self-management. Frayne and Geringer (2000) state the three things to follow to be able to practice self-management. These steps are: a) self-assessment which must be reality check, b) goal setting and action planning - a written contract, constructive thought patterns, designing rewards, self-monitoring, c) self-reinforcement.

2.3.2.17 Knowledge Management Skills

Knowledge Management (KM) is the process of capturing, distributing and effectively using knowledge. It is the practice of organising, storing and sharing vital information so that everyone can benefit from the use. KM is based on four pillars Technology, Information, Culture and Skills. It consists of making the organisation's data and information available to the members of the organisation through portals band with the use of content management systems. Content Management is part of KM. Knowledge Management also entails data information that increases productivity. There are two types of knowledge:

(a) **Explicit Knowledge** – This includes things that can be easily passed on to someone else via academic training; it is like putting it into a database or a book. Explaining a company's or an institution's safety probably to new members of staff is demonstration of explicit knowledge.

(b) **Tacit Knowledge** –This is knowledge that is most often learned by experience. Employees need knowledge in some form to do their job well, know the best way to get senior managers to approve any company's deal, know how the superior prefers to receive bad news in order to deliver as painless as possible. This type of knowledge aids subordinates to manage their boss/es.

Knowledge Management has its benefits which are: Information and expertise are easily shared among staff members, knowledge cannot be lost if someone goes on vacation or gets sick, ideas can be shared easily, it increases innovation as well as creates better customer relationship, it creates a more powerful and better workforce because it increases collaboration, it enriches staff members regarding the knowledge which they need so as to perform their tasks better. According to Gupta, Iyer and Aronson (2000), intelligent organisations recognize that knowledge is an asset that grows with time and if harnessed properly can give the ability to continuously compete and innovate the future.

2.3.2.18 Integrity

According to Andrew (2015) integrity predicts success in the workplace. Integrity is essential in the Nigerian civil service. It is the quality of being honest, sincere, and morally upright. It requires discipline, consistency and persistence in order to reflect the core values in everyday life. It involves doing the right thing when nobody is watching. It is the 'inner voice" that is, one's conscience which is the source of self – control and foundation of trust. The indicators of integrity are honesty, trustworthiness, responsibility, accountability, justice, courage, truthfulness, respect, courtesy/humility, love, care, empathy and compassion. A person of integrity possesses the above traits which contribute to performance and enhance productivity in an organisation.

According to Andrew (2015) the level of an employee's integrity determines the level of involvement of such an individual in counterproductive work behaviours. Andrew asserts that people with integrity value other people by showing them respect at work.

Integrity requires honesty, trustworthiness, hardworking, being responsible and being accountable.

2.3.2.19 Conflict Resolution Skills

Conflict is a common phenomenon in interactions both between individuals and between groups of individuals. It exists wherever incompatible activities occur. Conflict is part of organisational life and it may arise between two individuals, between an individual and a group or between groups. Donochue and Kolt cited in Ajike, Akinlabi, Magaji and Sonubi (2015) define conflict as a situation in which two mutually dependent people express differences in fulfilling their individual needs or interests towards each other or each group, especially if one or a group experiences obstruction from accomplishing certain goal. It is believed that there will always be a conflict between members of a group or between two different groups where collaborative or group work is encouraged or is in existence. Hotepo, Asokere, Abdul-Azeez and Ajemunigbohun (2010) state that conflict is generally perceived as abnormal but it can also be beneficial because it may cause an issue that is seen in different perspectives to be perceived in a better way.

Conflict has two sides; positive and negative effects. It can be positive when it encourages creativity, new look at old conditions and handles social differences. Conflict is negative when it establishes chaos in organisation or social interaction or widens the rift of misunderstanding. In the University system, most of the work done or achievement gained is as a result of a group or collaborative effort. Different units must perform their roles otherwise, activities will not go on smoothly. Moreover, individuals in a group must do their part for effectiveness. If there is a conflict between two staff members in a unit, it can cripple activities in the unit. Ajike *et al.* (2015) reveal that there was a significant and positive relationship between conflict management and organisational performance. Easterbrook, Beck, Goodlet, Plowman, Sharples and Wood (1993) attribute emanation of conflict to individual differences, experiences, personalities and commitment (different amount of time committed to the resolution of a problem).

2.3.2.20 Courteousness

This is an act of being polite and being kind in dealing with co-workers or having good manner at the workplace. Research has shown that being rude to a fellow employee has immediate and long term effect which is detrimental to employee engagement, commitment, performance and workplace relationships. Anvari, Chikaji and Mansor (2015) found that courtesy relates positively with job performance. Podsakoff (1994) points out that a courteous employee would help the organisation he/she works for to reduce inter-group conflict and thus reduce the time spent on managing conflicts.

2.3.2.21 Analytical Skills/Critical Thinking

Analytical skills depict competence in analysing arguments, making inferences using inductive or deductive reasoning, judging or evaluating, thinking critically to solve problem and making decisions. Basic knowledge of different issues is necessary but not a sufficient condition to enable critical thinking within a given subject. These dispositions can be seen as attitudes or habits of the mind. Analytical skills include, open-and fair-mindedness, inquisitiveness, flexibility, a desire to be well-informed, and respect for having interest to welcome diverse viewpoints, curious nature, flexibility, a wish to have sufficient knowledge, understanding diverse viewpoints, and willingness to consider other perspectives before forming judgment (Facione, 1990).

2.3.3 Different Approaches to Assessing Work Skills

Hough and Oswalg (2001) observe that assessment of job performance is complicated because components of job performance are complex, varies and consists of multiple dimensions. Adeyinka (2013) affirms that periodic review of performance and work plans are indispensable to the success and arriving at the set goals of any establishment. It is a process of taking decision or judgment on activities of the employees over a period of time and a basis for determining who is promotable to a higher position.

Adekunle (2006) states that performance appraisal is the term used for a variety of techniques through which superiors, supervisors or an overall boss ranks or describes a particular employee's work effectiveness. It is an integral part of activities in any organisation and one of the important functions performed by managers/supervisors of organisations. Performance appraisal is done periodically. It can be done yearly, quarterly or monthly and this depends on the decision of the management of an

organisation. It is supposed to be a tool of productivity where it is done properly as it is also important to the management and development of the Organisation.

Drucker (1977) describes job appraisal as a constructive process to recognise the performance of a non-probationary career employee. It is also referred to as a regular or periodic assessment done by a superior or group of assessors of how an individual or corporate body has carried out a set of activities or a task within a period under review. Job appraisal involves evaluation of the employees' strength to providing information on their growth, judge their performance and make decision on the employees. Gibb (2014) and Odejobi (2005) highlight the uses of performance data as compensation, staffing, training needed, analysis of achievement, research and evaluation.

There are different approaches to appraise or assess an individual's performance. According to Fiore et al. (2011); Questionnaires' approach, Situational Judgment Tests (SJTs) approach, Direct Observation of team interactions approach and Appraisal approach. It is worthy of note that all trait-related appraisals have the problem of objective measurement.

2.3.3.1 Fiore's Assessment Approaches

Fiore, *et al.* (2011) used 2 approaches to assess social skills which are aspects of work skills and explained that one approach is to examine each component of work skills singly such as – attitudinal, behavioural and cognitive separately or the three components together. Fiore, *et al.* (2011) state that social connections and interactions of an employee can be judged through reports from other people who know or interacted with the employee at a particular time (for example, personal statements from individual or confidential report or input on the staff performance from previous employers). Such report is written in qualitative form but it will offer indications of the level to which an applicant possesses certain skills. Fiore et al. tested this hypothesis by carrying out a research on team work or cooperation at the workplace by employing the use of questionnaire. The several ways or approaches to assess social skills as explained by Fiore, *et al*., (2011) are: follows:

(i) Questionnaires' approach: This can be achieved through self assessment and peer ratings on dimensions like communication skills, leadership skills, and

self-management. Kantrowitz (2005) use self-report approach to gather information with two measuring scales: performance standards for various behaviours and comparison to others within the respondents'' operating teams. In a similar vein, Loughry, Ohland and Moses (2007) use this approach for two work groups, Science and Technical. The two groups rated each other on a five categories scale. The measuring scale covered contributions of employees to the team's work, interaction with teammates, contribution to keeping the team heading in the right direction, expectations for quality and possession of relevant knowledge skills and ability.

(ii) **Situational Judgment Tests (SJTs) approach:** SJTs approach is often multiple choice assessments of possible reactions to hypothetical teamwork situations to assess capacities for conflict resolution, communication and coordination (Stevens and Campion, 1999). The researchers concluded that there is relationships between the results, the peer and supervisors ratings of an employee's job performance. The results correlate with workers aptitude test result. This SJT approach is a scenario whereby respondents or candidates choose from a collection of attainable responses to a scenario that is represented in writing or presented in a video.

(iii) **Direct observation of team interactions approach:** This is often by observing employees directly. This method of assessment of performance assists the researcher to avoid the potential lack of dependability that is naturally present in self and peer's reports. Taggar and Brown (2001) develop a collection of scales associated with conflict resolution, cooperative down side finding and communication on which individuals may be rated through direct observation.

iv) **Appraisal approach:** Appraisal of performance of employees may be easier than evaluating organisational performance. Although, performance of employees dovetails to evaluating organisational performance because in the final analysis, it determines the organisational performance. However, there is a distinction in assessing the action and the performance of employee. Due to the difficulties of getting the best method to appraise the performance of employees, researchers like Dogarawa (2011), Adekunle, Agbona and Agbonlahor (2010) have investigated what specifically is being appraised.

Some researchers have the opinion that employees cannot be appraised objectively Gbeja, cited in (Atakpa, Ocheni and Nwankwo, 2013). Atakpa *et al.* (2013) assert that appraisal focus can be classified into four, which are: Assessment that concentrate on behaviour and personality, Work Activities, Comparisons and Results. This present study focused on two out of the four, namely, behavior and personality, and work activities.

2.3.4 The Annual Performance Evaluation Record (APER) for Assessing Performance in the Nigerian Public Service

Gilbert (2006) noted that performance appraisals can facilitate employees performing at their best levels particularly if it is attached to promotion of employees. These assessments inform the Management of an Organisation about how well its employees are performing their job. It serves as a mirror to individual employee. It helps the employees to assess their own growth and to reflect upon areas for improvement. Therefore, to make the process meaningful, it is pertinent to ensure that the process is fair, transparent and objective.

The APER form is the existing Model of Performance Assessment in the Nigerian Public Service (NPS) to which the University system belongs, though the Universities are autonomous. The APER is divided into five (5) parts, which are: personal records of the employee, the set goals/target for the employee, job description, and training/course attended during the period under review and character traits needed to achieve set goals. Emphasis is on the character traits to determine performance of employees. However, effective utilisation of the APER form is hindered by subjective assessment, fear of retaliation due to unfavourable assessment of subordinates, lack of performance baseline and clear rubrics and indicies (Ijewereme and Benson, 2013; Atakpa, Ocheni and Nwankwo, 2013 and Mustapha, 2008).

Gilbert (2006) noted favouritism and partiality on the part of some assessors as some other pitfalls of the appraisal form. That is, the desires to favour close friends and relations during assessment of performance. This has invariably made the system of appraisal a mere routine. Gilbert (2006) observes that assessors sometimes award scores generously, such that a non-performing staffer in a given group of employee is scored very high. Gilbert (2006) argues that such scores are not possible if objective

assessment is done. In the same vein, Aighewi cited in Dogarawa (2011) criticises the biased nature of the assessors and submits that employees in the Civil service should not be assessed in exactly the same procedures. Adekunle, Agbona and Agbonlahor (2010) were of the opinion that objective appraisal format should be used to assess teachers' performance and should be devoid of knowledge formed in advance and biases.

In an attempt to proffer solution to the problems of the appraisal process, Mustapha (2008), Atakp,a *et al.* (2013) suggest that the superiors should assess staff outputs rather than just inputs. The researchers added further that the result of the assessment should not be used for promotion alone but to also make decision on training of staff in order to improve on staff performance. It should also attract reward in order to propel staff to be hard working and discourage improper behaviours from the staff. In the same vein, Aighewi cited in Dogarawa (2011) states that one of the challenges of assessment of staff performance is the periodical assessment that is being done rather than the continuous assessment. Aighewi was of the opinion that the assessors are often influenced by recent occurrence and forget certain counter behaviours that staffers had exhibited in the past which was not recorded.

To proffer solution to the problem of APER form, Solution Consult (SC), 2000 cited in Dogarawa (2011) suggests the use of a special record or discipline forms for counterproductive behaviours in order to curtail inaccurate report on employees' performance which can lead to employee's litigation. Dogarawa, (2013) concludes that to avert employees' litigation and enforce unbiased, unwaivering and legally sound performance appraisal form, it is pertinent to highlight the items that would assist the assessors to be dispassionate in grading their subordinates.

Furthermore, to prevent the excesses of assessors, the Federal Civil Service Commission (FCSC) in 1996 introduced promotion examination as one of the components of assessment for promotion which carries 70%. Other components are APER scores 20% and seniority 10%. Solution Consult cited in Dogarawa (2011) suggests that a reviewed audit system should be put in place to prevent supervisor's bias or personal feelings from affecting the appraisal.

However, considering the multidimensionality of job performance, the independence of the Universities and the system of job performance appraisal is different from other Government establishments because neither examination nor monthly appraisal is introduced as part of components of the appraisal used to determine job performance of the SUNS. The ideal is that an appropriate and valid measuring instrument with clear rubrics that define levels of performance especially the aspect of work skills should be available for use. This will be a guide to the superiors in rating their subordinates.

2.3.5 Demographic Factors Determining Acquisition of Work Skills for Performance by Employees

Jamal (1976) and Stone and Porter (1975) noted that there is a positive prediction of commitment by demographic factors, background factors and job factors. Among the demographic factors are age, gender, education, marital status and income. These factors were found to be related to organisational commitment. Akorede and Olaniran (2014) stated that staff characteristics include: gender, years of experience, qualification, attitude, environment, experience and motivation. Dawis in Swanson and Follad (2014) postulate that gender, patterns of work skills, racial and ethnic background influence level of job performance in the workplace.

(a) Age of Staff and Work Skills for Performance

It has been established in literature that adulthood is associated with an obvious decline in performance (physical and cognitive abilities). Nevertheless, some experts in some professions maintain high levels of achievement in the face of overall deterioration in general capacities due to increase in age. According to Krampe and Charness (2006), ability of a veteran to maintain high performance not minding the age can be explained under three primary concepts: (a) preserved differentiation, (b) compensation, and (c) selective maintenance. Krampe and Charness (2006) delved into skill preservation and how to counter age-related decline in performance. Krampe and Charness discovered that high achievements of older adults reveal a great deal with respect to skill preservation.

Krampe and Charness (2006) observe that from the age of 25 to 65, there is decline in Intelligence Quotient scores. High achievements of older adults had been investigated

through research and result has shown that older adults preserve skills. In a similar vein, Rabbit (1977) wondered at how old people still reserve relatively good performance in spite of increase in disabilities such as decline in memory and perceptual-motor performance in the face of increase in age. Horton, Baker and Schorer (2008) discovered that athletics help keep skills and expertise at the period of general deterioration of abilities. Lehman (1953) and Schultz and Curnow (1988) revealed that performance of the athletes still reached a noticeable point and stable in spite of their old age.

Studies in cognitive and psychmotor domains have found that age affects performance slightly. Salthouse (1984) examined some typists within the ages of 19–72 in two separate studies on a number of different tasks on cognitive and psychomotor domains for the older and younger age typists. The results revealed that there was a slight change in skill among the adult typists. According to Krampe and Charnes (2006), maintenance of high level of performance involves the use of skills in adults and could be attributed to constant usage of the skills. Krampe and Cherness submit that constant practice seems important for maintaining skills. Meinz (2000) argues that simple accumulation of experience was not enough to reduce the effects of age. Krampe and Ericsson (1996) assessed an old amateur pianist who had experience of 40 years in music and found that age did not prevent his good performance. This finding was tried in medicine and accounting where performance of professionals has shown decline following the end of formal training, despite increasing years of experience in the field. In contrary (Krampe and Charness (2006) assert that years spent on a job in an Organisation does not assure that performance will be the same in older age.

(b) Staff Academic Qualification and Work Skills for Performance

Staff academic qualification is one of the characteristics that affect job delivery in some fields. Researchers from different fields have proven this assertion correct. According to Verhaest and Omey (2009), formal education reinforces labour market inequality and that effects of education explain difference in individual outcomes. Verhaest and Omey noted that additional educational qualifications enhance the probability of all types of skill acquisition; that is, academic qualification affects acquiring of general skills that are needed to perform tasks at the workplace.

Odinko (2002) is of the view that teacher qualification is an important input in the academic – learning situation since quality output demands quality input. Verhaest and Omey (2009) conclude that jobs that require higher academic qualification typically require additional training and invariably acquire more work skills. Verhaest and Omey found that undereducated workers have lower overall training and skills probabilities than adequately educated workers in similar occupations. Also, overeducated workers acquire less transferable or general skills than their adequately educated colleagues.

Owolabi and Adedayo (2012) reveal that students taught by teachers who have higher degrees performed better than students that are taught by teachers with lower qualifications. The result also showed that students performed better in physics when they were taught by teachers with higher degrees. This was because of their possession of the required skills which they obtained as they study further in their area of specialization. In the same vein Abdulrahmon, Adeleye and Tanimola (2018) find that job performance of Bursary staff with professional qualification was higher than staff without professional qualification. Also, Bursary members of staff with higher tertiary education acquire better skills and performed better in accounting task than those with lower qualification. In the same vein, Abe (2014) reveals that teachers with Bachelor's degree in Mathematics perform better than teachers holding National Certificate of Education (NCE) in academic Secondary School Mathematics.

(c) Years of Experience and Work Skills for Performance

Years of experience are supposed to enrich experience of employees because they give older employees a superior understanding of how job is done efficiently such that it saves the establishment some money. Also, the pride of a job well done is seen in the older employees. Researchers have discovered that younger employees do not concern themselves with job well done. Owolabi and Adedayo (2012) noted that experience of a teacher is significant at impacting the students' academic performance in Physics. Ochonma (2019) found that an increase in the years of experience increase the skills of managers on preparation of strategic planning and motivating employee. In the same vein, Njogu (2017) reveals that having experienced employees is important because the employees would understand the

Work experience provides many benefits; it gives skills and experience that will allow an individual stand out as a potential employee, it also helps an individual to choose the right sector to work. To be more employable, higher academic qualification is a big asset, but it is not the only way to stand out as potential employers. Work experience also helps employees to distinguish themselves, which is an important factor when competition for jobs is so fierce. Work experience is an important part of having opportunity of getting job. Work experience also helps in developing useful skills that cannot be taught in the classroom as well as contacts which students otherwise are not exposed to. Work experience helps to discover new talent and gives employee an edge in the labour market. Work experience, in addition, equips employee with certain soft skills such as team work skills, communication skills and commercial awareness. All these skills are sought after by employers, especially from graduates.

(d) School Ownership on Work Skills for Performance

This study examined school ownership at three levels, namely:, schools owned by Federal government, State government and private individual /religious organisations. However, the Universities can be categorised into two as Public (schools owned by either federal or state government) and Private (schools owned by individual or religious organisations). These institutions are chartered by letter of authority from the Nigerian Universities Commission (NUC).

It is expected that performance of both the students and the staff of Universities owned by the government, whether federal or state, will be better than the ones owned by private individuals, since those institutions are supposed to be better funded, enjoy large population and have better physical infrastructure. Some researchers like Crosne, Johnson and Elder (2004) have held the view that school ownership and funding have effects on performance of students. They affirm that school ownership (that is private schools and those owned by the government) is an important structural component of a school. They argued that private schools tend to have both better funding and small sizes than public schools.

Crosne *et al.* (2004) and Sampson (2004) find out that better academic performance in the private schools is as a result of additional funding and more access to resources such as computers. Considine and Zappala (2002) and Crosne, Johnson and Elder

(2004), conclude that school's background affects students' performance and students' achievement is higher in private schools than public schools.

Wachira (2016) examines the School factors that affect non-academic staff development in Kenyan Universities. The research focused on the five sub-variables of school factors. These variables are; available facilities in the environment, technology development, staff training and development, policies and work systems (infrastructure) and staff strength. Wachira (2016) observed that non-academic staff faced challenges that are related to skills development. Wachira attributed the challenge to the Universities' Management which did not consider training needs for non-academic staff as priority. Also, Abdullahi, Zemri and Manrben (2013), Maha and Purna (2015) posit that the volume of work load, as well as commitment and dedication to work of staff working in private Universities is very high.

(e) Age of University (Years of Existence of University) and Work Skills for Performance

Age of a University coupled with staff years of experience in the University are prestige which most people see as a major factor that lead a lot of people to insist that standard of learning is higher in older public institutions. This is also supposed to be applicable to the workforce in the Universities. On the contrary, researchers such as Jimoh (2008) found that staffers in older Universities lack commitment. Kuchava and Buchashvilli (2016) and Maha, *et al.* (2015) noted that older institutions are yet to automate several core processes that can be easily managed using a system. However, recently some of these older Universities have started using computer to keep their record.

2.5 Appraisal of Literature and Gap filled

Literature reviewed in this study covered all the variables in the study. It presents previous researches on assessment of work skills to determine job performance of employees, development of various scales, different methods of establishing the validity and reliability of the scales, conceptualising of work skills and effects of some predictor variables such as age of University, Staff years of experience, Age of staff, Highest educational qualification and school ownership on possession of work skills among the Senior University Non-academic Staff Work Skills Scale.

Literature revealed that researchers have carried out research on how to measure employees' skills along different types of professions such as medicine, psychology, management and education. However, none has delved into assessment of job performance of Senior University Non-academic Staff Work Skills Scale. Furthermore, literature have shown different scales that had been developed and validated for use. However, some researchers who delved into development of instrument for measuring some particular skills did not subject the instruments to robust validation procedure.

Again, during the review of literature, in respect of conceptualising work skills, it was revealed that despite the increasing knowledge about importance of Work skills, very little systematic research has conceptualised the skills and even less has measured these skills in an objective manner with provision of indicators of the skills to be measured, rubrics to guide the award of marks/score of the indicators and comprehensive validation and utilisation of the scale.

Given these gaps in the literature, this study developed a home grown Work Skills Scale that can be used for measuring the SUNS job performance. The developed instrument, Senior University Non-academic Staff Work Skills Scale (SUNSWSS) consists of different work skills that the job of the SUNS requires. Along with the scale are indicators of each construct with rubrics bearing the values to be awarded to the level of acquisition of each skill by each staffer. This adopted approach is meant to guide the users in their scoring. The scale was subjected to comprehensive and appropriate validation and calibration such that the constructs were not ambiguous for any rater or supervisor to rate their subordinates on a continuum.

CHAPTER THREE

METHODOLOGY

This chapter describes the research methodology, which includes the type of research design, the variables in the study, target population, sampling procedure, data collection, instrumentation, data analysis and methodological challenges.

3.1 Research Design

This study adopted Analytical survey research of the *Ex post facto* design. A study belongs to ex-post facto research design when there is no manipulation of the intervention because the treatment or intervention had occurred in the past (Bamigboye and Okoruwa, 2014). Therefore, the variables were studied in their already occurred state.

3.2 Variables of the Study

A. The Exogenous variables which were the predictor variables and represented with X_1-X_5 as follows:

X_1 = School Ownership

X_2= Age of University

$X_{3=}$ Age of Staff

X_4= Staff Highest Qualification

X_5= Staff Years of Experience

The variables listed above are exogenous because there are no variables in this study that will influence them. Their occurrence cannot be explained by the study.

B. Endogenous variables: These comprise

Basic Skills (BS)

Personal Attitude to Work (PAW)

Workplace Values (WpV)

The variables in category B above are endogenous because, there are variables in the study that are assumed to have direct or indirect influence on them**.**

C. Criterion variable

This is the name for the dependent variable in statistical modeling. This is represented by X_6

X_6= University Senior Non-academic Work Skills

3.3 Population

The target population for this study comprised all Senior University Non-academic Staff (SUNS) in both public and private Universities in Southwestern Nigeria who are on CONTISS 6 - 12. This category of staff is heterogeneous with different professionals who are graduates of tertiary institutions, such as Professional Administrators, Engineers, Secretaries, Accountants, Doctors, Nurses, Labouratory Scientists, Technical staff, Technologists. They assist the academic staff in order to achieve the tripodal mandate of the University in different Units that exist in the University system such as Registry, Health Centre, Works and Services, Bursary, Internal Audit, security, Physical Planning, Academic Planning, Laboratories, technical work shops, Public Relations and Library. The Staffers on CONTISS 13 and above were excluded because many of them were the Heads of Departments/Units that rated their subordinates.

3.4 Sampling Procedure and Sample

The study used a sample of 3,304 SUNS. The criterion for sample size was ratio 10:1 as recommended by Gorsuch (1983), Worthington and Whittaker (2006). The multi-stage sampling procedure was employed at each phase in this study and sampling without replacement technique was adopted to avoid selection of same SUNS twice at the validation stage.

Stage 1: The Universities were classified into three types by ownership (Federal, State and Private). Thereafter, a simple random sampling technique was used to select the States to be used for each stage in Southwestern Nigeria. One State, Ogun State was selected for the pilot study, three

(3) States; Osun, Ondo and Lagos were selected for validation of the scale and two (2) States; Oyo and Ekiti were selected for utilisation of the scale.

Stage 2: Purposive sampling technique was used to select all the Federal and four State Universities and a Private University in Ekiti State because one of the Universities from each group exists in each State. Simple random sampling technique was employed to select one State University in Ondo, Ogun and the private Universities that participated at each phase from all the States, thus giving a total of eighteen (18) Universities that participated in the study.

Stage 3: Simple random sampling technique was used to select samples from each University. The sample was selected randomly and proportionate to size from the existing twelve (12) common units across the Universities. The common Units were: Registry, Bursary, Information Communication Technology (ICT) Centre, Academic Planning, University Health Services, Library, Works and Services, Sports Centre, Public Relations, Internal Audit, Security. and Technologists and Technical Units. The twelve (12) Heads of the Units were requested to rate the selected staff in each University, thus giving a total of thirty-six (36) Heads of Units from each State.

Stage 4: **Sample for Establishing the Face and Content Validity of SUNSWSS**

Three (3) experts in Educational Evaluation with the researcher's Supervisor reviewed the clarity, conciseness, readability, distinct and reflection of the purpose of the pool of items, (two hundred and two (202) items). After the review, one hundred and sixty-seven (167) items survived this stage. Thereafter, ten (10) experts in the field of Management who have administrative experience examined the extent to which the items of the scale measured work skills of the SUNS. One hundred and sixty-seven (167) items were prepared for this stage, but 144 items survived.

Phase 1 (Pilot testing): Pilot testing of the initial pool of items of Senior University Non-academic Staff Work Skills Scale. Exploratory Factor Analysis and Parallel Analysis were employed to determine the numbers of factors to retain

Three (3) Universities were selected from Ogun State one from each stratum (1 Federal, 1 State and 1 Private) for this phase**.**

Sample for Pilot Testing

Simple random sampling technique was employed to select one (1) State (Ogun State) and three (3) Universities from Ogun State. One Federal University was selected and one University each was randomly selected from among the State and private owned Universities.

Table 3.4.1: Sample Framework of Staff for Pilot Testing of SUNSWSS

State	Institution	A	B	C	D	E	F	G	H	I	J	K	L	Total
Ogun	Federal	30	10	8	10	8	3	8	8	6	10	8	10	119
	State	21	10	5	6	6	2	6	6	4	8	6	8	88
	Private	8	4	3	4	3	2	4	3	2	3	3	5	44
Total	**3**	**59**	**24**	**16**	**20**	**17**	**7**	**18**	**17**	**12**	**21**	**17**	**23**	**251**

***, Keys:** **A** = Registry, **B** = Bursary, **C** = Internal Audit, **D** = Health Centre/Services, **E** = Works and Services, **F**=Academic Planning, **G** = ICT, **H** = Public Relations, **I** = Sports, **J**=Technologists/Technical Unit, **K** = Library, **L** = Security

Table 3.4.1 shows the sample that was selected from each units from the three Universities that were selected from Ogun State. The sample was used for the pilot testing of the scale. This table depicts that a total number of 119, 88 and 44 staffers from different Units were selected from federal, State and private Universities respectively. A total number of Two hundred and fifty-one (251) SUNS members were selected at this stage.

Table 3.4.2: Sample Summary for Pilot Testing of SUNSWSS

	State	School Label	School Ownership	No of Staff Selected
	Ogun	10	Federal	119
		11	State	88
		12	Private	44
Total	**1**	**3**	**1 Federal, 1 State and 1 Private = 3**	**251**

Table 3.4.2 shows the summary of the samples that were selected from each University that participated in the pilot testing stage. The table shows the name of the state that was selected, the label given to the Universities that were selected from Federal, State and Private strata and the numbers of samples from each University 119, 88 and 44 respectively which gave a total number of 251 respondents.

Phase 2 (Construct Validation: Stage I): Validation of the Senior University Non-academic Staff Work Skills Scale to a larger sample that was different from the initial samples that was used for pilot testing of the scale. Exploratory Factor Analysis and Parallel Analysis were used to analyse the data that were collected.

Nine (9) Universities were selected at this stage, three (3) from Osun State, three (3) from Ondo States and three (3) from Lagos State. Two different samples of the same numbers were drawn for this phase.

Phase 2 (Construct Validation: Stage II): Validation and calibration of Senior University Non-academic Staff Work Skills Scale. Confirmatory Factor Analysis was used to confirm the structure of the factors generated through EFA and to ascertain the fitness (fit indices) of the SUNSWSS model and GRM of IRT was used to calibrate the retained items.

Table 3.4.3: Sampling Frame for Validation Phases I and II Using (EFA and CFA Respectively) along School Ownership

State	No of Universities Selected	School Ownership	No of Staff Selected
Osun	3	1 Federal	220 x 2
		1 State	201 x 2
		1 Private	95 x 2
Ondo	3	1 Federal	204 x 2
		1 State	103 x 2
		1 Private	66 x 2
Lagos	3	1 Federal	216 x 2
		1 State	201 x 2
		1 Private	68 x 2
3	**9**	**3 Federal, 3 State and 3Private Schools = 9 Schools**	**1,374 x 2**

Table 3.4.3 depicts the sample frame for establishing the construct Validity of SUNSWSS. The table shows the States, number of Universities selected, School Ownership and number of samples selected from each University. The table shows the **t**hree States, Lagos, Osun and Ondo states that were selected using simple random sampling technique. The samples were drawn for construct validation of the SUNSWSS. Three (3) Universities, one (1) from each stratum in each State were selected. The table also shows a total sample of one thousand three hundred and seventy-four (1,374) was selected twice from the common units from the nine Universities; Federal, State and Private from the three States; 220, 201, 95, 204, 103, 66, 216, 201 and 68 respectively. The samples were selected using simple random sampling technique from the twelve (12) common units from each of the nine (9) Universities. These Units were: Registry, Bursary, Information Communication Technology (ICT) Centre, Academic Planning, University Health Services, Library, Works and Services, Sports Centre, Public Relations, Internal Audit, Security, and Technologists and Technical Units. The supervisors who were heads of the twelve (12) units from each University were used to rate the selected sample.

Table 3.4.4: Sample Framework of Staff for Construct Validity of SUNSWSS from the Units Employing Exploratory Factor Analysis (EFA)

State	Institution	A	B	C	D	E	F	G	H	I	J	K	L	Total
Osun	Federal	100	29	10	8	10	5	5	8	5	10	15	15	220
	State	100	28	9	8	10	3	5	5	3	10	10	10	201
	Private	50	8	5	5	3	2	3	3	2	5	5	4	95
Ondo	Federal	100	28	10	8	10	5	5	5	3	10	10	10	204
	State	50	8	5	3	8	2	3	3	2	6	5	8	103
	Private	30	6	3	3	3	2	2	2	2	4	4	5	66
Lagos	Federal	100	30	10	8	10	5	5	8	5	10	10	15	216
	State	100	28	9	8	10	5	5	5	3	8	10	10	201
	Private	30	6	3	3	3	2	2	3	2	5	4	5	68
Total	**9**	**660**	**171**	**64**	**54**	**67**	**31**	**35**	**42**	**27**	**68**	**73**	**82**	**1,374**

***, Keys:** **A** = Registry, **B** = Bursary, **C** = Internal Audit, **D** = Health Centre/Services, **E** = Works and Services, **F**=Academic Planning, **G** = ICT, **H** = Public Relations, **I** = Sports, **J**=Technologists/Technical Unit, **K** = Library, **L** = Security

Table 3.4.4 shows the sample that was selected from the common units in the Universities from the three States that were selected for validation of the scale. The sample was used for the first level of construct validation. EFA was employed to analyse the data that was collected from the respondents. The table depicts the samples that were drawn from each University across the three strata of Universities from the three States that were used for the first stage of construct validation.

Table 3.4.5: Sample Framework of Staff from the Units for Confirming the Structure of the Factors of SUNSWSS Using Confirmatory Factor Analysis (CFA) and GRM of IRT

State	Institution	A	B	C	D	E	F	G	H	I	J	K	L	Total
Osun	Federal	100	29	10	8	10	5	5	8	5	10	15	15	**220**
	State	100	28	9	8	10	3	5	5	3	10	10	10	**201**
	Private	50	8	5	5	3	2	3	3	2	5	5	4	**95**
Ondo	Federal	100	28	10	8	10	5	5	5	3	10	10	10	**204**
	State	50	8	5	3	8	2	3	3	2	6	5	8	**103**
	Private	30	6	3	3	3	2	2	2	2	4	4	5	**66**
Lagos	Federal	100	30	10	8	10	5	5	8	5	10	10	15	**216**
	State	100	28	9	8	10	5	5	5	3	8	10	10	**201**
	Private	30	6	3	3	3	2	2	3	2	5	4	5	**68**
Total	**9**	**660**	**171**	**64**	**54**	**67**	**31**	**35**	**42**	**27**	**68**	**73**	**82**	**1,374**

***, Keys:** **A** = Registry, **B** = Bursary, **C** = Internal Audit, **D** = Health Centre/Services, **E** = Works and Services, **F**=Academic Planning, **G** = ICT, **H** = Public Relations, **I** = Sports, **J**=Technologists/Technical Unit, **K** = Library, **L** = Security

Table 3.4.5 shows the sample that was selected from the common unit. The sample was used for the second level of validation. The table depicts the samples that were drawn from each University across the three strata of Universities from the three States that were used for the first stage of construct validation.CFA was employed to confirm the structure of the factors generated through EFA and Graded Response Model (GRM) of Item Response Theory (IRT) for calibration of the items that survived.

Phase 3 (Utilisation Phase): Utilisation of the final scale of Senior University Non-academic Staff Work Skills Scale to another sample was embarked upon. The administration of the scale was done three times in an interval of three months. Six (6) Universities were used for this phase. Stratified random sampling was employed to classify the Universities by ownership. three (3) from Oyo State, three (3) from Ekiti-State wrer selected, one from each stratum. Stratified random sampling was employed to classify the SUNS into twelve (12) using the existing twelve (12) common Units based on the job they perform. The sample of SUNS was selected using simple random technique. The twelve (12) Heads of Units in each University, a total of Seventy-two (72) were used to rate the selected sample.

Table 3.4.6: Summary Sampling Frame for Phase 3 (Utilisation) According to School Ownership and Number of Staff.

	State	School Label	School Ownership	No of Staff selected
	Oyo	1	Federal	70
		2	State	50
		3	Private	30
	Ekiti	16	Federal	65
		17	State	60
		18	Private	30
Total	**2**	**6**	**2 Federal, 2 State and 2 Private Schools**	**305**

Table 3.4.6 reveals the summary sampling frame for phase 3 (Utilisation) according to School Ownership. It shows the two States (Oyo and Ekiti States) that were selected at phase 3 (utilisation). It also shows the samples that were selected from each University across ownership, Federal, State and Private as 70, 50, 30, 65, 60 and 30 respectively from the two States.

Stage Three: Sample for Utilisation of SUNSWSS.

Simple random sampling technique was employed to select two (2) states and three (3) Universities from each state, one from each stratum which gave a total of six (6) Universities from the two States. The total sample at this stage was three hundred and five (305). Samples were drawn using simple random sampling technique from the existing twelve (12) common Units in each University.

Table 3.4.7: Sample of Staff from Each Unit for the Utilisation of SUNSWSS

State	Institution	A	B	C	D	E	F	G	H	I	J	K	L	Total
Oyo	Federal	15	6	5	7	4	4	4	4	5	8	4	4	70
	State	10	4	4	4	4	3	3	3	3	5	3	4	50
	Private	5	2	2	2	2	2	2	2	2	4	2	3	30
Ekiti	Federal	12	10	4	6	5	3	4	3	3	8	3	4	65
	State	15	8	3	4	5	2	4	3	3	6	3	4	60
	Private	8	2	2	2	2	1	1	2	2	4	2	2	30
Total	**6**	**65**	**32**	**20**	**25**	**22**	**15**	**18**	**17**	**18**	**35**	**17**	**21**	**305**

***, Keys:** **A** = Registry, **B** = Bursary, **C** = Internal Audit, **D** = Health Centre/Services, **E** = Works and Services, **F**=Academic Planning, **G** = ICT, **H** = Public Relations, **I** = Sports, **J**=Technologists/Technical Unit, **K** = Library, **L** = Security

Table 3.4.7 reveals the total samples that were drawn from the six (6) Universities from the two States (Oyo and Ekiti) that were selected using simple random sampling technique. The samples from each University across ownership from the two States were drawn from the 12 common Units in the Universities using simple random technique. A total sample of three hundred and five (305) was drawn for the utilisation of the scale.

Table 3.4.8: Sample Frame Summary for Each Stage (From Pilot Testing to Utilisation)

Stage	State	Number of Universities selected	Number of Heads of Units	Number of SUNS selected
1 (Pilot testing)	Ogun	3	36	251
2 (Validation)	Osun	3	36	1, 032
	Lagos	3	36	990
	Ondo	3	36	746
3 (Utilisation)	Oyo	3	36	163
	Ekiti	3	36	142
Total		**18**	**216**	**3,324**

Table 3.4.8 shows the sample frame summary for each stage, pilot testing, validation (phase I and II) and utilization. It also shows the number of Universities from which samples were drawn from and the States, Ogun, Osun, Lagos, Ondo, Oyo and Ekiti where the Universities were located. The table shows that 251, 1,032, 990, 746, 163 and 142 samples were drawn from the selected Universities. The table also shows the numbers of heads of Units that were used from each University which was thirty-six from each.

3.5 Instrumentation

Two instruments were used to collect data for this study. These were:

1. Initial items of Senior University Non-academic Staff Work Skills Scale –This can be seen in Appendix I
2. Final scale of - Senior University Non-academic Staff Work Skills Scale - This can be seen in Appendix V.

3.5.1 Item generation

The initial items of Senior University Non-academic Staff Work Skills Scale consisted of 202 items. Items were generated to cover the components of work skills which comprises human skills (intra personal relationship, inter personal relationship, emotional intelligence), technical skills, conceptual skills and values. These are referred to as inputs from the employees that enhance performance among the SUNS. Ideas were drawn from the works of Katz (1955), Koopmans, *et al* (2011) which presented four dimensions of performance – task, contextual, adaptive and counter-productive performance and the indicators of each. The counter-productive behaviours were not used because they are negative behaviours that do not contribute positively to job performance. Through review of relevant literature such as Goleman (1995), work skills that were related to individual job performance of the SUNS in the University system were identified.

These skills are: efficiency, timeliness, organisational skills, commitment, self confidence, competency/proficiency, leadership skills, communication skills, adaptability, flexibility, problem solving, expression on paper/writing skills, team work, self management, record management, numerical ability, conscientiousness, punctuality, creativity, presentation skills, integrity, honesty, fidelity, respect,

courteousness, net working, helping others, ability to learn from criticism, knowledge management, patience/ perseverance, resilience, acuteness, alertness, proactivity, proper appearance, analytical skills, persuasiveness, conflict resolution, assertiveness, being versatile, resourcefulness, effectiveness, adroitness, innovation, time management, anger management, quality of work, information management, motivation, accuracy, responsiveness, work ethics, stress management, enthusiasm, and networking skills.

Step One:

The study generated items through two (2) major sources. viz:

1. **Deductive source:** Some indicators of the skills were sourced through reviewed literature and some were based on prior works of Katz (1955), Koopmans et al., (2011), Campbell (1990), Campbell, Gasser and Oswald (1996), Campbell, McCoy, Oppler and Sager (1993), Goleman (1995), Viswesvaran, Ones, and Schmidt (1996), Kechagias (2011), Fiore et al. (2011), Poropat (2011) and Aworanti (2014). Also, the model for the frame work of this study which dwell more on task, contextual and adaptive activities in a workplace was decided on through the works of (Katz, 1955; Koopmans et al., 2011; Fiore et al., 2011 and Poropat, 2011).

   Development of the items was accessed by examining the fit between relevant work factors retrieved from the literature search, with work factors (Work skills) included in the instrument. Through literature search, the content of the instrument was obtained. One search generated work factors described in job performance theories while the second search generated work factors described in empirical reviews.

2. **Inductive method:** This was through the information gathered from:
   (a) An open ended questionnaire that was administered to some selected SUNS. A broad set of questions in an open ended questionnaire related to the deficiencies and how to improve on the APER form was designed.

(b) Discussion with expert administrators and SUNS from different Units in the University. Discussion was organised to assess the skills and the indicators of the skills that are associated to the job performed by the SUNS. Thereafter, the indicators of the skills were developed into a pool.

Step Two:

Three experts including my supervisor in the field of Educational Evaluation reviewed the initial 202 items to 167. Thereafter, Ten University Administrators reviewed the 167 items of the scale. Content Validity of the items was carried out using Lawshe validity ratio for determining Content Validity Ratio:

$$CVR = \frac{ne - N/2}{N/2}$$

for each of the item and the Content Validity Index (CVI) of the retained 144 items gave 0.9.

Trial testing of the instrument was carried out in one State University in Ogun State. More comments were received and some items were restructured for clarity. For trial testing the entire scale had Cronbach alpha coefficient of .94

Step Three:

The final scale was designed to rate SUNS. The Head of each of the 12 Units that constitute the Senior University Non-academic Staffin each of the selected Universities rated their subordinates. The scale was divided into two sections. Section A includes general information about the selected staff and the institution while section B consists of generated items to assess work skills of the SUNS. The selected sample work skills were rated on the scale which was simplified under some items on a five point scale described under 1 = Very Poor, 2 = Poor, 3 = Good, 4 = Very Good and 5 = Excellent. The keys for appraising and scoring the staff on each item were as follows:

5 = Excellent: Displays the work skills **consistently above acceptable levels;** Subordinate displays the skills at all times without exception

4 = Very Good: Displays the work skills **occasionally below acceptable levels;** Subordinate displays the skills at high level with few exceptions;

3 = Good: Displays the work skills to merely **meet acceptable levels;** Subordinate displays work skills to achieve desired expectation with errors but corrected quickly

2 = Poor: Displays work skills **occasionally below acceptable levels;** Subordinate displays work skills but needs major improvement

1 = **Very Poor:** **Displays work skills consistently below acceptable levels;** Subordinate does not show work skills

Step Four (Pilot Testing):

After establishing the content validity and the face validity, the pool of items (144 items) was administered. Pilot testing was carried out on a small sample of two hundred and fifty-one (251) SUNS. The sample was drawn from three higher institutions in Ogun State. The sample was used for operationalisation of the concepts, which was associated with the adequacy of the sample, method of data collection, elimination of items that did not contribute to the study, selection of the most adequate items and identification of the dimensions of the instrument. EFA was employed for the selection of items. Eight (8) items that did not meet one of the criteria of factor loading of 0.5 and above at this stage were eliminated. The reliability of the scale was determined with Cronbach Alpha which gave r = 0.95

3.5.2 Final Scale of Senior University Non-academic Staff Work Skills' Items

The initial items of Senior University Non-academic Staff Work Skills were validated to get the final scale of 39-items, which formed the Senior University Non-academic Staff Work Skills Scale. Exploratory Factor Analysis, Parallel Analysis, Confirmatory Factor Analysis and IRT were used to validate, select and calibrate the final items respectively

3.6 Procedure for the Development and Validation of Senior University Non-academic Work Skills Scale (SUNWSS)

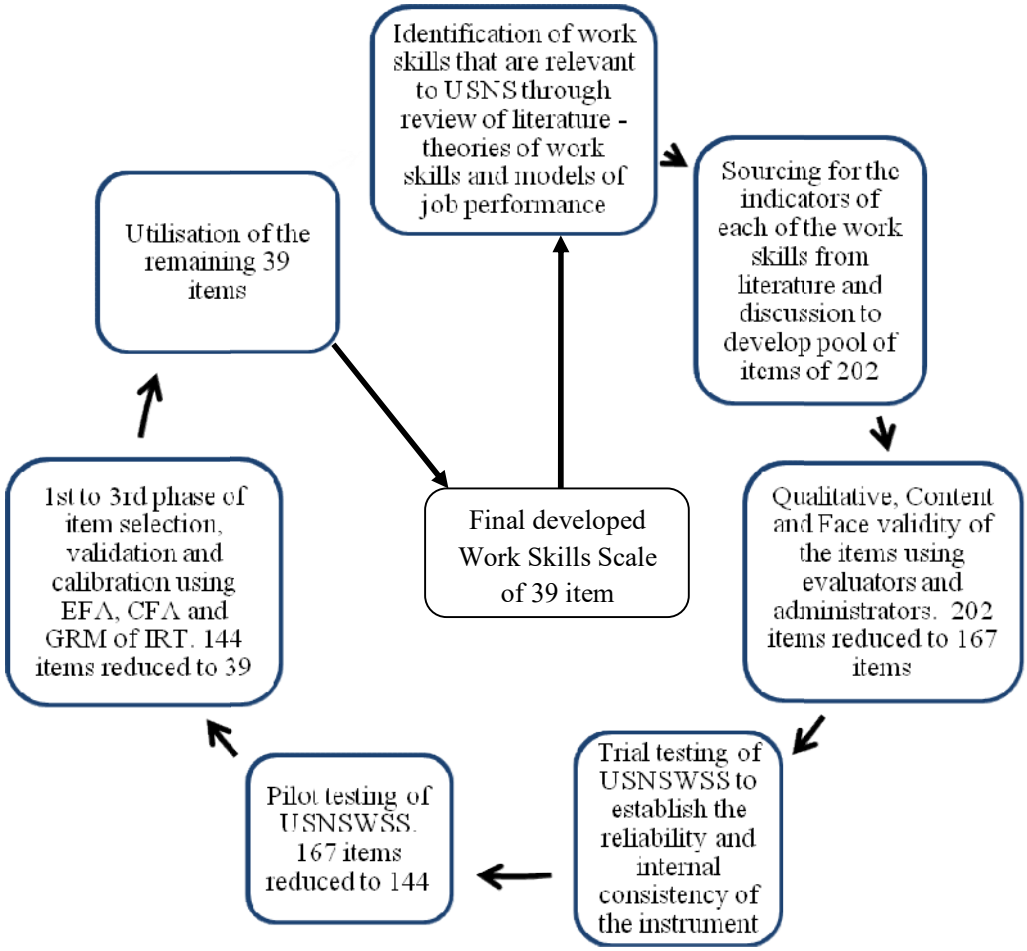

Figure 3.1 Procedure for the Development of Senior University Non-academic Work skills Scale.

Source: Arowojolu (2021)

Figure 3.1 shows the research procedure which shows an overall picture of stages and direction for subsequent data analysis. Variables in the analytical model were drawn from an extensive review of literature, discussion on work skills and job performance. Through these two methods twenty-one (21) variables that are job related skills were identified. These are: efficiency, timeliness, organisational skills, commitment, self-confidence, competency/proficiency, leadership skills, communication skills, adaptability, flexibility, problem solving, expression on paper/writing skills, teamwork, self- management, record management, numerical ability, conscientiousness, punctuality, creativity, presentation skills, integrity, honesty, fidelity, respect, information technology, courteousness, net working, helping others, ability to learn from criticism, knowledge management, patience/ perseverance, resilience, acuteness, alertness, proactive skills, proper appearance, analytical skills, persuasiveness, conflict resolution, assertiveness, versatility, resourcefulness, effectiveness, adroitness, innovation, time management, anger management, quality of work, information management, motivation, accuracy, responsiveness, work ethics, stress management, enthusiasm.

The next stage was sourcing for the indicators of each skill. This was done through review of relevant literature such as Koopmans *et al* (2011), Katz (1955), Finch and Madux (2006), Kechagias (2011), Fiore et al. (2011), Tracey (2004), Aworanti (2014), Schulz (2008) and inductive method (Discussion). A pool of two hundred and two (202) items was generated. Next to this stage, the draft instrument was examined by experts in evaluation in the Institute of Education for content and face validity. At this stage, the items that do not contribute to the construct being measured were expunged. Double barreled items were also restructured.

The next stage was the trial testing of the drafted instrument. This was carried out on a sample of 30 SUNS staffers in a University that was not part of the original sample for the study but had a resemblance of the original sample. The reliability coefficient of the instrument was established using Cronbach alpha. After this, the pilot testing was done using the surviving items from the trial testing stage. This was tested on one University from the original sample. Factor analysis was used for validation of the instrument. Comprehensive validation at three stages followed the pilot testing using EFA, CFA and GRM.

3.6.1 Exploratory Factor Analysis

Principal Axis Factoring (PAF) rotation with Promax method was used to remove irrelevant, redundant and unclear items for ease of correlation. An item was retained, if its primary loading was greater than 0.6 and its second loading was smaller than 0.3.

3.6.2 Parallel Analysis

Monte Carlo PCA for Parallel Analysis was used to determine the number of factors to retain. In this analysis, parallel data were factor-analysed 1000 times and Eigen values from the extracted factors were computed. Then the averages of those Eigen values from parallel data were compared to those extracted from the original data. The Eigen value of the original data's factor that was greater than the average of the Eigen values of the "parallel factor". The Eigen value of the factors in the original data that were equal to or smaller than the average was considered insignificant than a random factor and therefore discarded. Thus, factors that have minimum number of three items and also have a loading between 0.5 and 0.8 were retained.

3.6.3 Confirmatory Factors Analysis

Confirmatory factor analysis was used to verify the underlying factors and determine the model fit of the retained factors from the parallel analysis. The following criteria were followed. The factor that did not meet these criteria was discarded.

Root Mean Square Error of Approximation (RMSEA) of 0.06 or less, indicate acceptable model fit. The root mean square residual (RMR) and standardised root mean square residual (SRMR) with a value of 0.08 or less indicate an acceptable model. The Goodness of Fit Index (GFI) and Adjusted Goodness of Fit Index (AGFI) with a value of over 0.9 indicate acceptable model fit. Values for both the Normed Fit Index (NFI) and Non- Normed Fit Index (NNFI) with a cut off of 0.95 or greater indicating a good model fit. A Comparative Fit Index (CFI) of 0.90 or larger indicates acceptable model fit and chi-square probability greater than or equal to 0.05 indicate acceptable fit.

3.6.4 Graded Response Model (GRM) of Item Response Theory (IRT) Framework

The retained factors from CFA were subjected to item calibration. Graded Response Model of Item Response Theory for polytomous was used for item calibration. Classification was based on the classification rule by Baker, (2001), De Ayala, (2009) and Toland, (2013), the range of model fit for the slope parameter (discrimination parameters) and threshold parameters (difficulty indices) for ordered polytomous graded response model of IRT are 0.5 to 3 and -3 to 3 respectively. The predictive fit indexes reported are; -2 log likelihood, Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) with 95% Confidence Interval.

3.7 Data Collection

The researcher obtained a letter of introduction from the Director, Institute of Education, University of Ibadan, Ibadan to the Registrar of each University selected for the study. The instrument for this study was administered by the researcher and fifteen (15) research assistants (one research assistant for each University). The Researcher personally collected data from three Universities. These research assistants were trained at the individual's University on how to administer the instrument while the content of each instrument was explained to them at each stage of the study. The data administration and collection for the first and second stage of validation lasted five months (5) and the third stage of utilisation procedure lasted nine (9) months giving a total of fourteen (14) months/one (1) year and two months. The instrument was administered three (3) times at the interval of three (3) months at the third stage.

3.8 Data Management and Analysis

Data were analysed using SPSS version 20, Monte Carlo PCA, Item Response Theory Professional (IRTPRO) version 3.0, Analysis of Moment Structure (AMOS) version 16, R.3.2 and Partial Least Squares (PLS) statistical software packages. The methods of data analysis are presented in Table 3.8.1.

Table 3.8.1: Research Questions and the Methods of Data Analysis

S/N	Research Question	Method of data analysis
1a.	How many items and factors were extracted from the initial draft of 202 items of University Senior Non-academic Work Skills Scale?	Exploratory Factor Analysis using principal Axis factoring and Parallel analysis using Monte Carlo Principal Component Analysis technique
1b.	How consistent is the developed scale with the empirical data?	Confirmatory Factor Analysis using AMOS package
2a.	Do the Senior University Non-academic Staff Work Skills Scale items show convergent validity?	Confirmatory Factor Analysis (AMOS version 16)
2b.	What are the discriminant validity indices of the identified factors of University Senior Non-academic Work Skills scale?	Confirmatory Factor Analysis using AMOS and Excel packages
3a.	Are the items of each of the dimensions of Senior University Non-academic Work Skills Scale unidimensional?	Confirmatory Factor Analysis using AMOS package
3b.	To what extent are the items of SUNSWSS locally independent of one another?	IRTPRO
4.	What are the item parameters of the SUNSWSS?	IRTPRO
5a.	Is the Senior University Non-academic Work Skills Scale reliable?	R 3.2. package, ordinal alpha reliability
5b.	What is the reliability coefficient of the sub-scale of University Senior Non-academic Work Skills scale?	AMOS and R.3.2. packages
6.	Do Senior University Non-academic Staff possess work skills to determine their job performance?	Descriptive Statistics
7.	What are the composite and relative contributions of the demographic variables (a) years of existence of University /age of University, (b) age of staff, (c) staff highest academic qualification, (d) staff years of experience and (e) school ownership on Senior University Non-academic Staff work skills?	Path analysis using Partial Least Squares (PLS)
8.	Which of the sub-scales of Senior University Non-academic Staff Work Skills Scale contributes most to Senior University Non-academic Staff work skills?	Path analysis using Partial Least Squares (PLS)

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents the results and discussion of the study. The study developed and utilised Senior University Non-academic Staff Work Skills Scalein assessing task performance of University Senior Non-academic Staff in the Southwestern, Nigeria. The results are presented based on the eight research questions raised to guide the conduct of the study.

4.1 Research Question 1a:

How many factors are extracted from the initial draft of 202 items of University Senior Non-academic Work Skills Scale?

To answer this research question, the initial draft of 202 items was subjected to factor analysis using SPSS version 20 and Monte Carlo Principal Common Factor after establishing the sampling adequacy which was significant and Principal Axis Factoring was used for extraction.

Table 4.1: The Eigen Values of the Original Data and Eigen Values of Parallel Analysis

Factor	EFA	Monte Carlo
	Eigen Value from the Original Data	Eigen Value from the Simulated Data
1	**63.901**	**2.7002**
2	**4.347**	**2.6839**
3	**2.604**	**2.5389**
4	**2.298**	2.5164
5	**2.113**	2.5959
6	**1.892**	1.5775
7	**1.722**	1.5609
8	**1.643**	1.5443
9	**1.429**	1.5283
10	**1.366**	1.5133
11	**1.297**	1.4990
12	**1.206**	1.4850
13	**1.205**	1.4717
14	**1.162**	1.4587
15	**1.148**	1.4463
16	**1.109**	1.4338
17	**1.070**	1.4218
18	**1.058**	1.4100
19	**1.015**	1.3981
20	0.999	1.3867
21	0.968	1.3755
22	0.946	1.3645
23	0.909	1.3538
24	0.899	1.3432
25	0.893	1.3325
26	0.878	1.3221
27	0.838	1.3120
28	0.824	1.3018
29	0.816	1.2923
30	0.812	1.2828
….		

Table 4.1 shows the result of the initial Eigen values of the original data using EFA and the Eigen values of the simulated data or parallel data using Monte Carlo PCA. The Table reveals that the Eigen values that are greater than one were nineteen (19) while only the first three Eigen values under the original data were greater than that of the simulated data. This means that EFA extracted 19 factors and Parallel Analysis extracted the actual three factors to retain.

Table 4.2: Loading of the Retained Factors and their Corresponding Items from the Result of EFA. (Pattern Matrix of the Three Factors)

Item	Factor		
	1	2	3
b39	0.825		
b37	0.793		
b38	0.725		
b99	0.673		
b79	0.615		
b73	0.599		
b85	0.592		
b75	0.589		
b95	0.577		
b66	0.575		
b72	0.571		
b45	0.565		
b97	0.558		
b80	0.553		
b76	0.544		
b74	0.536		
b98	0.532		
b100	0.532		
b49	0.530		
b96	0.504		
b123		0.854	
b121		0.739	
b122		0.734	
b117		0.729	
b127		0.703	
b125		0.702	
b130		0.692	
b118		0.674	
b131		0.616	
b114		0.608	
b115		0.568	
b113		0.556	
b135		0.548	
b69			0.882
b67			0.787
b68			0.695
b47			0.622
b70			0.517
b46			0.508

Extraction Method: Principal Axis Factoring, Rotation method: Promax with Kaiser, Normalization.

Table 4.2 shows the Pattern Matrix of the factor loading. The Table reveals the three factors that emerged after the promax rotation. (Items that did not load on any of the factors, cross loading were discarded). From Table 4.2 the factors with the loadings that are less than 0.5 were not displayed, that is items, which have low loadings. Secondly, multicolinearlity (items which are highly correlated, that is items with ($r \geq 0.85$) and unclear variables or items with cross loading were discarded.

4.1.1 Group Name and Description of EFA Factors

The content of the items that loaded meaningfully on the three factors that were retained were scrutinised and were identified with common themes as follows:

Table 4.3: Summary of the Loading of the 39 item Senior University Non-academic Staff Work Skills Scale

Factor	Factor's name	Number of Items	Items
1	Basic Skills (BS)	20	1-20
2	Personal Attitude to Work (PAW)	13	21 – 33
3	Workplace Value (WpV)	6	34 – 39

Table 4.2 and Table 4.3 clearly show how the items loaded on each factor. It shows the three factors that were retained, the number of items that loaded on each factor and the items on the final SUNSWSS that loaded on each factor (reference to Appendix 1). Factor 1, named Basic Skills (BS) and it is made up of 20 items and it consists of items 1-20. Again, the items that loaded on each factor addressed only one construct. The second factor named Personal Attitude to Work (PAW) is made up of 13 items which consists of items 21-33. The third factor, named Workplace Value (WPV) is made up of 6 items andconsists of items 34-39.

4.1.2 Research Question 1b: How consistent is the developed scale with the empirical data?

To answer this research question, the path diagramme and the fit indices of the retained factors were established using the result of Confirmatory Factor Anlysis.

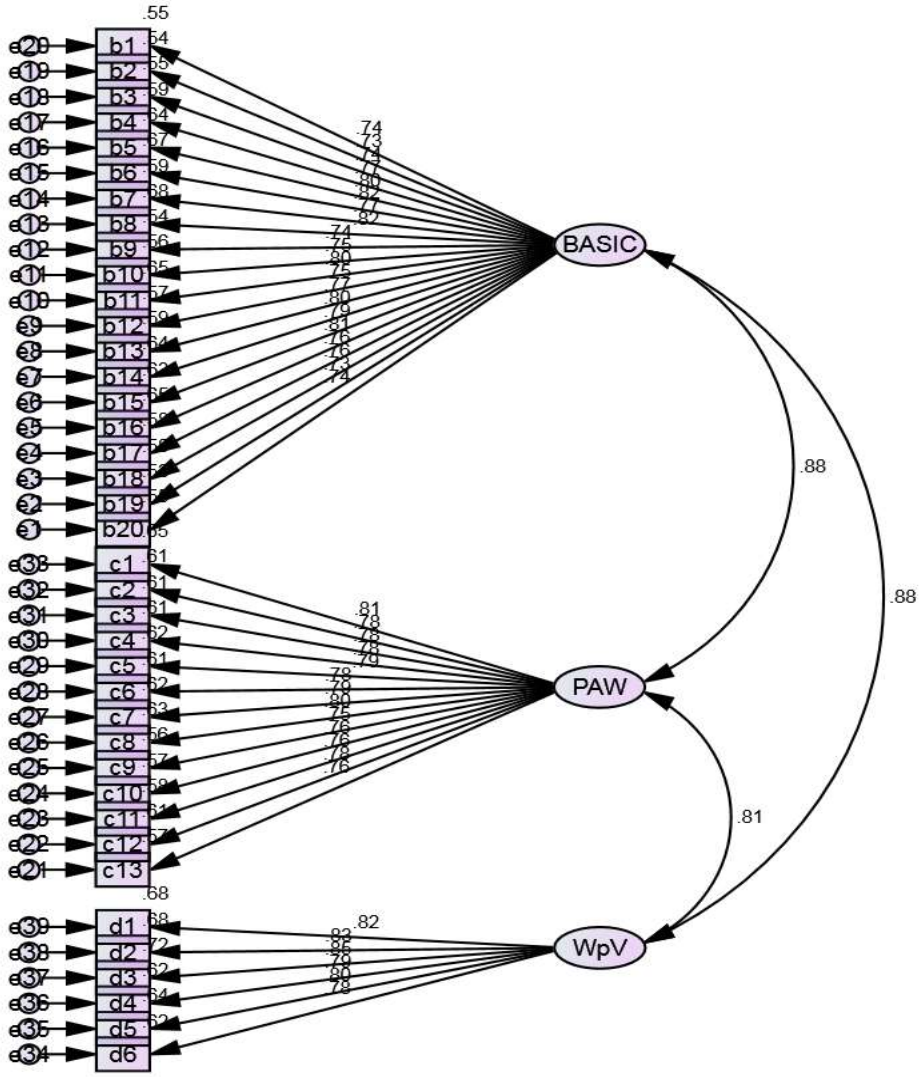

Figure 4.1: The Path Diagram of Senior University Non-academic Staff Work Skills ScaleItems and their Corresponding Factors

Figure 4.1 shows how the items loaded on their corresponding factor or subscale of the SUNSWSS using confirmatory factor analysis. It depicts the standardised estimate of each item. All the items in each of the factor loaded very well and hanged on each other. The fit indices of the retained factors of the scale were checked and they show good model fit indices. It also depicts that the three factors that were retained fit the structure.

Table 4.4: Summary of Model Fit Inices of the Retained Factors of SUNSWSS

Model	Acceptable Level Hu and Bentler (1999)	Model fit Indices
X^2	-	6766.393
Df	-	699
X^2/df	-	9.6
X^2 Significance	P<0.05	0.000
RMR	<0.8	0.032
NFI	>0.9	0.98
IFI	>0.9	0.98
TLI	>0.95	0.98
GFI	>0.95	0.78
RMSEA	<0.6	0.084

*** $X^{2=}$ Chi-square, df= degree of freedom, RMR= Root Mean Residual, NFI= Normed Fit Index, IFI=Incremental Fit Index, TLI Tucker Lewis Index, GFI-Goodness-of Fit Index, RMSEA= Root Mean Square Error of Approximation**

Table 4.4 shows the model fits measured for the scale, the acceptable cut off level for each fit according to Hu and Bentler (1999) and values of each fit index of the original model of SUNSWSS. Table 4.3 revealed the values of the model chi-square as 6766.393 which elevated with 699 (9.6) degrees of freedom with a corresponding p-value of 0.000 and Root Mean Square Residual (RMR) of 0.032 are low enough for a good fit of the model. Moreover, the IFI, TLI, and NFI fit indices of the model are above acceptable values and very close to 1 to give a perfect fit except GFI with the value of 0.78 which is close to 0.95. Also, RMSEA seems not to reach optimal value according to Steiger and Lind (1980), Hu and Bentler (1999) posit that RMSEA of 0.06 is still acceptable. In the same vein Yen (2006) recommended that RMSEA of 0.08 is still acceptable for polytomous items

4.2 Research Question 2a: Do the Senior University Non-academic Staff Work Skills Scaleitems show convergent validity?

AMOS version 16 was employed for the Confirmatory Factor Analysis and the standardised regression weights of the items were checked to determine the convergent validity of University Senior Non-academic Staff Work Skills Scale. Furthermore, Fornell and Lacker (1981) formula was used to calculate the Average Variance Extracted (AVE).

Table 4.5: Standardised Regression Weights of University Senior Non-academic Staff Work Skills Scale

Item		Factor	Estimate
b39	<---	BS	0.743
b37	<---	BS	0.734
b38	<---	BS	0.739
b99	<---	BS	0.770
b79	<---	BS	0.801
b73	<---	BS	0.818
b85	<---	BS	0.768
b75	<---	BS	0.822
b95	<---	BS	0.738
b66	<---	BS	0.745
b72	<---	BS	0.803
b45	<---	BS	0.753
b97	<---	BS	0.770
b80	<---	BS	0.797
b76	<---	BS	0.791
b74	<---	BS	0.809
b98	<---	BS	0.759
b100	<---	BS	0.762
b49	<---	BS	0.727
b96	<---	BS	0.742
b123	<---	PAW	0.808
b121	<---	PAW	0.783
b122	<---	PAW	0.779
b117	<---	PAW	0.780
b127	<---	PAW	0.790
b125	<---	PAW	0.783
b130	<---	PAW	0.790
b118	<---	PAW	0.796
b131	<---	PAW	0.749
b114	<---	PAW	0.757
b115	<---	PAW	0.765
b113	<---	PAW	0.783
b135	<---	PAW	0.758
b69	<---	WpV	0.822
b67	<---	WpV	0.827
b68	<---	WpV	0.851
b47	<---	WpV	0.786
b70	<---	WpV	0.800
b46	<---	WpV	0.784

***, All factor loadings are significant at p<0.01**

Table 4.5 depicts the 39 items, the factors or constructs which the items loaded on and the estimate value of each item of SUNSWSS on their corresponding factors. Table 4.5 reveals that the standardised factor loadings of each item are very high and greater than 0.70. It ranged from 0.77 to 0.84. The variables correlate well with each other within their parent factor. It can be concluded that each item correlates strongly with the construct which they measure. Therefore, the relationship between the items and their constructs are significant. This corroborates the recommendation of Barclay and Thompson (1995) that the ideal level of standardised loadings for reflective indicators is 0.70. This indicates that the model's convergent validity is high and therefore the measurement model is acceptable.

Table 4.6: Average Variance Extracted (AVE) of the Sub-Scales

Construct/factor	AVE
Basic Skills (BS)	0.769
Personal Attitude to Work (PAW)	0.778
Workplace Values (WpV)	0.766

Table 4.6 reveals the three constructs and the values of Average Variance Extracted for each. The AVE of each factor is greater than 0.5; it ranges between 0.77 and 0.78. This depicts that the variables correlate within their parent factor. This shows that the convergent validity is adequate. The latent factor is well explained.

4.2.1 Research Question 2b: What are the discriminant validity indices of the identified factors of University Senior Non-academic Work Skills scale?

To test whether the three constructs of the University Senior Non-academic Staff are unrelated, the correlation matrix of the University Senior Non-academic Work Skills scale (SUNSWSS) was conducted to establish the discriminant validty of the three constructs.

Table 4.7: Component Correlation Matrix of the University Senior Non-academic Work Skills scale (SUNSWSS) Showing Discriminant Validity

Component	Basic Skills	PAW	WpV
BASIC SKILLS (BS)	**0.7696**	0.7174	0.6906
PAW		**0.7820**	0.5837
WpV			**0.8172**

Table 4.7 shows the evidences of University Senior Non-academic Staff Work Skills Subscales' discriminant validity. Discriminant validity shows that the measure in each of the constructs assessed is different from each other. Diagonal values are AVE and off diagonal values are inter-construct squared correlations. When the square correlation was compared with the AVE, the AVE values were greater than the square correlation. That is, Variance Extracted >(correlation)$^{2.}$ Correlation is given in the component correlation matrix which are BS=0.7696, PAW=0.7820 and WpV=0.8172, the correlation square as 0.5922, 0.6115 and 0.6678 respectively. The AVE value of a variance should be higher than correlation of the variable with other variable. Hence, discriminant validity established.

4.3: Research Question 3a: Are the items of each of the dimensions of University Senior Non-academic Work Skills Scale unidimensional?

To fulfill the assumption of unidimensionality in IRT, the loading of the items on their corresponding factors were checked on the Standardised Regression Weights.

Table 4.8: Standardised Regression Weights of Senior University Non-academic Staff Work Skills ScaleItems

Item		Factor	Estimate
b39	<--	BS	0.743
b37	<---	BS	0.734
b38	<---	BS	0.739
b99	<---	BS	0.770
b79	<---	BS	0.801
b73	<---	BS	0.818
b85	<---	BS	0.768
b75	<---	BS	0.822
b95	<---	BS	0.738
b66	<---	BS	0.745
b72	<---	BS	0.803
b45	<---	BS	0.753
b97		BS	0.770
b80	<---	BS	0.797
b76	<---	BS	0.791
b74	<---	BS	0.809
b98	<---	BS	0.759
b100	<---	BS	0.762
b49	<---	BS	0.727
b96	<---	BS	0.742
b123	<---	PAW	0.808
b121	<---	PAW	0.783
b122	<---	PAW	0.779
b117	<---	PAW	0.780
b127	<---	PAW	0.790
b125	<---	PAW	0.783
b130	<---	PAW	0.790
b118	<---	PAW	0.796
b131	<---	PAW	0.749
b114	<---	PAW	0.757
b115	<---	PAW	0.765
b113	<---	PAW	0.783
b135	<---	PAW	0.758
b69	<---	WpV	0.822
b67	<---	WpV	0.827
b68	<---	WpV	0.851
b47	<---	WpV	0.786
b70	<---	WpV	0.800
b46	<---	WpV	0.784

Table 4.8 verified the standardised regression weight or loading of each item to its corresponding factor. The standardised regression weight displayed the level of relationship between each item and its corresponding factor. The Table shows that each item unidimensionally loaded on its respective factor. Two criteria were used to ascertain the dimensionality of the items of the scale. CFA and Standardised regression weights were conducted and the structures of the three factors were established.

4.3.1 **Research Question 3b:** To what extent are the items of SUNSWSS locally independent of one another?

Another assumption of IRT is local independence of the items. This was established using Standardised Local Dependence (LD) χ^2 Statistics of IRTPRO package.

Table 4.9: Standardised Local Dependence (LD) χ^2 Statistics for Graded Response Model Fit to 39 Item Five-Category SUNSWSS (Sub Set 1)

Item	Label	Marginal χ^2	1	2	3	4	5	6	7	8	9	10
1	b39	6.1										
2	b37	1.6	**4.0**									
3	b38	7.9	**8.8**	**3.4**								
4	b99	5.8	7.0	**7.6**	**9.4**							
5	b79	6.8	4.8	**4.2**	**9.1**	**4.9**						
6	b73	1.8	6.8	4.2	8.0	**9.1**	7.5					
7	b85	3.0	0.3	**6.7**	5.2	**4.4**	**2.6**	**8.8**				
8	b75	8.5	4.9	6.7	6.5	**0.9**	**5.3**	6.2	**6.5**			
9	b95	2.0	**8.7**	**0.2**	6.2	**8.9**	8.4	1.5	**7.2**	7.0		
10	b66	2.8	**4.7**	**5.5**	**7.6**	**4.9**	6.6	5.0	3.4	0.4	**8.2**	
11	b72	2.0	6.0	**4.8**	3.4	3.7	**4.5**	**8.7**	8.7	2.7	0.7	**2.2**
12	b45	4.4	**3.1**	**8.4**	**8.2**	6.4	**1.9**	4.0	4.2	**5.1**	**3.9**	**3.2**
13	b97	5.8	**0.4**	**6.1**	8.0	**0.1**	4.9	4.9	2.4	0.4	**4.7**	**2.1**
14	b80	3.7	7.4	7.1	7.7	5.8	**2.6**	**2.3**	**5.7**	4.5	3.6	**8.8**
15	b76	6.7	**5.7**	7.9	7.3	4.6	**5.7**	**7.4**	**6.5**	**3.9**	8.5	7.3
16	b74	2.3	3.1	6.9	3.5	5.2	5.2	**1.9**	**7.4**	**9.0**	0.9	1.2
17	b98	8.8	**2.0**	3.9	**9.6**	**3.9**	7.5	2.7	7.9	9.0	**9.6**	1.6
18	b100	0.6	**3.9**	7.9	8.0	**0.2**	8.6	**6.1**	3.1	0.1	**1.5**	**5.7**
19	b49	0.4	7.3	**8.8**	4.3	8.8	0.1	**6.2**	1.3	0.9	**7.8**	**4.0**
20	b96	8.5	**6.1**	9.1	**4.7**	**2.9**	4.7	8.1	6.3	**9.0**	**1.3**	5.1
21	b123	8.4	5.0	2.8	3.1	7.0	4.7	9.3	0.2	5.4	8.2	4.2
22	b121	1.8	2.1	0.3	9.8	2.7	8.5	6.8	**4.0**	0.8	8.8	8.8
23	b122	9.8	7.2	9.2	9.0	5.0	6.7	5.4	4.7	0.6	3.5	1.9
24	b117	9.9	7.0	2.5	6.1	**4.4**	8.1	1.9	8.4	0.2	8.1	1.6
25	b127	6.1	0.7	2.2	5.6	6.5	4.0	7.1	5.7	9.7	5.4	7.7
26	b125	8.9	3.5	4.1	7.5	5.6	8.4	5.3	7.9	5.7	5.0	0.9
27	b130	5.2	5.7	8.7	8.5	6.9	7.1	1.6	0.5	1.4	4.7	1.2
28	b118	9.4	5.7	8.1	6.6	**7.3**	9.2	5.6	**1.2**	7.6	9.1	**0.2**
29	b131	9.1	7.0	4.0	6.1	0.2	0.2	5.3	5.6	4.6	7.8	4.4
30	b114	3.8	4.9	0.7	2.0	1.8	2.5	1.3	4.5	2.1	8.5	1.2
31	b115	8.3	1.8	0.7	4.3	2.7	7.4	8.2	3.6	6.2	5.2	2.0
32	b113	4.0	0.3	6.4	3.4	9.4	5.6	9.9	9.1	7.0	8.6	4.5
33	b135	3.3	5.2	4.3	4.3	7.9	2.8	7.1	7.5	3.0	4.6	5.9
34	b69	6.1	4.8	1.0	4.6	6.6	9.1	4.0	2.2	9.2	4.8	7.9
35	b67	9.8	5.2	**7.9**	5.6	1.9	3.5	**4.5**	6.6	3.0	0.3	**5.8**
36	b68	3.1	0.1	6.5	1.8	3.7	6.0	2.8	2.9	2.3	0.2	**7.3**
37	b47	8.6	8.4	4.4	7.0	3.2	0.5	0.2	2.8	**7.0**	8.1	**3.1**
38	b70	6.1	**0.1**	**8.7**	**1.6**	2.4	3.6	**0.1**	7.1	6.4	6.3	**6.4**
39	b46	3.2	**8.1**	**4.1**	5.2	5.9	2.4	9.5	6.0	9.5	4.8	**6.6**

Table 4.9 shows the number of item pair of SUNSWSS in one out of the four sub sets to determine the Local Dependence (LD) χ^2 of each pair of items. (The remaining subsets can be found in appendix XIII). The Standardised (LD) χ^2 examines the local dependence between each pair of items on the scale. To evaluate (LD) χ^2, Tay et.al (2014) suggested a value greater than 3 to indicate item Local Independent and Chen and Thessien (1997) suggested value not greater than 10. For this study, all the 748 pairs of items of SUNSWSS have their (LD) χ^2 values greater than 3, it ranges from (0.1 to 9.8) and the marginal χ^2 from (1.6 to 9.9). These results show that items in SUNSWSS are locally independent.

4.4 Research Question 4: What are the item parameters of the University Senior Non-academic Staff Work Skills Scale?

Two item parameters (item discrimination or slope and item difficulty of threshold) 2PL and the model fit of the scale were estimated using IRTPRO package.

Table 4.10: Graded Model Item Parameter Estimates of the SUNSWSS

Item	Label	α_i	s.e.	c_1	s.e.	c_2	s.e.	C3	s.e.	C4	s.e
1	b39	2.54	0.12	1.89	0.54	4.45	0.20	0.97	0.08	-2.05	0.10
2	b37	2.20	0.11	6.56	0.31	4.27	0.19	0.88	0.08	-2.33	0.10
3	b38	2.45	0.12	7.17	0.37	4.67	0.20	0.95	0.08	-2.25	0.10
4	b99	2.87	0.14	8.18	0.45	4.66	0.20	1.11	0.09	-2.62	0.11
5	b79	3.17	0.16	9.36	0.52	5.21	0.24	0.72	0.08	-2.96	0.12
6	b73	2.91	0.16	8.39	0.43	5.77	0.27	0.92	0.09	-3.03	0.13
7	b85	2.61	0.13	7.58	0.39	4.59	0.20	0.75	0.08	-2.70	0.11
8	b75	3.10	0.16	9.61	0.51	5.78	0.27	1.31	0.10	-2.69	0.12
9	b95	2.48	0.12	6.63	0.32	4.23	0.18	0.88	0.08	-2.21	0.09
10	b66	2.13	0.11	6.40	0.31	3.76	0.16	0.41	0.07	-2.77	0.11
11	b72	2.85	0.15	9.23	0.48	5.72	0.27	0.72	0.09	-2.98	0.12
12	b45	2.52	0.12	7.53	0.38	4.35	0.19	0.43	0.08	-2.77	0.11
13	b97	2.97	0.16	8.08	0.42	4.69	0.21	0.73	0.08	-2.68	0.11
14	b80	2.81	0.15	9.64	0.56	5.46	0.25	0.86	0.08	-2.88	0.12
15	b76	2.61	0.13	8.22	0.44	4.65	0.20	0.85	0.08	-2.61	0.11
16	b74	2.98	0.16	11.21	0.67	6.31	0.30	0.98	0.09	-3.16	0.13
17	b98	2.81	0.13	8.10	0.43	4.51	0.20	1.13	0.08	-2.76	0.11
18	b100	3.01	0.14	8.05	0.42	4.41	0.19	0.26	0.08	-3.04	0.12
19	b49	2.20	0.11	6.82	0.34	3.97	0.17	0.59	0.07	-2.88	0.11
20	b96	2.46	0.12	6.64	0.33	4.26	0.18	1.12	0.08	-1.94	0.09
21	b123	1.90	0.12	11.02	0.69	5.54	0.26	1.18	0.10	-2.89	0.14
22	b121	2.10	0.12	9.73	0.55	6.26	0.31	0.56	0.08	-3.12	0.13
23	b122	1.93	0.11	9.45	0.54	5.55	0.25	0.95	0.09	-2.40	0.11
24	b117	1.77	0.11	7.97	0.42	4.54	0.19	0.76	0.08	-2.87	0.12
25	b127	1.94	0.11	9.12	0.55	4.78	0.21	1.13	0.09	-2.67	0.11
26	b125	2.00	0.11	8.94	0.49	5.30	0.24	0.77	0.08	-2.84	0.12
27	b130	1.94	0.11	7.86	0.42	4.57	0.20	0.74	0.08	-3.03	0.12
28	b118	1.95	0.12	7.51	0.38	4.45	0.19	0.56	0.08	-2.92	0.12
29	b131	1.84	0.10	7.24	0.39	4.25	0.18	0.84	0.08	-2.69	0.11
30	b114	1.75	0.11	7.58	0.43	4.06	0.17	1.18	0.08	-2.17	0.10
31	b115	1.84	0.11	6.48	0.32	4.25	0.18	1.11	0.08	-2.46	0.10
32	b113	2.08	0.12	9.13	0.55	4.68	0.20	1.09	0.08	-2.19	0.10
33	b135	2.21	0.12	9.08	0.55	4.44	0.19	0.70	0.08	-2.78	0.11
34	b69	4.40	0.23	8.96	0.49	5.56	0.26	1.75	0.12	-2.54	0.13
35	b67	4.31	0.20	8.80	0.49	5.59	0.26	1.75	0.12	-2.59	0.13
26	b68	4.80	0.26	9.75	0.54	6.70	0.34	1.71	0.13	-2.82	0.15
37	b47	3.14	0.15	8.01	0.44	5.06	0.23	1.02	0.09	-2.20	0.10
38	b70	3.14	0.15	8.36	0.43	5.06	0.22	0.81	0.09	-3.15	0.13
39	b46	2.95	0.14	6.68	0.33	4.28	0.18	0.91	0.08	-2.14	0.10

Table 4.10 depicts the slope parameters (a_i discrimination parameters) for the GRM fit to the 39-item five-category scale and the intercept parameters. Embretson and Reis (2000) noted that ai and the c_1 to c_4 can be referred to as item discrimination of slope and item difficulty of threshold respectively. However, the scale is multidimensional and measures items in the affective domain therefore, the b_1 (item difficulty) is not useful. The discrimination (slope) parameter was 1.75 to 4.80. This indicates that the items discriminate well. The standard errors of the (c_i) parameters were also very low with a range of 0.7 to 0.87 except item 21 with 1.34.

Table 4.11: Comparison between Estimated Likelihood-Based Values of MIRT and UIRT

Loglikelihood	Statistics based on (MIRT)	Statistics based on (UIRT)
-2loglikelihood:	94624.67	97209.46
Akaike Information Criterion (AIC):	95014.67	97673.46
Bayesian Information Criterion (BIC):	96033.64	98885.77

***MIRT= Multidimensional Item Response Theory, UIRT = Unidimensional Item Response Theory**

Table 4.11 shows the values of the -2loglikelihood, the Bayesian Information Criterion (BIC) and the Akaike Information Criterion (AIC) of both Multidimensional Item Response Theory (MIRT) and Unidimensional Item Response Theory (UIRT). The results Likelihood-based values of MIRT and UIRT are as follow: -2loglikelihood = 94624.67, AIC = 95014.67, BIC = 96033.64 and -2loglikelihood = 97209.46, AIC = 976773.46 and BIC = 98885.77 respectively. When the two results were compared, the results of the MIRT values were lesser to the values of UIRT. The difference between the -2loglikelihood of MIRT and UIRT = 2584.79. The difference was wide enough to fit the multidimensional model of IRT. This indicates that the scale fits multidimensional model of IRT.

4.5 Research Question 5a: Is the University Senior Non-academic Work Skills Scale reliable?

The reliability of the whole scale, University Senior Non-academic Work Skills Scale was determined by using R package which gave the ordinal alpha coefficient. The stability was also determined using composite reliability and ordinal alpha coefficient.

Table 4.12: Item Total Statistics of the Entire 39-item SUNSWSS

No of Items	raw_alpha	std.alpha	G6 (smc)	average_r	median.r
39	0.97	0.97	1	0.47	0.48

***raw_alpha = Ordinal Alpha, std.alpha = standardised alpha, G6 (smc) = Guttman's Lambda 6 reliability, average_r = average reliability, meadian.r median reliability**

Table 4.12 reveals the 39 items of SUNSWSS that were retained for the final version of the scale. The raw alpha which is the ordinal alpha is based on the covariances of the items and it gives 0.97 coefficient, standard alpha is the standardised alpha based upon the correlations of the items and it gives 0.97, the average r is the average inter-item correlation and standard deviation of each item andgive 0.47 and 0.48 respectively. G6 (smc) is the Guttman's Lambda 6 reliability; it is the variance of the errors and the lower bound for the item communality. It considers the amount of variance in each item that can be accounted for the linear regression of all other items of the scale and it gave 1

Table 4.13: Internal Consistency/stability of the 39-item University Senior Non-academic Staff Skills Scale

	Internal consistency	Ordinal Alpha	Standard Alpha	G6 (smc)	Average _r	Madian _ r	No of items
First testing	SUNSWSS Items	0.97	0.97	1	0.47	0.48	39
Second testing	SUNSWSS Items	0.94	0.94	1	0.39	0.28	39
Third Testing	SUNSWSS Items	0.96	0.96	0.98	0. 41	0.41	39

Table 4.13 showed the test-retest method of reliability statistics of University Senior Non-academic Staff Work Skills Scale. The scale was administered to the same sample of 305 staff at three different times in an interval of three months. The ordinal alpha shows 0.97, 0.94 and 0.96. The standard alpha coefficients of the three factors were 0.97, 0.94 and 0.96 respectively. The result shows that the SUNSWSS reliability is stable and therefore reliable to assess skills of the USNS.

4.5.1 **Research Question 5b:** What is the reliability coefficient of the sub-scale of University Senior Non-academic Work Skills scale?

The reliability of each of the sub-scale, University Senior Non-academic Work Skills Scale was determined. The Composite reliability was tested using Fornell's composite reliability formula (Fornell and Larcker, 1981).

Table 4.14: Summary Table of Reliability Determination of the Sub-Scales of (SUNSWSS)

S/N	Sub-Scale	No of items	Composite reliability (CR)
1	BS	20	0.97
2	PAW	13	0.95
3	WpV	6	0.79

Table 4.14 depicts that the Composite Reliability (CR) indices of the sub-scales, BS, PAW and WpV which gave the value of 0.97, 0.95 and 0.79 respectively. The values of the coefficient reliability of the sub scales were higher than 0.70 which is the bench mark for good reliability. This indicates internal consistency. Table 4.14 depicts that the reliability of the components are very high. This establishes construct reliability of the items related to each factor of SUNSWSS to be adequate which indicate that the SUNSWSS can be used to assess work skills of the USNS.

4.6 **Research Question 6:** Do University Senior Non-academic Staff possess work skills to determine their job performance?

Descriptive statistics was used to determine whether the University Senior Non-academic Staff (USNS) possess the skills to perform their job.

Table 4.15: Mean ($\bar{X}$) rating of USNS' possession of Work Skills to determine their Job Performance

S/N	Item Statement Officer being assessed	Mean ($\bar{X}$)
	Basic Skills (BS)	
1	handles office task skillfully	3.85
2.	is emotionally stable while working under pressure	3.85
3.	defends organisational objectives	3.88
4.	performs tasks sequentially	3.97
5.	tries his/her best to come through without delay	3.91
6.	is always ready to get solution to every challenge he/she faces	3.79
7.	controls himself/herself in times of stress	3.72
8.	deals appropriately with sensitive matters	4.02
9.	has inclination to provide services with humility	3.95
10.	writes report clearly with little or no mistakes	3.98
11.	is composed while facing any challenge	3.81
12.	possesses different skills thereby useful in diverse ways	3.88
13.	is firm in decision making	3.86
14.	freely contributes his/her idea when there is need	3.90
15.	is not easily discouraged	3.95
16.	takes appropriate action on problems as necessary	3.86
17.	thinks about cases in an intelligent way	3.87
18.	develops a feedback mechanism for self evaluation	3.90
19.	investigates issues appropriately	3.83
20.	handles documents appropriately	3.87
	Personal Attitude To Work	
21.	organises his/her time	3.94
22.	speedily recovers from set back	3.85
23.	is confident	3.82
24.	gives new idea of performing certain task	3.93
25.	receives compliment graciously	3.80
26.	uses time constructively	3.88
27.	handles crisis tactically to get result	3.86
28.	re-arranges office for a better and conducive environment	3.90
29.	corrects colleagues in a convincing manner	3.83
30.	accepts academics that helps him/her to grow professionally	3.86
31.	accepts positive changes	3.76
32.	possesses good representation of the institution in the public	3.89
33.	sticks to his/her plan	3.88
	Workplace Values (WpV)	
34	tells the truth about an issue	3.93
35.	is not disposed to cheating	3.93
36.	is not disposed to stealing	3.90
37.	has strong belief in what is right	3.90
38.	follows up tasks to ensure appropriate delivery	3.86
39.	is morally upright	3.90

*Group mean **($\bar{X}$)** = 3.87

Table 4.15 depicts the mean of each item and the group mean. The Group mean show the extent to which the USNS possess work skills to perform their job. The group mean value of (3.87) is within high range of 3.5-5.0 according to Oxford and Burry-stock (1995) classification. The implication of this is that the USNS possess the required skills to perform their job.

4.7 Research Question 7: What are the composite and relative contributions of the predictor (demographic) variables (a) years of existence of University/age of University, (b) age of staff, (c) staff academic qualification, (d) staff years of experience and (e) school ownership on University Senior Non-academic Staff work skills?

In order to determine the composite and relative contributions of the demographic variables on work skills, a PLS model that consisted of the outer and the structural models was built so as to be able to answer this research question, because work skill is a latent and a multi-dimensional construct. The analysis of the outer model revealed that convergent validity was established since the factor loadings of all the reflective indicators are all above 0.7 and the sub-scales of works skills have acceptable average variance extracted of 0.5 and above. The discriminant validity was also established because the Hetero-Trait- Mono-Trait (HTMT) ratio is below 0.9. As a result, the latent scores were obtained and used in building the structural model (Figure 4.2).

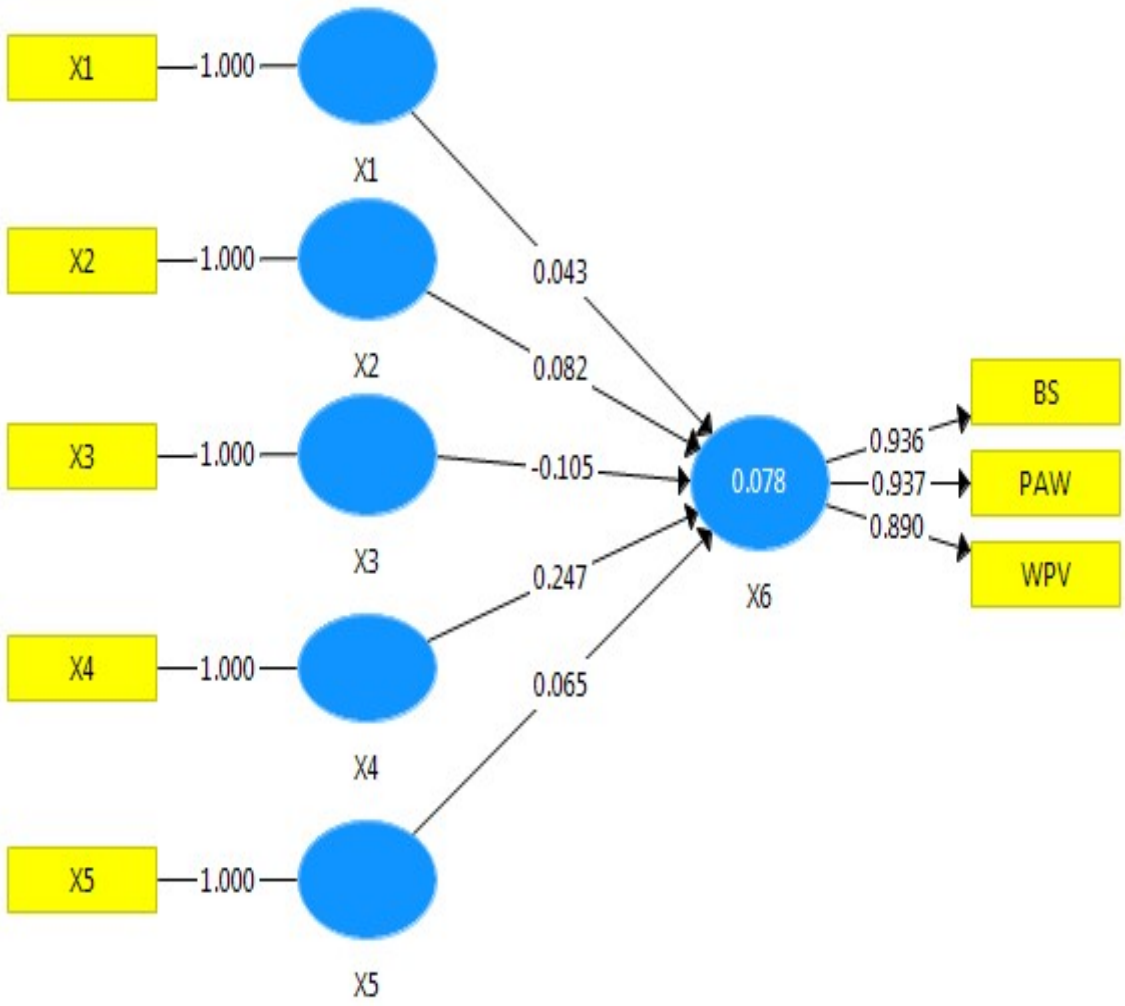

Figure 4.2: Structural Model with Path Coefficients of the Demographic Variables and Sub scales of SUNSWSS

Source: Adapted from Partial Least Square Package Result

The composite contribution was assessed by estimating the path coefficients in the structural model in Figure 4.2. The results indicate that, out of the five demographic variables, X4 (0.247) has the strongest effect on work skills which is followed by X3 (-0.105). The effect of the remaining three demographic variables on work skills are in decreasing order of X2 (0.082), X5 (0.065) and X1 (0.043). Moreover, all the five demographic variables jointly explain R^2 value 7.8% of the variance in work skills as indicated by the value in the circle of X6.

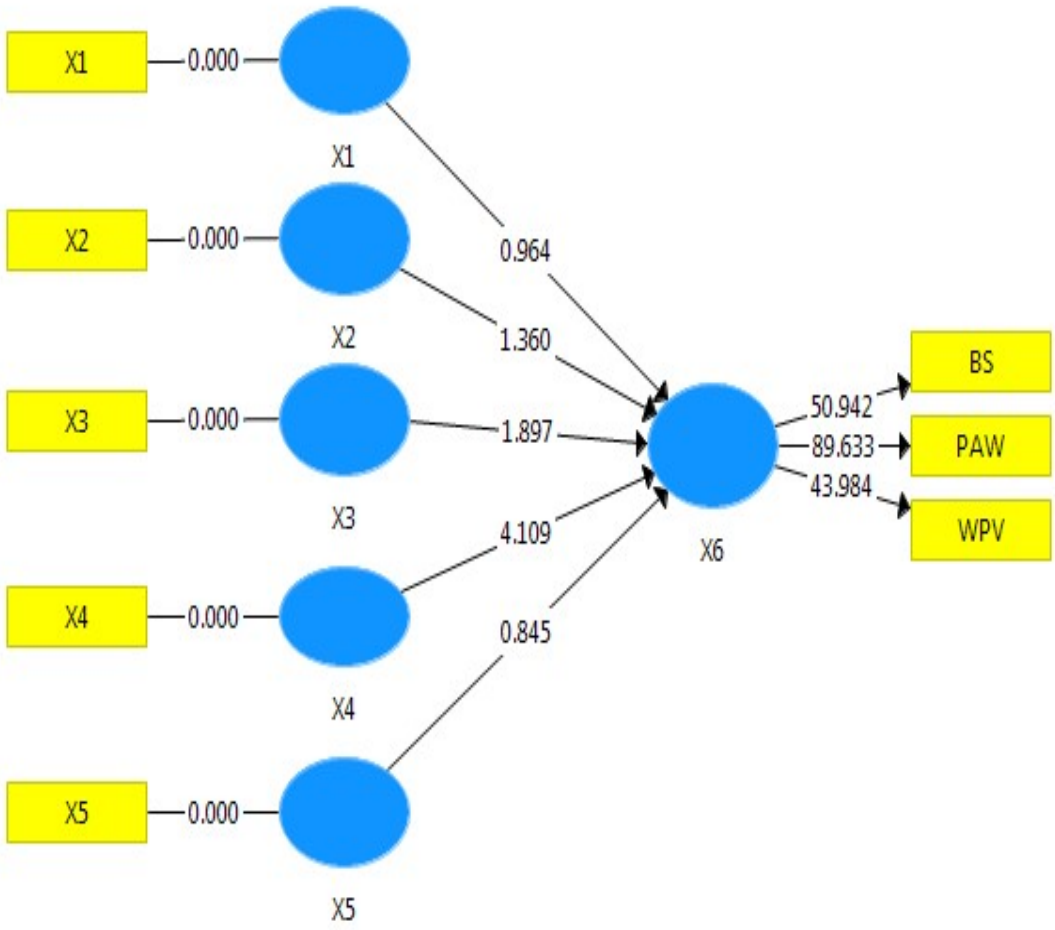

Figure 4.3: Structural Model with T values of the Demographic Variables and the Sub-scale of SUNSWSS

Source: Adapted from Partial Least Square Package Result

The path coefficients were later subjected to test of significance at 0.05 level of significance with two tails to determine the relative contributions of the demographic variables to work skills. The result of the analysis as displayed in Figure 4.3 revealed that only the path X4 -> X6 is significant on work skills, hence it is only highest academic qualification variable that has relative contribution to work skills. Table 4.16 shows the summary of the analysis. This result depicts that X4 has more influence on work skills with path coefficient and p value of 0.247 and 000.0 respectively.

Table 4:16: Summary of the t Values and p Values of the Demographic Variables to the Prediction of University Senior Non-academic Staff Work Skills

	Path coefficient	Bootstrapped sample	t value	p Values
X1 -> X6	0.043	0.042	0.964	0.335
X2 -> X6	0.082	0.087	1.36	0.175
X3 -> X6	-0.105	-0.104	1.897	0.058
X4 -> X6	0.247	0.243	4.109	000.0
X5 -> X6	0.065	0.061	0.845	0.399

Table 4.16 reveals that based on the X6 variance, the 5 components model explains almost 80% of the variance in the predictors. This shows that the model has adequate predictive ability. Each of the predictor variables has t and p values of 0.964; 0.335, 1.36; 0.175, 1.897; 0.058, 4.109; 000.0 and 0.845; 0.399 respectively. The Table also reveals that only one predictor variable, staff highest academic qualification with t (4.109; 000.0) $p< 0.05$ predicts the possession of work skills among the USNS. School ownership with t and p values 0.964; 0.335, age of University 1.36; 0.175, staff age 1.897; 0.058 and staff years of experience 0.845; 0.399 contribute insignificantly to prediction of work skills among the University Non-academic Staff.

4.8 Research Question 8: Which of the sub-scales of Senior University Non-academic Staff Work Skills Scalecontributes to University Senior Non-academic Staff work skills?

Partial Least Square was used to estimate the path coefficients of the sub scales and the T values of the Demographic Variables and the Sub-scales of SUNSWSS.

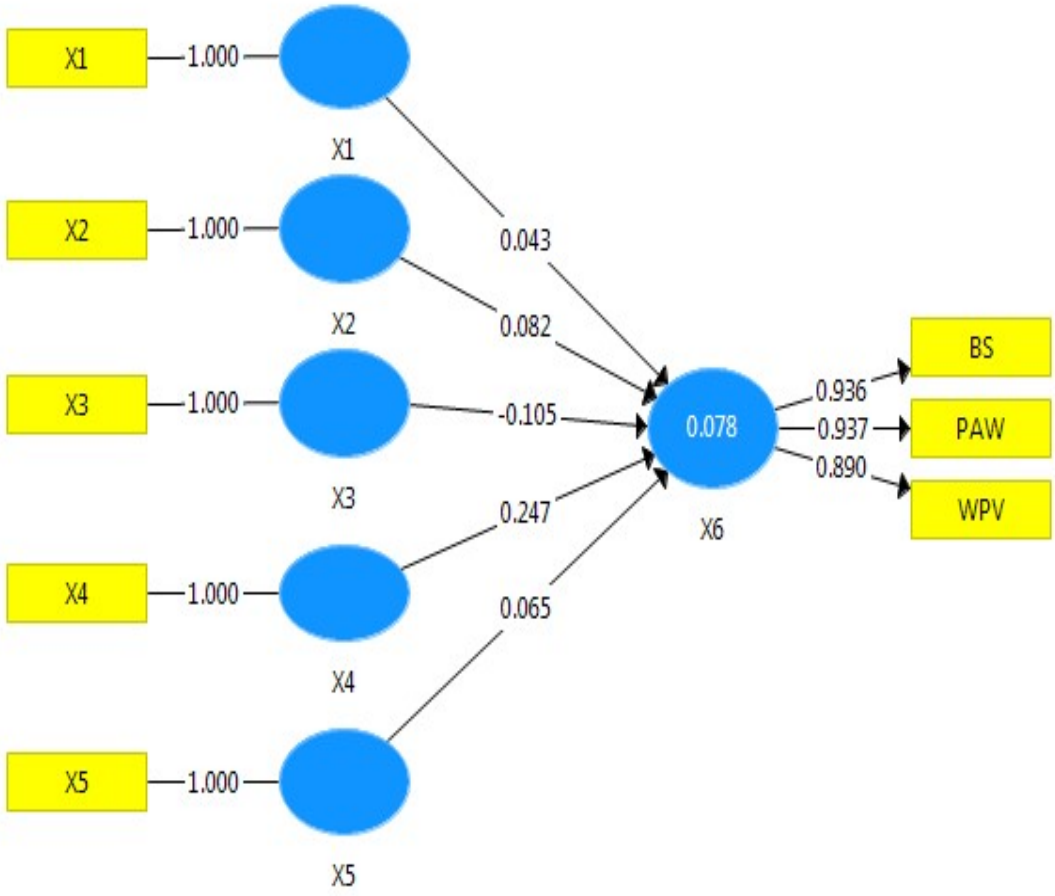

Figure 4.4: Structural Model with Path Coefficients of the Demographic Variables and Sub scales of SUNSWSS

Source: Adapted from Partial Least Square Package Result

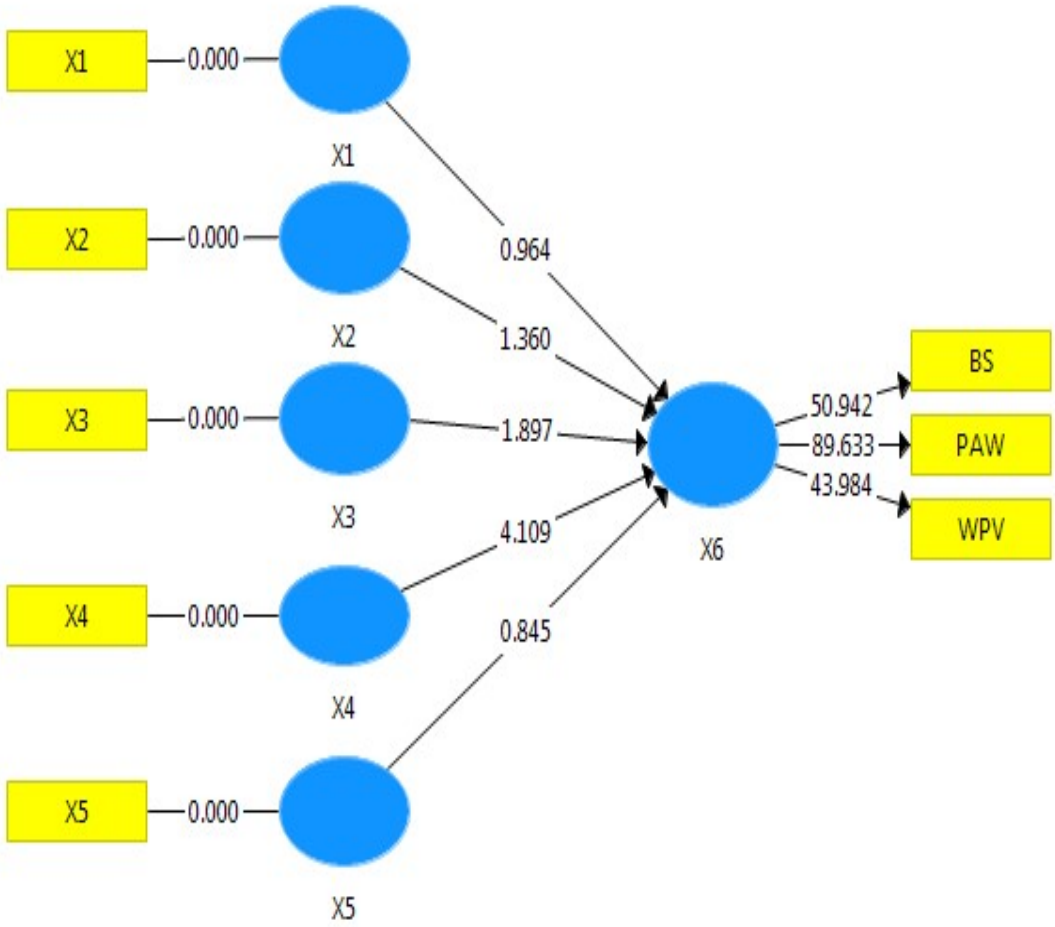

Figure 4.5: Structural Model with T values of the Demographic Variables and the Sub-scales of SUNSWSS

Source: Adopted from Partial Least Square Package Result

Figures 4.4 and 4.5 show the path coefficients and the t values of the subscales of the University Senior Non-academic Staff Work Skills respectively. It can be observed from Figure 4.4 that the path from the subscales (BS -> X6, PAW -> X6 and WPV -> X6) of work skills are all significant with t values of 50.942, 89.633 and 43.984 respectively in figure 4.5. However, PAW is the best predictor of work skills because it has the strongest path PAW (0.937, 89.633). This is an indication that PAW predicts work skills than BS and BS predicts work skills than WPV.

Discussion of the findings

To determine the number of factors to retain, different criteria were considered these were; the Kaiser-Guttman rule, Cattell's scree test and parallel analysis. The Exploratory Factor Analysis (EFA) result depicts that the items meaningfully loaded on 19 components with the original data. To confirm the factors to retain, parallel analysis was conducted using Monte Carlo Principal Component Analysis software. This is in tandem with the recommendation of Velicer, Eaton, and Fava, (2000). The rule of Eigen values greater than 1 shows that 4 factors were much greater than 1 while 15 factors were merely greater than 1. This depicts that the scale is multidimensional. However, to determine the number of factors to retain the Eigen values of original data and that of parallel data were compared as recommended by (Timmerman and Lorenzo-Seva, 2011). This method is also considered as the most adequate method to determine the number of factors to retain in order to guide against overfactorisation according to (Hayton, Allen and Scarpello, 2004). A close examination of the result of the EFA and that of parallel analysis depicts that three factors were retained. The Eigen values of factors 1 to 3 of the original data were greater than the Eigen value of factors 1 to 3 of the parallel data. Therefore, factors 1 to 3 of the original data were retained.

Moreover, the loading of the retained factors with their corresponding items shows that the items loaded effectively on their scorresponding factor. The result shows the factor matrix after rotation. The matrix contains the loadings of each variable on each factor. This study used 0.5 as criterion of factor loading due to over factorisation. That is, items loading to their corresponding factor that were less than 0.5 were discarded. This is in line with the recommendation of Tabachnick and Fidel (2007) that 0.3 and above should be used as criterion of factor loading. Among the three components meeting the rule, the three components had Eigen values much greater than 1, and this is strong evidence of multidimensionality. Again, there were three item-retention criteria; (a) the item that loade on the main factor reached the value of 0.50, (b) the loading on the remaining factors did not exceed the value of 0.35 and (c) the difference between the loading on the main factor and the loadings on the remaining factors exceeded 0.15.

The first factor has 20 items. It includes items that are related to problem solving, handling of documents, doggedness/resilience, writing clearly, conscientiousness, emotional intelligence and planning. This factor is in support of Kechagias (2011) and

Koopmans *et al.* (2011), whose studies listed the above-mentioned skills as indicators of job performance. The second factor has thirteen (13) items. The items depict positive attitude of individual to work. This includes ability to manage one's time effectively, confidence, ability to learn from criticism, adaptability and self-management. This factor is in support of Fiore et al. (2011), Campbell (1993), Viswesvaran (2001) and Bergersen *et al.* (2014). The third factor, consists of six (6) items. The content of the items of the factor entails items relating to honesty, personal integrity, devotion to the truth and values that must be imbibed by employees to positively affect organisational productivity. This factor was also present in the works of Fabio *et al.* (2012) which was referred to the study as integrity. This factor (Workplace Values) is also in support of Owolabi, Ogunjimi and Sheu, (2014). Owolabi *et al.* referred to these skills as values.

Furthermore, the model fit indices of the data were determined. In addition to the information from the path diagram, all the items have strong standardised loadings on their corresponding factors. The unstandardised regression weight loadings, standard errors, critical ratio and the p-labels show unconstrained estimates and significance as shown in Appendix X. The squared multiple correlations gave information on how much variance the common factors account for in the observed variables. BS has R^2 of 0.877, PAW 0.806 and WpV 0.878. Thus the SUNSWSS can be used to assess the work skills of the University Senior Non-academic Staff under the three mentioned factors.

Different types of validity such as content validity, construct validity (convergent and discriminant validity) of the scale were carried out in ths study. Kimberlin and Winterstein (2008) posited that for a researcher to establish convergent validity, the relevant correlations between the measured variables and their latent construct should be significantly different from zero and sufficiently large. Garson (2010) noted that the principle of convergent validity states that factor loadings < .40 are weak and factor loadings >.40 are strong for good convergent validity. Based on this criterion, the loading between the measured variables (items) and latent construct (factor) were higher than .40. Moreover, as seen in the results, all factor loadings and AVE values were greater than 0.5. For the constructs, all items have high loadings with majority above 0.7 hence, convergent validity was established and the data demonstrated

convergent validity. This fulfills the recommendation of Fornell and Larcker (1981) which states that all measurement factor loadings must be significant and exceed 0.70, construct reliabilities must exceed 0.80 and Average Variance Extracted (AVE) by each construct must exceed the variance 0.50 due to measurement error for that construct. All indicate convergent validity of the latent constructs used in the model. Hence, this study satisfied this criterion.

Moreover, Standardised Regression Weights of the scale **c**onfirmed the unidimensionlality of the subscales, each item loaded on its corresponding factor. Twenty (20) items loaded on factor 1, thirteen (13) and six 6 items loaded on factors 2 and 3 respectively, and the stadardised regression estimate of each item was positive. The finding of this study shows that the scale is multidimensional using EFA, CFA and IRT. The items loaded on three factors. This does not support the assertion of Deng, Wells and Hambleton (2008) which states that a test must be strictly unidimensional. However, this finding corroborates the submission of Margono (2015) and Widhiarso (2009) that undimensional assumption is difficult to be achieved with polytomous items and eventually most acclaimed unidimensional instrument turns multidimensional.

Also, the IRT model of the data revealed that the items were locally independent. Tay, Vermunt and Wang (2013) suggest that the value of Local Dependent (LD) χ^2 should be greater than 3 to indicate item's local independence. Also, Chen and Thissen (1997) submit that the presence of values of 10 or greater in a subset indicates the presence of multiple factors structure which indicates that items are locally dependent of each other. Table 4.9 indicates the lowest value of the (LD) χ^2 and marginal χ^2 of SUNSWSS from (0.1 to 9.8) and (1.6 to 9.9) respectively. These results show that items in SUNSWSS are locally independent of each other. It also depicts that the pairs of items across 39 items fulfill the assumption of item local independence. This finding supports Yen (1993) and Ying, Hong and Robert (2012).

Multiple methods were used as described in De Ayala (2009) to ascertain the model fit of the scale.The model fit at the item level was found to be fair and satisfactory. Graded Response Model (GRM) (Samejima, 2010) of IRT framework was employed to analyse the retained items. Slopes (a_i) and intercepts (c) contrasts for the model were

provided. The finding of the study on calibration of the items depicts that a_i parameter range of slope parameters were valued, $a_{1=}$ 2.13 - 3.17, a_2 = 1.75 – 2.21and a_3 = 2.95 – 4.80. The intercept c_1 to c_4 summarise the item calibration of SUNSWSS. That is, all the 39 items that were confirmed by Confirmatory Factor Analysis fit the classification range of the model fit of item parameters under IRT. Baker (2001) classified the range of model fit for the slope parameter (discrimination parameters (α_i)) as 0.65 to 3 as high discrimination of items and threshold parameters (difficulty indices c_j) -3 to 3 for ordered polytomous graded response of IRT models. Baker classified a_i values range from 0.65 to 1.34 as moderate, 1.35 to 1.69 as high and 1.7 to 3 as very high. The standard errors of the a_i parameters were very low with a range of 0.11 to 0.26. All the discrimination parameters (a_i) were adequate according to Baker (2001).

All the 39 items show very high values of item parameters (discrimination and thresholds). Item BS 5 (tries his/her best to come through without delay), BS8 (deals appropriately with sensitive matters), BS 18 (develops a feedback mechanism for self evaluation), WpV 34 (tells the truth about an issue), WpV 35 (not disposed to cheating), WpV 36 (not disposed to stealing), WpV 37 (has strong believe in what is right) and WpV 38 (follow up task to ensure appropriate delivery) had discrimination parameters of over 3. Therefore, this did not corroborate the classification of (Baker 2001). However, the items were retained because the items provide a substantial amount of information on timeliness of task delivery, staff self management and staff members' integrity which are very important skills in any organisation and the University system in particular. The items also measure some crucial behaviours that contribute to productivity of an employee. Furthermore, comparision of the relative fit of the model to the sample data was established by using statistics based on the loglikelihood. The result showed that the scale fits Multidimensional IRT better than Unidimensional IRT with a reduced AIC and BIC.

The reliability of the SUNSWSS was determined using different statistical packages such as R 3.2, SPSS version 20 and Fornell's composite reliability formula. Due to underestimation of the reliability coefficient of a test and over estimation of the first factor saturation by Cronbach's alpha (1951) as stated by Stigma (2009), Revelle and Zinbarg (2009), ordinal alpha was used to estimate the reliability/internal consistency

of the scale. All the estimates showed high reliability values. Thus the scale was reliable to measure USNS work skills.

Furthermore, the finding of the study on possession of work skills of the University Senior Non-academic staff show that possession of work skills of the USNS is above average. Suffice to say that this category of staff possess the skills needed which invariably affect their job performance positively. The finding does not corroborate the finding of Jimoh (2008) who found that the performance of the University Administrators dinduled..

Partial Least Squares (PLS) was employed to determine the demographic variables that contribute to the prediction of work skills among the USNS. The result showed that staff highest academic qualification contributes significantly in the prediction of University Senior Non-academic Staff Work Skills. This contradicts the finding of Jimoh (2008) found that academic qualification has no significant impact on the level of job performance among University administrators. It also did not support the finding of Odekunle (2001) which states that there was no significant relationship between qualification and skills acquired by public servants in Oyo State.

Nevertheless, this finding corroborates Akorede and Olaniran's (2012) assertion that teachers acquire higher qualifications because they always look for greener pasture as it has positive relationship with job performance. This study is also in support of Ashton *et al.* (2007) postulation that qualification is one of the skills that is important to possess in Britain. The finding of this study in respect of academic qualification is also in support of the work of Owolabi and Adedayo (2012). This finding corroborates the finding of Abe (2014), Verhaest and Omey (2009) and Owolabi and Adedayo (2012) which affirmed that qualification contributes to performance of employees. This finding also supports the finding of Abdulrahmon, Adeleye and Tanimola (2018) which revealed that job performance of Bursary staff with professional qualification was higher than non professional Accountants. It states further that Bursary staffers with higher tertiary degree acquire better skills and performed better in accounting task than those with lower qualification.

Furthermore, the study found that among the predictor variables, only the path of X4 which is highest academic qualification contributes to possession of work skills among University Senior Non-acdademic Staff. Other variables, School ownership, age of Univerity, age of staff and staff years of experience X1, X2, X3, and X5 respectively may not have contributed to the prediction of possession of work skills among USNS due to globalisation and technology which had made learning simple such that people can read and learn some of these skills. Again, the 21st century skills had become one of the important criteria used in recruiting employees. All the necessary skills can be sourced for and learned with the help of Information and Communication Technology (ICT).

This study also found that the sub-scale that contributes mostly to work skills among USNS out of the three sub-scales. The result show that the second sub scale, Personal Attitude to Work (PAW) statistically and significantly have higher path coefficient and t value, which means that it has a unique contribution to the level of prediction of work skills among the University Senior Non-academic Staff with strongest path coefficient and t value. It also depicts that University Senior Non-academic Staff have a good personal attitude to work. This sub-scale consists of items that depict positive attitude of individuals to work. Such items are: ability to manage one's time effectively, confidence, ability to learn from criticism, adaptability, innovation, ability to manage conflict, planning and self-management. This finding corroborates he findings of Campbell (1993), Viswesvaran (2001), Fiore *et al.* (2011) and Bergersen *et al.* (2014).

This implies that personal attitude to work contributes more to determining job performance of employees at the workplace than the Basic Skills and Workplace Values. Also, Personal Attitude to Work affects the decision to be taken on a particular employee. This will invariably culminate to getting ahead of some employees that show positive attitude to work as postulated by Hogan's theory. However, the finding of this study does not support the opinion of Jimoh (2008) that shows that the attitude of the University administrators to work has reduced.

CHAPTER FIVE

FINDINGS, IMPLICATIONS, RECOMMENDATIONS, LIMITATIONS AND CONCLUSION

5.1 Findings

The major findings from this study are:

1. The Senior University Non-academic Staff Work Skills Scale is a multidimensional scale (3- dimensions). However, the sub scales were unidimensional in orientation. Each sub-scale measures one construct.
2. The Senior University Non-academic Staff Work Skills Scaleitems can be modeled in both Confirmatory analysis and GRM of Multidimensional Item Response Theory (MIRT).
3. Using the GRM of MIRT framework, no item in the Senior University Non-academic Staff Work Skills Scalewas not within the recommended threshold range and discrimination value. All items were retained and they provide vital information on skills needed to aid job performance of the USNS. Also, the ordinal alpha reliability coefficient of the scale was very high.
4. The 3-dimension model of work skills demonstrated a good model fit of chi-square, RMR, RMSEA, moderately fitted GFI, NFI and CFI model of Confirmatory Analysis and also that of the GRM of IRT, adequate reliability, convergent validity and discriminant validity..
5. Some skills that were regarded as very important and assessed in the workplace as contained in the APER forms do not count as work skills. Such skills are punctuality and appearance. These items did not survive at the stage of validation of the scale.
6. Staff highest academic qualification has significant contributions to the prediction of work skills among the University Senior Non-academic Staff, while other demographic factors do not.

7. Personal Attitude to Work (PAW) predicts work skills among the USNS more than the Basic Skills (BS) and Workplace Values (WpV).
8. Items on the Information and Communication Technology (ICT) did not survive the validation procedure. This depicts that most of the USNS were not versatile in the use of ICT to carry out their job activities.

5.2. Implications

(a) For the University Senior Non-acdemic Staff

University Senior Non-acdemic Staff should improve on their Basic Skills and Workplace Value skills. They should also encourage themselves to embark on acquiring more academic qualifications since it contributes to possession of skills.

(b) For University Management

Assessment of staff to determine their promotion and salary increment is very crucial in the University system just like any other organisation or establishment, because the outcome of the assessment is used to determine or take some decisions on University Senior Non-academic Staff. Also, it is the only measure of performance of this category of staff in the University system. Therefore, assessment of job performance of this category of staff should be done objectively. Moreover, high qualified staff should constitute a large number of staff in Nigerian Universities and they should be encouraged to acquire the necessary skills through training and retraining programmes. Again, the University Management should endeavour to support the University Senior Non-academic Staff to obtain a University degree.

(c) For Policy Makers

Policy makers should look out for some of these skills before hiring employees. Findings of this study depict that Personal Attitude to Work and highest academic qualification predict work skills among the University Senior Non-academic Staff. Therefore, the University Management of various Universities in Southwestern Nigeria may look for opportunities to recruit individuals who possess positive Personal Attitude to Work and good University degree into the

University Senior Non-academic Staff positions. This will enhance the productivity of this category of staff in the University system. This can be achieved by posing scenarios before potential employees during interview.

5.3 Recommendations

Based on the findings and implications of this study, the following recommendations are made:

1. Policy makers for the Nigerian Universities should implement the use of the scale (SUNSWSS) at the Universities due to its uniqueness of showing the frequency of exhibition of the skills by the staff being assessed with the incusion of rubric in the scale. This will invariably help to judge if an assessor is objective or not with the assessment done. Also the job factor would have been captured during assessment.
2. Further reliability and validity should compliment factor analysis with various models' fit of CFA and IRT framework for polytomous item scales in all validation procedures in scale development in order to get more information on the items and model selection.
3. Each University management should design suitable reward system to motivate non-academic staff. University Management should endeavour to compensate Non-academic Staff who are outstanding in work skills assessment particularly, staffers that are outstanding in the third factor, Workplace Values, in order to promote honesty and good morals among the Non-academic staff in the University system.
4. University Management should take staff development policy serious by giving financial support to USNS members who are interested in acquiring additional qualification in order to be more productive.
5. University Management should encourage the Heads of the Departments/Units to be more observant and pay attention to details about their subordinates particularly with regard to, workplace values, basic skills, reactions to issues at the workplace and attitude to work of their subordinates in order to be able to give objective and accurate assessment of their staff during the time of assessment/appraisal.
6. For University Senior Non-academic Staff to survive in the face of the global competition, Staff training in Information and Communication Technology-

inclined skills through refresher courses and workshops on how to develop different skills should be put in place for the University Senior Non-academic Staff. University Management should endeavour to promote and encourage the Non-academic staff to attend training and retraining conferences/workshop/lectures which could be organised within and outside the University that can help this category of staff improve on the relevant basic skills that they need in order to be more productive.

7. Retreats on methods of giving objective assessment/appraisal of staff should be organised for the various Heads of Departments/Units in the Universities by the University Management.
8. Management of Universities should define work skills related to task performed with job descriptions for each cadre of staff to improve on job specialisation and efficiency of staff
9. In addition, education is an instrument that people can use to acquire and master some skills and techniques required to actively participate in the new global economy and to aid the employability of young ones. It is, therefore, very necessary that any developmental effort in Nigeria must recognise the need to widen the Human Resource (HR) base. Therefore, Work Skills should be embedded in the school curriculum and students should be tested like all other subjects at all levels of education by the Government.

5.4 Limitations

The scope of this study is limited only University Senior Non-academic Staff on grade level 6 to 12 and two states were used in Southwestern Nigeria for utilisation of the scale in this study. Therefore, the findings of this study may not be generalised on University Senior Non-academic Staff in Nigeria, staff on lower Grade Level 1-5 and managerial staff on Grade Level 13 and above were not part of the sample.

5.5 Conclusion

The thrust of the study was to develop, validate and utilise a work skill scale for assessing University Senior Non-academic Staff using Factor Analysis (Exploratory and Confirmatory factor analysis) and Graded Response Model (GRM) of Multidimensional Item Response Theory (MIRT) for analysing the items. Results indicated that the scale is multidimensional and items were locally independent of one

another. Items were modeled using Confirmatory Factor Analysis and Graded Response Theory. The factors that were retained fulfilled the parameters/criteria that were set under the two frameworks.

The items that survived after the Exploratory Factor Analysis fitted accurately in the Confirmatory Factor Analysis model. Thirty-nine items were retained because the items measure different important skills which range from having sense of professionalism to positive attitude to work and integrity.

5.6 Suggestions for Further Studies

1. The demographic variables in the developed scale that is, Senior University Non-academic Work Skills Scale (SUNSWSS) could be norm referenced in order to generalise the result among USNS nationwide. The evidence of external validity should be studied in the dual sense of generalisability (the extent to which the scores and interpretation can be generalised to groups of populations, situations, and tasks) and the relationship between attitudes and possession of work skills between groups of Universities.
2. Other studies interested in assessing the work skills of the University Senior Non-academic Staff could use the USNSWS to measure and compare performance of this category of staff within a University or within two Universities.
3. Comparison of USNSWS and any other work skills scale could be delved into.
4. Other validation models for polytomous items apart from factor analysis and GRM used in this study could be employed to validate the scale. Such models are RSM, Partial Credit Model (PCM), Graded Partial Credit Model (GPCM) and NRM).
5. It is also recommended that study of the validity of the instrument with reference to consequential aspects (for example, evidence-based potential and real consequences of using the scale) could be carried out.

5.7 Contribution to Knowledge

1. The study produced a well-developed, contextualised and validated home grown scale with rubrics that engenders accurate assessment of works-kills of University Senior Non-Academic Staff in Nigeria.

2. The study established the appropriateness of the scale for assessing job-performance of Senior University non-academic staff which can motivate, improve and reliably predict workers' performance at that level
3. The study equally established that the use of this home-grown instrument did profitably elicit representative data for decision making in respect of the job performance and salary increment of this category of University workers in Nigeria.

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APPENDICES

APPENDIX I

INTERNATIONAL CENTRE FOR EDUCATIONAL EVALUATION
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN

FINAL SCALE OF SENIOR UNIVERSITY NON-ACADEMIC WORK SKILLS SCALE (SUNSWSS)

Dear Respondent,
This rating scale is designed to solicit relevant information from you on utilisation of work skills scale to assess individual work skills of University Senior Non-academic Staff in the Southwestern Nigeria and to also establish that the work skills that are assessed in the Annual Performance Evaluation Report for this category of staff are relevant to duties performed by these staff in the University system and to reduce the subjectivity in the rating of these staff performance.

The rating must be done by the Heads of Departments/Heads or supervisors of Units/Sectional heads for each staff under consideration.

All information gathered from this rating scale will be treated as confidential as the instrument is purely for research purposes.

Thank you sir/ma.

Signed
Researcher

SECTION A
DEMOGRAPHIC INFORMATION

Kindly tick (√) the appropriate option
1. Name of Institution: ……
2. Age of University: 1 – 10 { } 11 -20 { } 21 -30 { } 31 – 40 { } 41 -50{ } 51 – 60 { }
3. Age of staff under assessment - 21-30 { } 31-40 { } 41-50 { } 51-60 { } 61-65 { }
4. Gender of staff under assessment - Male { } Female { }
5. Marital Status - Married { } Single { } Divorced { }Separated { }
6. Staff Category of officer under assessment – Registry{ }Bursary{ }Internal Audit { } Health Services { } Works and Services { }Academic Planning{ } ICT { }Public Relations { }Sports { }Laboratory Scientist/Technical/Technologist { }Library { } Security { }
7. Staff Highest Educational qualification –NCE { }OND { }HND { }B.Sc/B.A { } Master { }Ph. D { }
8. Has the staff under assessment acquired any skill proficiency? Yes { } No { }

9. Years of experience of staff under assessment 1 – 10 { } 11 -20 { }21 -30 { }31 – 40 { }41-50 { }51 - 60 { }61and above { }
10. Institutional ownership - Federal Government { } State Government { } Private { }

SECTION B

Assess objectively by ticking (√) the appropriate box that best describes the level of the listed skills in the employee.

Keys For Scoring

5 = Excellent: Displays the work skills **consistently above acceptable levels;** **(**Subordinate displays the skills at all times without exception)

4 = Very Good: Displays the work skills **occasionally above acceptable** levels and otherwise meets acceptable levels;
(Subordinate displays the skills at high level not without exception)

3 = Good: Displays the work skills to **meet acceptable levels;**
Subordinate displays work skill to achieve desired expectation with errors but corrected quickly)

2 = Poor: Displays work skills **occasionally below acceptable levels;**
(Subordinate displays work skills but needs major improvement)

1 = Very Poor: Displays work skills **consistently below acceptable levels;**
(Subordinate does not display work skills at all)

S/N	ITEMS	1	2	3	4	5
	The staff being assessed					
.	**Basic skills**					
1	handles office task skillfully					
2.	is emotionally stable while working under pressure					
3.	defends organisational objectives					
4	performs tasks sequentially					
5.	tries his/her best to come through without delay					
6.	is always ready to get solution to every challenge he/she faces					
7.	controls himself/herself in times of stress					
8.	deals appropriately with sensitive matters					
9.	has inclination to provide services with humility					
10.	writes report clearly with little or no mistakes					
11.	is composed while facing any challenge					
12.	possesses different skills thereby useful in diverse ways					
13.	is firm in decision making					
14.	freely contributes his/her idea when there is need					
15.	is not easily discouraged					
16.	takes appropriate action on problems as necessary					
17.	thinks about cases in an intelligent way					
18.	develops a feedback mechanism for self evaluation					
19	investigates issues appropriately					
20	handles documents appropriately					
.	**Personal Attitude To Work**					

21.	organises his/her time					
22	speedily recovers from set back					
23	is confident					
24	gives new idea of performing certain task					
25.	receives compliment graciously					
26.	uses time constructively					
27.	handles crisis tactically to get result					
28.	re-arranges office for a better and conducive environment					
29.	corrects colleagues in a convincing manner					
30.	accepts academics that helps him/her to grow professionally					
31.	accepts positive changes					
32.	possesses good representation of the institution in the public					
33.	sticks to his/her plan					
	Workplace Values					
34.	tells the truth about an issue					
35	is not disposed to cheating					
36.	is not disposed to stealing					
37.	has strong belief in what is right					
38	follows up tasks to ensure appropriate delivery					
39.	is morally upright					

APPENDIX II

INTERNATIONAL CENTRE FOR EDUCATIONAL EVALUATION
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN

SENIOR UNIVERSITY NON-ACADEMIC WORK SKILLS SCALE (SUNSWSS)

Dear Respondent,

This rating scale is designed to solicit relevant information from you on development and validation of work skills scale to assess individual work skills of University Senior Non-academic Staff in the Southwestern Nigeria who are on grade level 6-12 and to also establish that the work skills that are assessed in the Annual Performance Evaluation Report for this category of staff are relevant to duties performed by these staff in the University system and to reduce the subjectivity in the rating of the staff performance.

The rating must be done by the Heads of Departments/Heads or supervisors of Units/Sectional heads for each staff under consideration.

All information gathered from this rating scale will be treated as confidential as the instrument is purely for research purposes.

Thank you sir/ma.

Signed

Researcher

SECTION A

DEMOGRAPHIC INFORMATION

Kindly tick (√) the appropriate option

1. NameofInstitution:……
2. Age of University: 1 – 10 { } 11 -20 { } 21 -30 { } 31 – 40 { } 41 -50{ } 51 – 60 { }
3. Age of staff under assessment - 21-30 { } 31-40 { } 41-50 { } 51-60 { } 61-65 { }
4. Gender of staff under assessment - Male { } Female { }
5. Marital Status - Married { } Single { } Divorced { } Separated { }
6. Staff Category of officer under assessment - Registry { } Bursary { } Internal Audit { } Health Services { } Works and Services { } Academic Planning { } ICT { } Public Relations { } Sports { } Laboratory Scientist/Technical/Technologist {} Library { } Security { }
7. Staff Highest Educational qualification –NCE { }OND{ }HND{ } B.Sc/B.A { } Master { } Ph. D { }
8. Has the staff under assessment acquired any skill proficiency? Yes { } No { }
9. Years of experience of staff under assessment: 1 – 10 { } 11 -20 { } 21 -30 { } 31 – 40 { } 41-50 { } 51 - 60 { } 61and above { }
10. Institutional ownership - Federal Government { } State Government { } Private { }

SECTION B

Assess objectively by ticking (√) the appropriate box that best describes the level of the listed skills in the employee.

KEYS FOR SCORING

5 = Excellent: Displays the work skills **consistently above acceptable levels;** **(**Subordinate displays the skills at all times without exception)

4 = Very Good: Displays the work skills **occasionally above acceptable** levels and otherwise meets acceptable levels;
(Subordinate displays the skills at high level not without exception)

3 = Good: Displays the work skills to **meet acceptable levels;**
(Subordinate displays work skill to achieve desired expectation with errors but corrected quickly)

2 = Poor: Displays work skills **occasionally below acceptable levels;**
(Subordinate displays work skills but needs major improvement)

1 = Very Poor: Displays work skills **consistently below acceptable levels;**
(Subordinate does not display work skills at all)

S/N	ITEMS	1	2	3	4	5
	The staff being assessed					
1.	uses management terminologies appropriately at all times					
2.	is loyal to the organization					
3.	does not need monitoring when assigned a task at all times					
4	is meticulous in handling correspondence					
5.	disengages from other activities while taking instruction from the boss					
6.	cooperates with people of different personalities					
7.	asks pertinent questions which yield the information needed					
8.	envisages problems and proffers solutions					
9.	exercises enough patience to grasp the full meaning of a discussion					
10.	exchanges ideas with his/her colleagues to achieve results on difficult tasks					
11.	has ability to interpret information correctly					
12.	affects his/her colleagues positively with his/her knowledge about the job					
13.	seeks for improved knowledge					
14.	dresses smartly					
15.	honest in all his/her dealings with people					
16.	has foresight to make things happen					
17.	Takes appropriate action when required					
18.	does not engage in fraudulent activities					
19.	takes note during discussions					
20.	analyses pattern of how things happen					
21.	reaches decisions in cooperation with others					
22.	appreciates individual difference among colleagues					
23.	consults with supervisor/s when necessary					
24.	supports other staff in time of need					
25.	assists other staff in order to achieve set goals					
26.	shares whatever he/she has willingly					
27.	functions as an active participant in group work					
28.	is careful in his/her dealing with other staff.					
29.	does his/her job thoroughly					
30.	oral expression is clear					

S/N	ITEMS	1	2	3	4	5
31.	likes orderliness					
32.	gets to meetings on time					
33.	gets to office early					
34.	has regard for the attendance register					
35.	organises his/her tasks					
36.	is dependable to achieve goals					
37	is emotionally stable while working under pressure					
38.	defends organisational objectives					
39.	handles office tasks skillfully					
40.	takes office work home for completion when necessary					
41.	performs tasks promptly					
42.	closes late in order to finish daily task					
43.	does not grumble in responding to different requests in the office					
44.	performs task according to laid down procedure					
45.	possesses different skills thereby useful in diverse ways					
46.	is morally upright					
47.	has strong belief in what is right					
48.	analyses tasks accurately					
49.	investigates issues appropriately					
50.	is almost flawless at job delivery					
51.	has knowledge of Information Communication Technology (ICT)					
52.	accepts responsibility for his/her action					
53.	fulfills promises made					
54.	has an eye for detail					
55	controls his/her temperament in the office in order to get results					
56	recognises when help/advice is needed and gets it					
57.	presents issues with confidence					
58.	is cordial with colleagues to achieve goal					
59.	uses computer to make his/her work faster					
60.	listens attentively during discussions					
61.	is not satisfied when things are not done properly					
62.	is resourceful					
63.	takes timely action that becomes effective					
64.	possesses ability to think about issues carefully					1
65.	explains issues in detail for the purpose of understanding					
66.	writes report clearly with little or no mistakes					
67.	is not disposed to cheating					
68.	is not disposed to stealing					
69.	tells the truth about an issue					
70.	follows up tasks to ensure appropriate delivery					
71.	diagnoses issues appropriately					
72.	is composed while facing any challenge					
73.	is always ready to get solution to every challenge he/she faces					
74.	takes appropriate action on problems as necessary					
75.	deals appropriately with sensitive matters					
76.	is not easily discouraged					

S/N	ITEMS	1	2	3	4	5
77.	is dogged					
78.	has determination to achieve set objective					
79	tries his/her best to come through without delay					
80.	freely contributes his/her idea when there is need					
81.	asks questions that need to be asked to meet up deadlines					
82.	has regard for starting work early					
83.	does not bear grudges					
84.	does not jump into conclusion					
85.	controls himself/herself in terms of stress					
86.	handles conflict maturely					
87.	controls his/her anger					
88.	gets along with people					
89.	has experience in his/her chosen field					
90.	appreciates ideas from other colleagues					
91.	prevents crisis from escalating					
92.	negotiates when there is conflict					
93.	thirsts after broadening his/her experience by pursuing additional qualification					
94.	embraces new knowledge					
95.	has inclination to provide services with humility					
96.	handles documents appropriately					
97.	is firm in decision making					
98.	thinks about cases in an intelligent way					
99.	performs tasks sequentially					
100.	develops a feedback mechanism for self evaluation					
101	finds different ways to get solution to problem					
102	shows respect to both senior and junior colleagues					
103	lends himself/herself to corrections					
104.	establishes proper documentation procedure					
105.	keeps records/document from being damaged					
106.	appreciates ideas from other colleagues					
107.	has ability to control people under him/her					
108.	influences an individual or a group of people to achieve office task					
109.	keeps confidential information secret					
110.	admits his/her own limitations					
111.	demonstrates effective leadership skills as appropriate					
112.	supervises office work effectively					
113.	possesses good representation of the institution in the public					
114.	accepts academics that helps him/her to grow professionally					
115.	accepts positive changes					
116.	plans ahead of time					
117.	gives new idea of performing certain tasks					
118.	re-arranges office for a better and conducive environment					
119.	complies with rules and regulations					
120.	has accurate assessment of colleagues' ability					
121.	speedily recovers from set back					

S/N	ITEMS	1	2	3	4	5
122.	is confident					
123.	organises his/her time					
124.	does not procrastinate					
125.	uses his/her time constructively					
126.	he/she is a goal-getter					
127.	receives compliment graciously					
128.	he/she is always optimistic					
129.	consults with co-workers as necessary					
130.	handles crisis tactically to get result					
131.	corrects colleagues in a convincing manner					
132.	thinks out of the box to tackle challenges					
133.	gives information logically					
134.	uses brainstorming as a tool for solving problems					
135.	sticks to his/her plan					
136.	is not easily distracted					

APPENDIX III
INTERNATIONAL CENTRE FOR EDUCATIONAL EVALUATION
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN
SENIOR UNIVERSITY NON-ACADEMIC WORK SKILLS SCALE (SUNSWSS)

Dear Respondent,

This rating scale is designed to solicit relevant information from you on development and validation of work skills scale to measure individual work skills of University Senior Non-academic Staff in the Southwestern Nigeria who are on grade level 6-12 and to also establish that the work skills that are measured in the Annual Performance Evaluation Report for this category of staff are relevant to duties performed by these staff in the University system and to reduce the subjectivity in the rating of staff performance.

The rating must be done by the Heads of Departments/Heads or supervisors of Units/Sectional heads for each staff under consideration.

All information gathered from this rating scale will be treated as confidential as the instrument is purely for research purposes.

Thank you sir/ma.
Signed
Researcher

SECTION A
DEMOGRAPHIC INFORMATION

Kindly tick (√) the appropriate option

1. Institution:……
2. Age of University: 1 – 10 { } 11 -20 { } 21 -30 { } 31 – 40 { } 41 -50{ } 51 – 60 { }
3. Age of staff under assessment - 21-30 { } 31-40 { } 41-50 { } 51-60 { } 61-65 { }
4. Gender of staff under assessment - Male { } Female { }
5. Marital Status - Married { } Single { } Divorced { } Separated { }
6. Staff Category of officer under assessment - Registry { } Bursary { } Internal Audit { } Health Services { } Works and Services { } Academic Planning { } ICT { } Public Relations { } Sports { } Laboratory Scientist/Technical/Technologist { } Library { } Security { }
7. Staff Highest Educational qualification –NCE { } OND { } HND { } B.Sc/B.A { } Master { } Ph. D { }
8. Has the staff under assessment acquired any skill proficiency? Yes { } No { }
9. Years of experience of staff under assessment 1 – 10 { } 11 -20 { } 21 -30 {} 31 – 40 { } 41-50 { } 51 - 60 { } 61and above { }
10. Institutional ownership - Federal Government { } State Government { } Private { }

SECTION B

Assess objectively by ticking (√) the appropriate box that best describes the level of the listed skills in the employee.

KEYS FOR SCORING

5 = Excellent: Displays the work skills **consistently above acceptable levels** (Subordinate displays the skills at all times without exception)

4 =Very Good: Displays the work skills **occasionally above acceptable** levels and otherwise meets acceptable levels; (Subordinate displays the skills at high level not without exception)

3 = Good: Displays the work skills to **meet acceptable levels;** (Subordinate displays work skill to achieve desired expectation with errors but corrected quickly)

2 = Poor: Displays work skills **occasionally below acceptable levels;** (Subordinate displays work skills but needs major improve

1 = Very Poor: Displays work skills **consistently below acceptable levels;** (Subordinate does not display work skills at all)

/N	ITEMS Statement	1	2	3	4	5
	The staff being assessed					
1.	uses management terminologies appropriately at all times					
2.	is loyal to the organization					
3.	Does not need monitoring when assigned a task at all times					
4.	is meticulous in handling correspondence					
5.	disengages from other activities while taking instruction from the boss					
6.	cooperates with people of different personalities					
7.	asks pertinent questions which yield the information needed					
8.	envisages problems and proffers solutions					
9.	exercises enough patience to grasp the full meaning of a discussion					
10.	exchanges ideas with his/her colleagues to achieve results on difficult tasks					
11.	has ability to interpret information correctly					
12.	affects his/her colleagues positively with his/her knowledge about the job					
13.	seeks for improved knowledge					
14.	dresses smartly					
15.	honest in all his/her dealings with people					
16.	has foresight to make things happen					
17.	Takes appropriate action when required					
18.	does not engage in fraudulent activities					
19.	takes note during discussions					
20.	analyses pattern of how things happen					
21.	reaches decisions in cooperation with others					
22.	clever in his/her choice of words while arguing					
23.	appreciates individual difference among colleagues					
24.	consults with supervisor/s when necessary					

25.	supports other staff in time of need					
26.	assists other staff in order to achieve set goals					
27.	shares whatever he has willingly					
28.	functions as an active participant in group work					
29.	is careful in his/her dealing with other staff.					
30.	does his/her job thoroughly					
31.	is meticulous at handling task/s					
32.	oral expression is clear					
33	likes orderliness					
34.	gets to meetings on time					
35.	gets to office early					
36.	has regard for the attendance register					
37.	organises his/her tasks					
38.	is dependable to achieve goals					
39	is emotionally stable while working under pressure					
40.	defends organisational objectives					
41.	handles office tasks skillfully					
42.	takes office work home for completion when necessary					
43.	performs tasks promptly					
44.	closes late in order to finish daily task					
45.	does not grumble in responding to different requests in the office					
46.	performs task according to laid down procedure					
47.	possesses different skills thereby useful in diverse ways					
48.	is morally upright					
49.	has strong belief in what is right					
50.	analyses tasks accurately					
51.	investigates issues appropriately					
52.	is almost flawless at job delivery					
53.	has knowledge of Information Communication Technology (ICT)					
54.	accepts responsibility for his/her action					
55.	fulfills promises made					
56.	has an eye for detail					
57	controls his/her temperament in the office in order to get results					
58	recognises when help/advice is needed and gets it					
59.	presents issues with confidence					
60.	is cordial with colleagues to achieve goal					
61.	uses computer to make his/her work faster					
62.	listens attentively during discussions					
63.	is not satisfied when things are not done properly					
64.	is resourceful					
65.	takes timely action that becomes effective					
66.	possesses ability to think about issues carefully					1
67.	explains issues in detail for the purpose of understanding					
68.	writes report clearly with little or no mistakes					
69.	is not disposed to cheating					
70.	is not disposed to stealing					
71.	tells the truth about an issue					

72.	follows up tasks to ensure appropriate delivery					
73.	diagnoses issues appropriately					
74.	is composed while facing any challenge					
75.	is always ready to get solution to every challenge he/she faces					
76.	takes appropriate action on problems as necessary					
77.	deals appropriately with sensitive matters					
78.	is not easily discouraged					
79.	is dogged					
80.	has determination to achieve set objective					
81	tries his/her best to come through without delay					
82.	freely contributes his/her idea when there is need					
83.	asks questions that need to be asked to meet up deadlines					
84.	has regard for starting work early					
85.	does not bear grudges					
86.	does not jump into conclusion					
87.	controls himself/herself in terms of stress					
88.	handles conflict maturely					
89.	controls his/her anger					
90.	gets along with people					
91.	has experience in his/her chosen field					
92.	appreciates ideas from other colleagues					
93.	prevents crisis from escalating					
94.	negotiates when there is conflict					
95.	thirsts after broadening his/her experience by pursuing additional qualification					
96.	embraces knew knowledge					
97.	has the habit to train junior staff under him/her					
98.	has inclination to provide services with humility					
99.	handles documents appropriately					
100.	is firm in decision making					
101.	thinks about cases in an intelligent way					
102.	performs tasks sequentially					
103.	develops a feedback mechanism for self evaluation					
104	finds different ways to get solution to problem					
105	shows respect to both senior and junior colleagues					
106.	lends himself/herself to corrections					
107.	establishes proper documentation procedure					
108.	carefully chooses his/her words while dealing with colleagues					
109.	keeps records/document from being damaged					
110.	appreciates ideas from other colleagues					
111.	has ability to control people under him/her					
112.	applies appropriate security measures on official documents					
113.	manages information properly					
114.	influences an individual or a group of people to achieve office task					
115.	keeps confidential information secret					
116.	admits his/her own limitations					
117.	demonstrates effective leadership skills as appropriate					
118.	supervises office work effectively					

119.	is quick to understand issues					
120.	possesses good representation of the institution in the public					
121.	accepts academics that helps him/her to grow professionally					
122.	accepts positive changes					
123.	plans ahead of time					
124.	gives new idea of performing certain task					
125.	re-arranges office for a better and conducive environment					
126.	complies with rules and regulations					
127.	has accurate assessment of colleagues' ability					
128.	gets new ideas of doing something in a better way					
129.	speedily recovers from set back					
130.	is confident					
131.	organises his/her time					
132.	does not procrastinate					
133.	uses his/her time constructively					
134.	he/she is a goal-getter					
135.	receives compliment graciously					
136.	he/she is always optimistic					
137.	consults with co-workers as necessary					
138.	handles crisis tactically to get result					
139.	corrects colleagues in a convincing manner					
140.	thinks out of the box to tackle challenges					
141.	gives information logically					
142.	uses brainstorming as a tool for solving problems					
143.	sticks to his/her plan					
144.	is not easily distracted					

APPENDIX IV
INTERNATIONAL CENTRE FOR EDUCATIONAL EVALUATION
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN
REQUEST FOR FACE AND CONTENT VALIDATION

Dear Sir,

I am a student of the above named Institution. I am presently developing a scale named SENIOR UNIVERSITY NON-ACADEMIC WORK SKILLS SCALE (SUNSWSS) that can be used to assess work skills of the University Senior Non-academic Staff in Southwestern, Nigeria. The target sample is staffers who are on grade level 6 to 12. This rating scale is designed to solicit relevant information from you on the development of the relevant items.

I hereby request that you kindly vet and assess these items in terms of clarity of words, simplicity of statements, rate the items if they are measures of work skills of University Senior Non-academic Staff, using the below 3-point rating scale to indicate if an item is a measure or relevant to be considered for the purpose of this study. 1 = (A measure), 2 = (Not a measure), 3 =(A measure but needs restructuring).

All information gathered from this rating scale will be treated as confidential as the instrument is purely for research purposes.

Thank you sir/ma.
Signed
Researcher

SECTION A

DEMOGRAPHIC INFORMATION

Kindly tick (√) the appropriate option

1. Institution: ……
2. Age of University: 1 – 10 { } 11 -20 { } 21 -30 { } 31 – 40 { } 41 -50{ } 51 – 60 { }
3. Age of staff under assessment - 21-30 { } 31-40 { } 41-50 { } 51-60 { } 61-65 { }
4. Gender of staff under assessment - Male { } Female { }
5. Marital Status - Married { } Single { } Divorced { } Separated { }
6. Staff Category of officer under assessment - Registry { }Bursary { }Internal Audit { } Health Services { } Works and Services { }Academic Planning{ } ICT { }Public Relations { }Sports { }Laboratory Scientist/Technical/Technologist { }Library { } Security { }
7. Staff Highest Educational qualification –NCE { } OND { } HND { } B.Sc/B.A { } Master { } Ph. D { }
8. Has the staff under assessment acquired any skill proficiency? Yes { } No { }
9. Years of experience of staff under assessment 1 – 10 { } 11 -20 { } 21 -30 { } 31 – 40 { } 41-50 { } 51 - 60 { } 61and above { }
10. Institutional ownership - Federal Government { } State Government { } Private { }

SECTION B

Assess objectively by ticking (√) the appropriate box that best describes the level of the listed skills in the employee.

KEYS FOR SCORING THE STAFF WORK SKILLS

5 = Excellent: Displays the work skills **consistently above acceptable levels;** **(**Subordinate displays the skills at all times without exception)

4 = Very Good: Displays the work skills **occasionally above acceptable** levels and otherwise meets acceptable levels; (Subordinate displays the skills at high level not without exception)

3 = Good: Displays the work skills to **meet acceptable levels;** (Subordinate displays work skill to achieve desired expectation with errors but corrected quickly)

2 = Poor: Displays work skills **occasionally below acceptable levels;** (Subordinate displays work skills but needs major improve

1 = Very Poor: Displays work skills **consistently below acceptable levels;** (Subordinate does not display work skills at all)

KEYS FOR SCORING FOR CONTENT VALIDITY OF THE ITEMS: 1, 2 and 3

1 = A measure of work skills
2 = Not a measure of work skills
3 = A measure but needs restructuring

	ITEMS **The staff being assessed**	**1**	**2**	**3**
1	uses appropriate words at all times			
2	is loyal to the organization			
3	does the right thing at all times even when no one is watching			
4	is meticulous in handling correspondence			
5	disengages from other activities while listening to boss or colleagues			
6	cooperates with people of different personalities, race, gender etc			
7	asks pertinent questions which yield the information needed			
8	envisages problems and proffers solutions			
9	exercises enough patience to grasp the full meaning of a discussion			
10	exchanges ideas with his/her colleaguesto achieve difficult tasks			
11	has ability to interprete information correctly			
12	makes good use of his/her experience			
13	affects his/her colleagues positively with his/her knowledge about the job			
14	seeks for improved knowledge			
15	dresses smartly			
16	honest in all his/her dealings with people			
17	has foresight to make things happen			
18	acts without being told			
19	does not engage in fraudulent actions			
20	takes note during discussions			
21	uses eyes contact to relay his/her message especially while condemning an action			
22	uses his/her body to convey message to colleagues			
23	analyses pattern of how things happen			
24	reaches decisions in cooperation with others			
25	clever in his/her choice of words while arguing			

26	appreciates individual difference among colleagues			
27	gets along with diverse group of people in order to get task/s accomplished			
28	consults with supervisor/s when necessary			
29	supports other staff in time of need			
30	envisages problems and proffers solutions			
31	assists other staff in order to achieve set goals			
32	shares openly and willingly			
33	functions as an active participant in group work			
34	is careful in his/her dealing with other staff.			
35	does his/her job thoroughly			
36	is meticulous at handling task/s			
37	oral expression is clear			
38	does not shirk in his/her duties			
39	likes orderliness			
40	gets to meetings on time			
41	gets to office early			
42	has regards to the attendance register			
43	is dependable			
44	performs task assigned to him/her exactly at the time appointed			
45	organises his tasks			
46	is eager to achieve goals			
47	is emotionally stable while working under pressure			
48	defends organisational objectives			
49	handles office tasks skillfully			
50	takes office work home for completion			
51	works with little supervision			
52	performs tasks promptly			
53	closes late in order to finish daily task			
54	does not grumble in responding to different requests in the office			
55	performs task according to lay down procedure			
56	performs duties to meet up with dead line			
57	performs multitask without complain			
58	possesses different skills thereby useful in diverse ways			
59	is morally disciplined			
60	has strong believe in what is right			
61	analyses tasks accurately			
62	Investigates issues appropriately			
63	is almost flawless at job delivery			
64	has knowledge of information Communication Technology (ICT)			
65	accepts responsibility for the effect of his/her action			
66	is trustworthy			
67	fulfills promises made			
68	has an eye for detail			
69	controls his/her reactions to office matters			
70	recognises when help/advice is needed and gets it			
71	presents issues with confidence			
72	jokes with colleagues to achieve goal			
73	uses computer to make his/her work faster			

74	listens attentively during discussions			
75	weighs pros and cons before making decisions			
76	is restless when things are not done properly			
77	always on the move to accomplish tasks			
78	is resourceful			
79	takes timely and effective action			
80	possesses ability to think about issues carefully			
81	explains issues in detail for the purpose of understanding			
82	writes report clearly with little or no mistakes			
83	is not disposed to cheat			
84	is not disposed to stealing			
85	tells the truth about an issue			
86	follows up tasks to ensure appropriate delivery			
87	analyses tasks accurately			
88	investigates issues appropriately			
89	diagnoses issues appropriately			
90	is composed while facing any challenge			
91	is always ready to get solution to every challenge he/she faces			
92	takes appropriate action on problems as necessary			
93	deals appropriately with sensitive matters			
94	is not easily discouraged			
95	can endure hardship			
96	has determination to achieve set objective			
97	proposes solution to problems			
98	tries his/her best and come through without delay			
99	freely contributes his/her idea when there is need			
100	asks questions that need to be asked to meet up deadlines			
101	has regard for starting work early			
102	does not bear grudges			
103	dose not jump into conclusion			
104	recovers easily from depression			
105	controls himself/herself in terms of stress			
106	handles conflict maturely			
107	controls his/her anger			
108	tolerates people around him/her			
109	gets along with people			
110	has experience in his/her chosen field			
111	appreciates ideas from other colleagues			
112	prevents crisis from escalating			
113	negotiates when there is conflict			
114	thirsts after broadens his/her experience by pursuing additional qualification			
115	assists others by putting them through on a task			
116	embraces knew knowledge			
117	offers to train junior staff under him/her			
118	has inclination to provide services with humility			
119	files documents appropriately			
120	is firm in decision making			
121	thinks about cases in an intelligent way			

122	performs tasks sequentially			
123	evaluates self- achievement/s			
124	finds different ways to get solution to problem			
125	shows respect to both senior and junior colleagues			
126	accepts rebuke			
127	retrieves documents easily			
128	carefully chooses his/her words while dealing with colleagues			
129	keeps records/document from being damaged			
130	appreciates idea from other collegues			
131	has ability to control people under him/her			
132	applies appropriate security measures on official documents			
133	manages information and data effectively			
134	influences an individual or a group of people			
135	keeps official confidential information secret			
136	demonstrates understanding for being organised			
137	admits his/her own limitations			
138	demonstrates effective leadership skills as appropriate			
139	supervises office work diligently			
140	is quick to understand issues			
141	builds good rapport with colleagues			
142	possesses good representation of the institution in the public			
143	accepts academics that helps him/her to grow professionally			
144	accepts change			
145	is open to learning			
146	plan's ahead of time			
147	gives new idea of performing certain task			
148	re-arranges office for a better and conducive environment			
149	complies with rules and regulations			
150	has confidence in the ability of others			
151	gets new ideas of doing something in a better way			
152	picks up himself/herself whenever he experiences failure			
153	holds himself/herself in high esteem			
154	organises his/her time			
155	does not procrastinate			
156	uses his/her time constructively			
157	he/she is a goal-getter			
158	receives compliment graciously			
159	he/she is always optimistic			
160	consults with co-workers as necessary			
161	handles crisis tactically to get result			
162	corrects colleagues in a convincing manner			
163	thinks out of the boxes to tackle issues			
164	gives information logically			
165	likes brainstorming			
166	sticks to his/her plan			
167	is not easily distracted			

APPENDIX V
UNIVERSITY OF IBADAN, IBADAN
INITIAL ITEMS OF UNIVERSITY SENIOR NON-ACADEMIC STAFF WORK SKILLS SCALE
REQUEST FOR FACE AND CONTENT VALIDITY OF POOL OF ITEMS FOR SENIOR UNIVERSITY NON-ACADEMIC WORK SKILLS SCALE (SUNSWSS)

Dear Sir/Ma,

This rating scale is designed to solicit relevant information from you on development and validation of work skills scale to assess the level of individual possession of the skills to IMPROVE performance of University Senior Non-academic Staff of Universities in the Southwestern Nigeria. It also pertinent to establish that the work skills that are measured in the Annual Performance Evaluation Report for this category of staff are relevant to duties performed by these staff in the University system and to reduce the subjectivity in the rating of staff performance.

I hereby request that you kindly vet and assess these items in terms of clarity of words, simplicity of statements, rate the items if they are measure of work skills of University Senior Non-academic Staff,

All information gathered from this rating scale will be treated as confidential as the instrument is purely for research purposes.

Thank you sir/ma.
Signed
Researcher

SECTION A
DEMOGRAPHIC INFORMATION

Kindly tick (√) the appropriate option

1. Institution:……
2. Age of University: 1 – 10 { } 11 -20 { } 21 -30 { } 31 – 40 { } 41 -50{ } 51 – 60 { }
3. Age of staff under assessment - 21-30 { } 31-40 { } 41-50 { } 51-60 { } 61-65 { }
4. Gender of staff under assessment - Male { } Female { }
5. Marital Status - Married { } Single { } Divorced { } Separated { }
6. Staff Category of officer under assessment - Registry { } Bursary { } Internal Audit { } Health Services { } Works and Services { } Academic Planning { } ICT { } Public Relations { } Sports { } Laboratory Scientist/Technical/Technologist { } Library { } Security { }
7. Staff Highest Educational qualification –NCE { } OND { } HND { } B.Sc/B.A { } Master { } Ph. D { }
8. Has the staff under assessment acquired any skill proficiency? Yes { } No { }
9. Years of experience of staff under assessment 1 – 10 { } 11 -20 { } 21 -30 {} 31 – 40 { } 41-50 { } 51 - 60 { } 61and above { }
10. Institutional ownership - Federal Government { } State Government { } Private { }

SECTION B

Assess objectively by ticking (√) the appropriate box that best describes the level of the listed skills in the employee.

KEYS FOR SCORING

5 = Excellent: Displays the work skills **consistently above acceptable levels;** **(**Subordinate displays the skills at all times without exception)

4 = Very Good: Displays the work skills **occasionally above acceptable** level and otherwise meets acceptable levels;
(Subordinate displays the skills at high level not without exception)

3 = Good: Displays the work skills to **meet acceptable levels;**
(Subordinate displays work skill to achieve desired expectation with errors but corrected quickly)

2 = Poor: Displays work skills **occasionally below acceptable levels;**
(Subordinate displays work skills but needs major improvement)

1 = Very Poor: Displays work skills **consistently below acceptable levels;** **(**Subordinate does not display work skills at all)

S/N	ITEMS The staff being assessed	1	2	3	4	5
1	uses management terminologies appropriately at all times					
2	is loyal to the organization					
3	does not need monitorimng when assigned a task at all times					
4	is meticulous in handling correspondence					
5	disengages from other activities while taking instruction from the boss					
6	cooperates with people of different personalities, race, gender etc					
8	asks pertinent questions which yield the information needed					
9	envisages problems and proffers solutions					
10	exercises enough patience to grasp the full meaning of a discussion					
11	exchanges ideas with his/her colleagues to achieve difficult tasks					
12	has ability to interpret information correctly .					
13	makes good use of his/her experience to perform tasks					
14	affects his/her colleagues positively with his/her knowledge about the job					
16	seeks for improved knowledge					
17	dresses smartly					
18	honest in all his/her dealings with people					
19	has foresight to make things happen					
20	acts without being told					
22	does not engage in fraudulent actions					
23	takes note during discussions					
24	gesticulates while presenting a case or speaking					
25	uses eyes contact to relay his/her message especially while condemning an action					
26	uses his/her body to convey message to colleagues					
27	analyses pattern of how things happen					
28	reaches decisions in cooperation with others					
30	clever in his/her choice of words while arguing					

31	appreciates individual difference among colleagues					
32	gets along with diverse group of people in order to get task/s accomplished					
33	consults with supervisor/s when necessary					
35	supports other staff in time of need					
36	envisages problems and proffers solutions					
37	assists other staff in order to achieve set goals					
41	shares openly and willingly					
42	functions as an active participant in group work					
43	is careful in his/her dealing with other staff.					
45	does his/her job thoroughly					
46	is meticulous at handling task/s					
47	oral expression is clear					
49	does not shirk in his/her duties					
50	likes orderliness					
51	gets to meetings on time					
52	gets to office early					
53	has regards to the attendance register					
55	is dependable					
56	performs task assigned to him/her exactly at the time appointed					
57	organises his tasks					
58	is eager to achieve goals					
59	is emotionally stable while working under pressure					
60	defends organisational objectives					
61	handles office tasks skillfully					
62	takes office work home for completion					
63	works with little supervision					
64	performs tasks promptly					
65	closes late in order to finish daily task					
66	does not grumble in responding to different requests in the office					
67	performs task according to lay down procedure					
68	performs duties to meet up with dead line					
69	performs multitask without complain					
70	possesses different skills thereby useful in diverse ways					
71	is morally disciplined					
72	has strong believe in what is right					
73	analyses tasks accurately					
74	investigates issues appropriately					
75	is almost flawless at job delivery					
76	has knowledge of information Communication Technology (ICT)					
77	accepts responsibility for the effect of his/her action					
78	is trustworthy					
79	fulfills promises made					
80	has an eye for detail					
81	controls his/her reactions to office matters					
82	recognises when help/advice is needed and gets it					
84	presents issues with confidence					
85	jokes with colleagues to achieve goal					

86	uses computer to make his/her work faster					
87	listens attentively during discussions					
88	weighs pros and cons before making decisions					
89	is restless when things are not done properly					
90	always on the move to accomplish tasks					
91	is resourceful					
92	takes timely and effective action					
93	possesses ability to think about issues carefully					1
94	explains issues in detail for the purpose of understanding					
95	writes report clearly with little or no mistakes					
96	is not disposed to cheating					
97	is not disposed to stealing					
97	tells the truth about an issue					
98	follow up tasks to ensure appropriate delivery					
99	analyses tasks accurately					
100	investigates issues appropriately					
101	controls tasks					
102	diagnoses issues appropriately					
103	is composed while facing any challenge					
104	is always ready to get solution to every challenge he/she faces					
105	takes appropriate action on problems as necessary					
106	deals appropriately with sensitive matters					
107	is not easily discouraged					
108	can endure hardship					
109	has determination to achieve set objective					
110	proposes solution to problems					
111	can handle stress due to deadlines					
112	tries his/her best and come through without delay					
114	freely contributes his/her idea when there is need					
115	asks questions that need to be asked to meet up deadlines					
116	has regard for starting work early					
119	does not bear grudges					
120	dose not jump into conclusion					
121	recovers easily from depression					
122	controls himself/herself in terms of stress					
123	handles conflict maturely					
124	controls his/her anger					
125	tolerates people around him/her					
126	gets along with people					
127	has experience in his/her chosen field					
128	appreciates ideas from other colleagues					
129	prevents crisis from escalating					
130	negotiates when there is conflict					
131	thirsts after broadening his/her experience by pursing additional qualification					
132	assists others by putting them through on a task					
133	embraces knew knowledge					
134	offers to train junior staff under him/her					

135	has inclination to provide services with humility					
137	files documents appropriately					
138	is firm in decision making					
139	thinks about cases in an intelligent way					
140	performs tasks sequentially					
141	evaluates self- achievement/s					
143	finds different ways to get solution to problem					
144	shows respect to both senior and junior colleagues					
145	accepts rebuke					
146	retrieves documents easily					
147	does not rate himself/herself above others					
148	carefully chooses his/her words while dealing with colleagues					
150	keeps records/document from being damaged					
151	appreciates ideas from other colleagues					
152	organises his/her office					
153	receives documents appropriately					
154	has ability to control people under him/her					
155	applies appropriate security measures on official documents					
156	deals appropriately with confidential information					
157	manages information and data effectively					
158	influences an individual or a group of people					
159	keeps official confidential information secret					
160	demonstrates understanding for being organised					
161	embraces new knowledge					
162	admits his/her own limitations					
163	demonstrates effective leadership skills as appropriate					
164	supervises office work diligently					
165	is quick to understand issues					
166	assists other staff					
167	builds good rapport with colleagues					
168	possesses good representation of the institution in the public					
169	accepts academics that helps him/her to grow professionally					
170	accepts new innovations					
171	is open to learning					
172	leads a group of people successfully					
173	plan's ahead of time					
174	faces criticism willingly over his/her action					
175	gives new idea of performing certain task					
176	re-arranges office for a better and conducive environment					
177	accepts changes					
178	complies with rules and regulations					
179	is open to new idea/s					
180	has confidence in the ability of others					
181	possesses diverse knowledge					
182	gets new ideas of doing something in a better way					
183	dose not wait to be told what is necessary to be done					
184	picks up himself/herself whenever he experiences failure					
185	holds himself/herself in high esteem					

186	organises his/her time					
187	proritises task					
188	does not procrastinate					
189	uses his/her time constructively					
190	he/she is a go-getter					
191	receives compliment graciously					
192	he/she is always optimistic					
193	consults with co-workers as necessary					
194	handles crisis tactically to get result					
195	corrects colleagues in a convincing manner					
196	convinces an individual to his/her side					
197	does not react negatively to complaints about his/her work					
198	thinks out of the boxes to tackle issues					
199	Gives information logically					
200	likes brainstorming					
201	sticks to his/her plan					
202	is not easily distracted					

APPENDIX VI
OPEN ENDED QUSTIONNAIRE
INTERNATIONAL CENTRE FOR EDUCATIONAL EVALUATION
INSTITUTE OF EDUCATION
UNIVERSITY OF IBADAN, IBADAN

An Evaluation of the rating of University Senior Non-academic Staff work skills on the Annual Performance Evaluation Report (APER) form.

Dear Respondent,

This open-ended questionnaire is to solicit for information on how the appraisal format currently in use to appraise performance of Senior Non-academic Staff in your University can be improved upon.

All information gathered from this questionnaire will be treated as confidential as the information is purely for research purpose.

Thank you, Sir/Ma
Signed
Researcher.

SECTION A
DEMOGRAPHIC INFORMATION

1. Institution……...
2. Designation……

3.Department……

4.Yearsofexperience……

5.Gender……

SECTION B

Kindly give your candid opinion about the following:

6. Do you think the appraisal format used for assessing the Senior Non-academic Staff presently is appropriate? Yes/No

7. If "No" to item 6 give reasons
i ……
ii ……
ii……
iv……
v……

8. If "Yes" to item 6 give reason There is a number of confusion here.
i……
ii…….
iii……
iv……
v……

9. Do you agree with the fact that the **APER** form used currently is highly subjective in nature? Yes/No
10. What format or system do you think the University should adopt in order to make the appraisal\ rating of Senior Non-academic Staff performance objective?

i……
ii……
iii……
iv……
v……

APPENDIX VII
GROUP DISCUSSION REPORT

Introduction

A Group Discussion was organised by the researcher with some Staff of Federal University of Agriculture, Abeokuta (FUNAAB). It was held on Aug. 12, 2015. The purpose of the discussion was to gather information on how to improve on the Annual Performance Evaluation Report (APER) used to assess the skills of University Senior Non-academic Staff (USNS) and source for more work skills required for productivity among this category of staff.

Participant Demographics:

Ten participants took part in the discussion - Six men and four women
Four of them have over ten years of working experience while six have close to ten years working experience.
Five were professional Administrators, two Accountants and three Technologists.

Through the GD the researcher gathered information to assist the research work on development of Work skills scale for assessing performance of University Senior Non-academic Staff (USNS) in Southwestern, Nigeria. Participants provided information through the discussion with respect to the following outcomes:
1. Deficiencies of the existing Annual Performance Evaluation Report (APER) form.
2. Identification of the skills that the Senior University Non-academic Staff (SUNS) should possess in order to enhance performance.
3. Identification of the indicators of each identified skills.

Discussion under each outcome
Outcome 1: What are the deficiencies of the existing APER form and how can the deficiencies be reduced or avoided?

Eight out of the participants indicated that the APER form has many deficiencies. Among the deficiencies identified are; clash of interest between the supervisor and the staff being assessed, subjectivity of the APER form, lack of job factor "the form did not show the job performed by the staff". Samples of the APER form used in some of the Universities except that of University of Lagos. Three among the participants shared their experiences with the problem of subjectivity, clash of interest and personality clash which some supervisors based the assessment on.

Suggested solution to the problems of the APER form
Five among the participants suggested that the rating of a staff should not depend on only one person's rating. They believe that the rating should be done by the supervisor that an individual works with in the period under review and other co-workers should be allowed to rate a staff.

The factors to look out for when assessing staff skills should be embedded in the form. Morals and some values should be encouraged by its inclusion in the assessment form. They agreed that it would reduce sharp practices in the University system and also enhance productivity..

Outcome 2: What other skills are supposed to be appraised/assessed among the USNS?

The participants contributed individually. In addition to the existing ones, the following skills were identified; time management, self-management, job knowledge, computer literacy, communication skills, uprightness and integrity.

Outcome 3: What are the indicators of each of the skills listed?

They discussed extensively on some skills and factors to look out for while measuring them are listed out as follows:
1. Punctuality: Regard for the attendance register, being regular at work, being available at one's duty post, punctuality at meetings
2. Self-management: Temperament control, resource management (human in terms of
3. interpersonal relationship and material), appearance with reference to the dexterity of the staff, personal problem should not be brought to the workplace
4. Time–management: Timeliness, meeting up with deadline,
5. Initiative, Foresight, creativity and proactive skills: These words are interwoven-acting ahead. When a staffer does not wait to be told to do something.
6. Communication skills: This is in three ways – oral, written and non verbal such as gestures- writing memoranda clearly in a lucid language; a staff should be able to speak good and correct English; a staff should be able to present issues/cases in a way that co-workers will understand him/her.

The facilitator asked how gestures can enhance performance. One of the participants responded that "while in a meeting or trying to meet up with deadline, gestures can be used to get some tasks done". Other participants agreed with this position.
The session ended with appreciation of the participants by the facilitator and light refreshment was served to all the participants present.

APPENDIX VIII

Population Frame of Universities in Southwestern, Nigeria

S/N	State	Name of University	Ownership	Institutions Selected with label
1	Oyo	1.University of Ibadan, Ibadan (UI)	Federal	Selected (1)
		2. Ladoke Akintola University of Technology, Ogbomoso (LAUTECH)	State	Selected (2)
		3. Lead City University, Ibadan	Private	
		4. Ajayi Crowther University, Oyo	Private	Selected (3)
		5. Kola Daisi University, Ibadan	Private	
		6. Technical University, Ibadan	Private	
		7. AtibaUnivertsity, Oyo	Private	
		8. Dominican Universitry, Ibadan	Private	
2	Osun	1.Obafemi Awolowo University, Ile-Ife (OAU)	Federal	Selected (4)
		2.Osun State University, Osogbo (OSU)	State	Selected (5)
		3.Adeleke University, Ede	Private	
		4.Fouintain University, Oke-Osun, Osogbo	Private	
		5.Joseph Ayo Babalola Univetrsity, Ikeji-Arakeji	Private	
		6.Oduduwa University, Ipetumodu, Ile-Ife	Private	
		7.Bowen University, Iwo	Private	Selected (6)
		8.Fountain University, Osogbo	Private	
		9. Redeemer's University, Ede	Private	
		10. Kings University, Odeomu	Private	
3	Lagos	1.University of Lagos, Akoka (UNILAG)	Federal	Selected (7)
		2.Lagos State University, Ojo, (LASU)	State	Selected (8)
		3.Caleb University, Imota, Ikeja	Private	Selected (9)
		4.Pan-Atlantic University, Victoria Island	Private	
		5.Redeemer's University, Ikeja	Private	
		6. Anchor University, Ayobo	Private	
4	Ogun	1.Federal University of Agriculture, Abeokuta (FUNAAB)	Federal	Selected
		2.Olabisi Onabanjo University, Ago Iwoye (OOU)	State	(10)
		3.Tai Solarin University of Education, Ijagun, Ijebu-Ode (TASUED)	State	
		4.Babcock University, Ilishan-Remo	Private	Selected
		5.Bells University of Technology, Ota	Private	(11)
		6.Covenant University, Ota	Private	
		7.Crawford University of Apostolic Faith Mission,Igbesa	Private	
		8.Crescent University, Abeokuta	Private	
		9.McPherson University, Seriki Sotayo	Private	
		10.Southwestern University, Okun-Owa	Private	
		11.Chrisland University, Abeokuta	Private	
		12. Chritopher University, Mowe	Private	Selected
		13. Hallmark University, Ijebu-Itele	Private	(12)
		14. Mountaintop University, Makogloba.		
		15. Southwestern University, Okun Owa		
5	Ondo	1.Federal University of Technology, Akure (FUTA)	Federal	Selected
		2.Adekunle Ajasin University, Akungba-Akoko	State	(13)
		3.Ondo State University of Technology, Okitipupa (OSUTECH)	State	
			State	Selected

		4. Ondo State University of Medical Science, Ondo 5.Achievers University, Owo 6.Elizade University, Ilara-Mokin 7.Wesley University of Science and Technology, Ondo 8. St. Aug.ine Universityt, Ilara	Private Private Private Private	(14) Selected (15)
6	Ekiti	1.Federal University of Oye-Ekiti (FUOYE) 2.Ekiti State University, Ado-Ekiti (EKSU) 3.Afe Babalola University, Ado-Ekiti	Federal State Private	Selected (16) Selected (17) Selected (18)

Source: Joint Admission Matriculation Board (JAMB) Brochure (2018)

APPENDIX IX
MANUAL FOR THE USE OF SENIOR UNIVERSITY NON-ACADEMIC WORK SKILLS SCALE (SUNSWSS)

A. Introduction

This research took a step to identify existing measures of work skills that are related to the job performed by the University Senior Non-academic Staff (USNS) in the University system. A new measurement instrument identified as SENIOR UNIVERSITY NON-ACADEMIC WORK SKILLS SCALE (SUNSWSS) with clear rubrics and indices was developed, validated and utilised in order to recommend it for use in the University system for a fairly objective assessment of the USNS. It is an instrument that can adequately measure the work skills dimensions that form part of the personality orientation of the University Senior Non-academic Staff. This involved determining the exact indicators of each dimension of work skills more comprehensively. Empirical data was gathered with the measurement instrument and provided information on whether the 39-items of three-dimensional structure of work skills with the indicators are related.

B. Purpose of this Manual

The manual aims to describe the development and use of a 39-item SUNSWSS, giving the users a background on the instrument and describing its psychometric properties and guide on how to use the scale.

C. Rationale for the Development of the Instrument

Objective assessment of officers' work skills has remained a troublesome cleft in the Nigerian Civil and Public Services. Assessment of personality orientation which consists of work skills of the University Senior Non-academic Staff forms the basis for their promotion and salary increment yearly. Therefore, the staff Annual Performance Evaluation Report (APER) form is germane to this exercise in the University system. Assessment of the personality orientation of staff in the APER forms carries more weight than other sections. However, the constructs being assessed do not have simplified rubrics, indices, frequency of exhibition of the work skills by the officers to perform given tasks and lack of work related content to guide the assessors. These have affected objective assessment of the USNS. These short comings have reduced the exercise to a mere routine. Again many researchers had suggested the need to review the APER form used in the Public and Civil Services which most of the Universities have curled through adoption or adapting the ones they are using.

D. Procedure for the Development of University Senior Non-academic Staff Work Skills items

Step one: Item generation involved the initial writing of an open-ended questionnaire by the researcher that was administered to the representative sample of the target population, Questions were asked on the deficiencies of the existing APER form and how the form could be improved upon. The questionnaire was administered to 20 USNS. The selection of the items was done through an empirical criterion key. Items were retained if more than twenty percent of the respondents listed it in their response. Also, items were generated from the round table discussion and the researcher's base experience. Again, some indicators of the skills were sourced through reviewed literature. Items generated covered the components of Work skills (Human skills - intra personal relationship, inter personal relationship, emotional intelligence, values,

conceptual skills and general technical skills). Finally, a total of 202 pooled items from these three sources was organised for expert review.

Step two: To establish the content validity of the SUNSWSS, the researcher's Supervisor and three experts in Educational Evaluation examined, reviewed the correctness and appropriateness of the initial draft of the scale. Items that were double barrelledl were restructured and those that were repeated or similar were adjusted. The original 202 pooled items were reduced to one hundred and sixty-seven (167). The information provided on each of the item based on expert review was used to re-write a pool of 167 items.

Step three: Ten (10) experts in the field of Management who have University administrative experience examined the extent to which the items measured work skills of the USNS and the items were rated on the scale which was simplified under some items on a three point scale described under 1 = Relevant, 2 = Not Relevant 3 = Restructure. Their suggestions were used to restructure and polish some of the items. Twenty-three (23) items were expunged from the 167 items. The procedure propounded by Lawshe (1975) and Lynn (1986) was followed. Lawshe's (1975) formula for calculating Content Validity Ratio (CVR) was used to calculate the CVR of the instrument $CVR = \frac{ne - N/2}{N/2}$

This gave CVI of 0.9. At this stage the scale was left with One hundred and fourty-four (144) items. The result can be found in Appendix IV. The face validity in terms of appearance, organisation of the items, font size and typing format of the instrument was examined by the researcher's Supervisor.

Step four: A five point scale was developed using these items. A score of five indicates the maximum possible positive score for an item while a score of one was assigned to the minimum possible negative response.

E. SENIOR UNIVERSITY NON-ACADEMIC WORK SKILLS SCALE (SUNSWSS)

The scale was designed to rate the work skills of the SUNS. The most senior staff/Supervisor/ Head of each of the 12 Units that constitute the Senior University Non-academic Staff in each of the selected Universities rated their subordinate. The scale was divided into two sections. Section A includes general information about the selected staff and the institution while section B consists of generated items to assess Work skills of the USNS. The selected sample Work skills were rated on the scale which was simplified under some items on a five point scale described under 1 = Very Poor, 2 = Poor, 3 = Good, 4 = Very Good and 5 = Excellent. The keys for appraising and scoring the staff on each item are as follows:

5 = Excellent:	Displays the work skills **consistently above acceptable levels;** **(**Subordinate displays the skills at all times without exception)
4= Very Good:	Displays the work skills **occasionally above acceptable levels**;

(Subordinate displays the skills at high level not without exception)

3= Good: Displays the work skills to merely meet **acceptable levels;**

(Subordinate displays work skill to achieve desired expectation with errors but corrected quickly)

2= Poor: Displays work skills **occasionally below acceptable levels;**

(Subordinate displays work skills but needs major improvement)

1= Very Poor: Displays work skills **consistently below acceptable levels;** (Subordinate does not show work skills at all).

The above scoring format shows the rubrics and the indices which also depicts frequency of the display or usage of the skills.

Step Five: Pilot Testing

After establishing the content and face validity, the pool of items (144 items) was administered. Pilot testing was carried out on a small sample of two hundred and fifty-one (251) USNS. The sample was drawn from three Universities in Ogun State, 1 Federal, 1 State and 1 Private. The sample was used for the operationalisation of the concepts, which was associated with the adequacy of the sample, method of data collection, elimination of items that did not contribute to the study, selection of the most adequate items and identification of the dimensions of the instrument. EFA was employed for selection of items. Eight (8) items that did not meet one of the criteria of factor loading of 0.3 and above at this stage were eliminated.

Step Six: Final scale of University Senior Non-academic Staff Work Skills' items

The initial items of University Senior Non-academic Staff Work Skills were validated at two different stages to get the final scale of a 39-items scale, University Senior Non-academic Staff Work Skills Scale. Powerful statistical tools were used to ascertain the reliability and the validity of the scale. Exploratory Factor Analysis, Parallel Analysis, Confirmatory Factor Analysis and IRT were used to achieve validity, item fit and model fit of the final items of the three factors. Others are convergent validity, the reliability of the items and the entire scale were determined by calculating the ordinal alpha, Average Extracted Variance (AVE), Composite Reliability (CR), The scale was administered three times in the interval of four months to establish the reliability.

F. SUMMARY OF SUNSWSS INSTRUMENT

The 39-item scale uses individual level of possession of work skills in the University system in relation to the goal expectations and standards of the University system. The instrument was developed, validated and utilised using 18 Universities from South – West, Nigeria over a period of 24 months. The scale was field tested in 6 Universities. It yielded multi-dimensional factors across work skills**.** The validity and reliability coefficients of the items and the whole scale were high enough to recommend it for use.

The three dimensions are:

1) Basic Skills (BS): The items that constitute the first factor are 20 items, which include items that are related to problem solving, handling of documents,

doggedness/resilience, writing clearly, conscientiousness, emotional intelligence and planning. This factor is in support of Kechagias (2011) and Koopmans *et al.* (2011). The studies listed the above-mentioned skills as indicators of job performance.

2) Personal Attitude to Work (PAW): The second factor has thirteen (13) items. The items depict positive attitude of individual to work. This sub-scale consists of items that depict positive attitude of individual to work. Such items are ability to manage one's time effectively, confidence, ability to learn from criticism, adaptability, innovation, ability to manage conflict, planning and Self-management.

3) **Workplace Values (WpV):** The third factor consists of six (6) items. The content of the items of the factor entails items relating to honesty, personal integrity, devotion to the truth and values that must be imbibed by employees to positively affect organisational productivity.

APPENDIX X

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.975
Bartlett's Test of Sphericity	Approx. Chi-Square	185580.936
	Df	9180
	Sig.	.000

Communalities

	Initial	Extraction
uses management terminologies	.657	.611
is loyal to the organisation	.749	.657
does not need monitoring when assigned a task at all times	.721	.606
is meticulous in handling correspondence	.681	.603
disengages from other activities while taking instruction from boss	.742	.625
cooperate with people of different personalities	.677	.539
askes questions which yield the information needed	.756	.647
envisages problems and proffers solutions	.716	.575
exertcises enough patience to grasp the full meaning of a discussion	.758	.643

exchanges ideas with his/her colleagues to achieve results on difficult tasks	.746	.623
has ability to interpret information correctly	.755	.665
affects his/her colleagues positively with his/her knowledge about the job	.723	.625
seeks for improved knowledge	.723	.594
dresses smartly	.684	.531
honest in all his/her dealings with people	.454	.368
has foresight to make things happen	.746	.626
Takes appropriate action when required	.762	.619
does not engage in fraudulent activities	.762	.660
takes note during discussions	.713	.530
analyses pattern of how things happen	.798	.702
reaches decisions in cooperation with others	.791	.650
appreciates individual difference among colleagues	.730	.621
consults with supervisor/s when necessary	.767	.681

supports other staff in time of need	.822	.763
assists other staff in order to achieve set goals	.804	.743
shares whatever he has willingly	.805	.719
functions as an active participant in group work	.806	.731
is careful in his/her dealing with other staff.	.292	.171
does his/her job thoroughly	.777	.645
oral expression is clear	.765	.634
likes orderliness	.803	.695
gets to meetings on time	.774	.685
gets to office early	.767	.625
has regards for the attendance register	.815	.671
organizes his/her tasks	.761	.653
is dependable to achieve goals	.806	.668
is emotionally stable while working under pressure	.839	.736
defends organizational objectives	.806	.696
handles office tasks skillfully	.838	.733
takes office work home for completion when necessary	.628	.450
Performs tasks promptly	.819	.659
closes late in order to finish daily task	.663	.502

does not grumble in responding to different requests in the office	.808	.725
performs task according to laid down procedure	.804	.731
possesses different skills thereby useful in diverse ways	.767	.685
is morally upright	.799	.693
has strong believe in what is right	.800	.721
analyses tasks accurately	.773	.669
Investigates issues appropriately	.779	.664
is almost flawless at job delivery	.733	.581
has knowledge of information Communication Technology (ICT)	.704	.595
accepts responsibility for the of his/her action	.783	.672
fulfills promises made	.761	.648
has an eye for detail	.761	.636
controls his/her temperament in the office in order to get results	.746	.623
recognizes when help/advice is needed and gets it	.379	.131
presents issues with confidence	.756	.608

Is cordial with colleagues to achieve goal	.732	.587
Uses computer to make his/her work faster	.696	.589
listens attentively during discussions	.734	.593
is not satisfied when things are not done properly	.771	.596
is resourceful	.800	.668
Takes timely action that becomes effective	.821	.724
possesses ability to think about issues carefully	.804	.704
explains issues in detail for the purpose of understanding	.814	.722
writes report clearly with little or no mistakes	.772	.655
is not disposed to cheating	.842	.761
is not disposed to stealing	.866	.823
tells the truth about an issue	.843	.750
Follow up tasks to ensure appropriate delivery	.812	.707
diagnoses issues appropriately	.404	.307
is composed while facing any challenge	.832	.672
is always ready to get solution to every challenge he/she faces	.836	.751

takes appropriate action on problems as necessary	.848	.747
deals appropriately with sensitive matters	.841	.724
is not easily discouraged	.829	.747
Is dogged	.784	.644
has determination to achieve set objective	.790	.681
tries his/her best to come through without delay	.838	.727
freely contributes his/her idea when there is need	.827	.732
asks questions that need to be asked to meet up deadlines	.825	.748
has regard for starting work early	.330	.247
does not bear grudges	.793	.699
does not jump into conclusion	.816	.710
controls himself/herself in terms of stress	.787	.693
handles conflict maturely	.733	.609
controls his/her anger	.820	.704
gets along with people	.764	.701
has experience in his/her chosen field	.782	.661
appreciates ideas from other colleagues	.807	.714

prevents crisis from escalating	.795	.714
negotiates when there is conflict	.720	.548
thirsts after broadening his/her experience by pursuing additional qualification	.802	.631
embraces knew knowledge	.761	.605
has inclination to provide services with humility	.809	.721
handles documents appropriately	.798	.697
is firm in decision making	.795	.739
thinks about cases in an intelligent way	.817	.742
performs tasks sequentially	.781	.673
develops a feedback mechanism for self evaluation	.772	.634
finds different ways to get solution to problem	.802	.715
shows respect to both senior and junior colleagues	.792	.693
lends himself/herself to corrections	.788	.708
establishes proper documentation procedure	.796	.667
keeps records/document from being damaged	.763	.680

appreciates ideas from other colleagues	.775	.746
has ability to control people under him/her	.656	.569
influences an individual or a group of people to achieve office task	.713	.616
keeps confidential information secret	.791	.739
admits his/her own limitations	.724	.551
demonstrates effective leadership skills as appropriate	.798	.641
supervises office work effectively	.740	.650
possesses good representation of the institution in the public	.776	.661
accepts teachings that helps him/her to grow professionally	.781	.671
accepts positive changes	.743	.615
plan's ahead of time	.391	.311
gives new idea of performing certain task	.779	.670
re-arranges office for a better and conducive environment	.792	.714
complies with rules and regulations	.739	.622
has accurate assessment of colleagues' ability	.767	.621

speedily recovers from set back	.754	.677
is confident	.774	.650
organises his/her time	.804	.736
does not procrastinate	.760	.665
uses his/her time constructively	.777	.670
he/she is a goal-getter	.327	.126
receives compliment graciously	.769	.656
he/she is always optimistic	.731	.604
consults with co-workers as necessary	.311	.239
handles crisis tactically to get result	.792	.682
corrects colleagues in a convincing manner	.791	.674
thinks out of the box to tackle challenges	.749	.644
Gives information logically	.786	.644
uses brainstorming as a toolfor solving problems	.748	.650
sticks to his/her plan	.770	.675
is not easily distracted	.770	.671

Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	63.901	46.986	46.986	63.561	46.736	46.736	51.240
2	4.347	3.196	50.182	3.989	2.933	49.669	51.508
3	2.604	1.915	52.097	2.263	1.664	51.333	41.381
4	2.298	1.690	53.787	1.967	1.446	52.779	44.283
5	2.113	1.554	55.340	1.779	1.308	54.088	29.704
6	1.892	1.391	56.732	1.563	1.149	55.237	25.308
7	1.722	1.266	57.997	1.385	1.018	56.255	38.385
8	1.643	1.208	59.205	1.298	.954	57.210	30.987
9	1.429	1.051	60.256	1.071	.788	57.997	26.683
10	1.366	1.005	61.261	1.015	.746	58.744	30.065
11	1.297	.954	62.215	.946	.695	59.439	42.778
12	1.206	.887	63.101	.852	.626	60.065	39.972
13	1.205	.886	63.987	.841	.618	60.683	17.454
14	1.162	.854	64.841	.801	.589	61.273	5.522
15	1.148	.844	65.685	.788	.579	61.852	8.754
16	1.109	.816	66.501	.751	.552	62.403	7.654
17	1.070	.787	67.288	.695	.511	62.915	14.738
18	1.058	.778	68.066	.673	.495	63.409	12.293
19	1.015	.746	68.812	.644	.474	63.883	8.876
20	.999	.735	69.546				
21	.968	.711	70.258				
22	.946	.696	70.954				
23	.909	.669	71.622				
24	.899	.661	72.284				
25	.893	.657	72.940				
26	.878	.646	73.586				
27	.838	.616	74.202				
28	.824	.606	74.808				
29	.816	.600	75.408				
30	.812	.597	76.005				
31	.779	.572	76.578				
32	.753	.554	77.132				
33	.751	.552	77.684				
34	.727	.535	78.219				
35	.703	.517	78.736				

36	.702	.516	79.252				
37	.683	.502	79.754				
38	.661	.486	80.240				
39	.646	.475	80.714				
40	.637	.468	81.182				
41	.622	.457	81.640				
42	.613	.450	82.090				
43	.602	.443	82.533				
44	.586	.431	82.963				
45	.584	.429	83.393				
46	.570	.419	83.812				
47	.560	.412	84.224				
48	.542	.399	84.622				
49	.539	.397	85.019				
50	.527	.387	85.406				
51	.515	.379	85.785				
52	.507	.373	86.158				
53	.483	.355	86.513				
54	.470	.346	86.859				
55	.454	.334	87.192				
56	.449	.330	87.522				
57	.443	.326	87.848				
58	.440	.324	88.172				
59	.428	.315	88.486				
60	.420	.309	88.795				
61	.411	.302	89.097				
62	.404	.297	89.394				
63	.394	.290	89.684				
64	.392	.288	89.972				
65	.389	.286	90.258				
66	.378	.278	90.536				
67	.362	.266	90.802				
68	.359	.264	91.066				
69	.354	.260	91.326				
70	.341	.251	91.577				
71	.337	.248	91.824				
72	.328	.241	92.065				
73	.315	.232	92.297				
74	.311	.229	92.526				
75	.301	.222	92.748				
76	.299	.219	92.967				
77	.295	.217	93.184				
78	.285	.209	93.394				
79	.282	.207	93.601				
80	.281	.206	93.807				

81	.277	.203	94.010				
82	.267	.196	94.207				
83	.263	.194	94.400				
84	.257	.189	94.590				
85	.249	.183	94.773				
86	.242	.178	94.951				
87	.239	.176	95.127				
88	.231	.170	95.297				
89	.228	.167	95.464				
90	.222	.164	95.628				
91	.219	.161	95.789				
92	.215	.158	95.947				
93	.211	.155	96.102				
94	.208	.153	96.255				
95	.204	.150	96.405				
96	.194	.143	96.548				
97	.189	.139	96.687				
98	.187	.138	96.825				
99	.182	.134	96.958				
100	.176	.129	97.088				
101	.172	.127	97.214				
102	.168	.124	97.338				
103	.165	.121	97.459				
104	.164	.120	97.579				
105	.159	.117	97.696				
106	.151	.111	97.807				
107	.147	.108	97.915				
108	.144	.106	98.021				
109	.140	.103	98.124				
110	.136	.100	98.225				
111	.135	.100	98.324				
112	.132	.097	98.421				

113	.129	.095	98.516				
114	.127	.093	98.610				
115	.123	.090	98.700				
116	.119	.087	98.787				
117	.112	.082	98.869				
118	.110	.081	98.950				
119	.106	.078	99.029				
120	.101	.074	99.103				
121	.100	.074	99.177				
122	.096	.071	99.247				
123	.093	.069	99.316				
124	.091	.067	99.383				
125	.089	.065	99.448				
126	.085	.062	99.511				
127	.081	.059	99.570				
128	.078	.057	99.627				
129	.075	.055	99.683				
130	.073	.054	99.736				
131	.070	.051	99.788				
132	.067	.049	99.837				
133	.061	.045	99.882				
134	.059	.044	99.926				

13	.052	.038	99.964				
5							
13	.049	.036	100.00				
6			0				

Extraction Method: Principal Axis Factoring.

Factor	1	2	3	4	5	6
1	1.000	.758	.621	.683	.626	.460
2	.758	1.000	.673	.720	.555	.550
3	.621	.673	1.000	.681	.491	.522
4	.683	.720	.681	1.000	.568	.542
5	.626	.555	.491	.568	1.000	.359
6	.460	.550	.522	.542	.359	1.000
7	.649	.656	.580	.606	.463	.512
8	.553	.571	.474	.535	.462	.381
9	.546	.579	.426	.473	.396	.387
10	.521	.591	.564	.571	.370	.432
11	.702	.690	.635	.680	.591	.479
	.651	.665	.678	.701	.476	.439

Factor Correlation Matrix

Factor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	1.000	.758	.621	.683	.626	.460	.649	.553	.546	.521	.702	.651	.440	.201	.317	.203	.348	.367	.282
2	.758	1.000	.673	.720	.555	.550	.656	.571	.579	.591	.690	.665	.427	.194	.322	.215	.371	.335	.284
3	.621	.673	1.000	.681	.491	.522	.580	.474	.426	.564	.635	.678	.432	.203	.358	.204	.321	.321	.327
4	.683	.720	.681	1.000	.568	.542	.606	.535	.473	.571	.680	.701	.406	.214	.320	.233	.306	.274	.318
5	.626	.555	.491	.568	1.000	.359	.463	.462	.396	.370	.591	.476	.291	.136	.162	.183	.291	.267	.300
6	.460	.550	.522	.542	.359	1.000	.512	.381	.387	.432	.479	.439	.155	.135	.272	.185	.265	.219	.178
7	.649	.656	.580	.606	.463	.512	1.000	.611	.390	.531	.582	.641	.472	.242	.124	.250	.410	.366	.237
8	.553	.571	.474	.535	.462	.381	.611	1.000	.420	.460	.516	.568	.340	.282	.052	.339	.411	.485	.301
9	.546	.579	.426	.473	.396	.387	.390	.420	1.000	.366	.536	.426	.315	.033	.204	.275	.409	.248	.144
10	.521	.591	.564	.571	.370	.432	.531	.460	.366	1.000	.548	.555	.397	.177	.219	.258	.389	.248	.259
11	.702	.690	.635	.680	.591	.479	.582	.516	.536	.548	1.000	.634	.431	.181	.236	.287	.443	.315	.266
12	.651	.665	.678	.701	.476	.439	.641	.568	.426	.555	.634	1.000	.399	.228	.282	.218	.341	.285	.308
13	.440	.427	.432	.406	.291	.155	.472	.340	.315	.397	.431	.399	1.000	-.053	.083	.147	.270	.226	.191
14	.201	.194	.203	.214	.136	.135	.242	.282	.033	.177	.181	.228	-.053	1.000	-.080	.350	.043	.153	.040
15	.317	.322	.358	.320	.162	.272	.124	.052	.204	.219	.236	.282	.083	-.080	1.000	-.174	.027	-.001	.139
16	.203	.215	.204	.233	.183	.185	.250	.339	.275	.258	.287	.218	.147	.350	-.174	1.000	.349	.286	.058
17	.348	.371	.321	.306	.291	.265	.410	.411	.409	.389	.443	.341	.270	.043	.027	.349	1.000	.295	.157
18	.367	.335	.321	.274	.267	.219	.366	.485	.248	.248	.315	.285	.226	.153	-.001	.286	.295	1.000	.162
19	.282	.284	.327	.318	.300	.178	.237	.301	.144	.259	.266	.308	.191	.040	.139	.058	.157	.162	1.000

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

Pattern Matrix[a]

	Factor		
	1	2	3
b39	.825		
b37	.793		
b38	.725		
b99	.673		
b79	.615		
b73	.599		
b85	.592		
b75	.589		
b95	.577		
b66	.575		
b72	.571		
b45	.565		
b97	.558		
b80	.553		
b76	.544		
b74	.536		
b98	.532		
b100	.532		
b49	.530		
b96	.504		
b81			
b57			
b65			
b54			
b89			
b48			
b64			
b84			
b55			
b123		.854	
b121		.739	
b122		.734	
b117		.729	
b127		.703	
b125		.702	
b130		.692	
b118		.674	
b131		.616	
b114		.608	
b115		.568	
b113		.556	

b135		.548	
b104			
b103			
b90			
b91			
b101			
b102			
b69			.882
b67			.787
b68			.695
b47			.622
b70			.517
b46			.508
b52			
b88			
b62			
b63			
b78			
b58			

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

a. Rotation converged in 10 iterations.

APPENDIX XI

CONFIRMATORY ANALYSIS USING AMOS VERSIO 16

Degrees of Freedom = 699

Minimum Fit Function Chi-Square = 6766.39 (P = 0.0)

Normal Theory Weighted Least Squares Chi-Square = 7466.77 (P = 0.0)

Estimated Non-centrality Parameter (NCP) = 6767.77

90 Percent Confidence Interval for NCP = (6493.69 ; 7049.02)

Minimum Fit Function Value = 4.93

Population Discrepancy Function Value (F0) = 4.93

90 Percent Confidence Interval for F0 = (4.73 ; 5.13)

Root Mean Square Error of Approximation (RMSEA) = 0.084

90 Percent Confidence Interval for RMSEA = (0.082 ; 0.086)

P-Value for Test of Close Fit (RMSEA < 0.05) = 0.00

Expected Cross-Validation Index (ECVI) = 5.56

90 Percent Confidence Interval for ECVI = (5.36 ; 5.76)

ECVI for Saturated Model = 1.14

ECVI for Independence Model = 232.50

Chi-Square for Independence Model with 741 Degrees of Freedom = 319141.36

Independence AIC = 319219.36

Model AIC = 7628.77

Saturated AIC = 1560.00

Independence CAIC = 319462.16

Model CAIC = 8133.03

Saturated CAIC = 6415.88

Normed Fit Index (NFI) = 0.98

Non-Normed Fit Index (NNFI) = 0.98

Parsimony Normed Fit Index (PNFI) = 0.92

Comparative Fit Index (CFI) = 0.98

Incremental Fit Index (IFI) = 0.98

Relative Fit Index (RFI) = 0.98

Critical N (CN) = 161.08

Root Mean Square Residual (RMR) = 0.032

Standardized RMR = 0.039

Goodness of Fit Index (GFI) = 0.78

Adjusted Goodness of Fit Index (AGFI) = 0.76

Parsimony Goodness of Fit Index (PGFI) = 0.70

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Skillful	<---	skills	1.000				
Stable	<---	skills	.992	.035	28.256	***	
Defends	<---	skills	.968	.034	28.449	***	
sequentially	<---	skills	.970	.033	29.791	***	
Through	<---	skills	1.032	.033	31.150	***	
Solution	<---	skills	1.061	.033	31.933	***	
Stress	<---	skills	1.012	.034	29.719	***	
Deals	<---	skills	1.056	.033	32.100	***	
Humility	<---	skills	.974	.034	28.415	***	
Writes	<---	skills	1.021	.036	28.744	***	
Composed	<---	skills	1.041	.033	31.268	***	
Usefulness	<---	Skills	.989	.034	29.090	***	
Firmness	<---	Skills	.987	.033	29.815	***	
contributes	<---	Skills	1.001	.032	31.005	***	
discouraged	<---	Skills	1.041	.034	30.736	***	
appropriate	<---	Skills	1.001	.032	31.502	***	
intelligence	<---	Skills	.924	.032	29.311	***	
Evaluation	<---	Skills	.994	.034	29.467	***	
Investigate	<---	Skills	.906	.032	27.940	***	
Document	<---	Skills	.986	.035	28.591	***	

			Estimate	S.E.	C.R.	P	Label
Time	<---	personal	1.000				
Recovery	<---	personal	.933	.028	33.517	***	
Confident	<---	personal	.977	.029	33.312	***	
New	<---	personal	.973	.029	33.378	***	
compliments	<---	personal	.948	.028	33.934	***	
constructively	<---	personal	.942	.028	33.556	***	
Tactically	<---	personal	.953	.028	33.930	***	
environment	<---	personal	1.060	.031	34.306	***	
Corrects	<---	personal	.896	.028	31.579	***	
Teaching	<---	personal	.961	.030	31.989	***	
Changes	<---	personal	.979	.030	32.460	***	
representation	<---	personal	.998	.030	33.552	***	
Truth	<---	Work	1.000				
Cheating	<---	Work	1.002	.027	36.523	***	
Stealing	<---	Work	1.056	.028	38.185	***	
Believe	<---	Work	.915	.027	33.898	***	
Follow	<---	Work	.951	.027	34.821	***	
uprightness	<---	Work	.971	.029	33.817	***	
Sticks	<---	personal	.953	.030	32.076	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Skillful	<---	Skills	.743
Stable	<---	Skills	.734
Defends	<---	Skills	.739
sequentially	<---	Skills	.770
Through	<---	Skills	.801
Solution	<---	Skills	.818
Stress	<---	Skills	.768
Deals	<---	Skills	.822
Humility	<---	Skills	.738
Writes	<---	Skills	.745
Composed	<---	Skills	.803
Usefulness	<---	Skills	.753
Firmness	<---	Skills	.770
contributes	<---	Skills	.797
discouraged	<---	Skills	.791
appropriate	<---	Skills	.809
intelligence	<---	Skills	.759

			Estimate
Evaluation	<---	Skills	.762
Investigate	<---	Skills	.727
Document	<---	Skills	.742
Time	<---	personal	.808
Recovery	<---	personal	.783
Confident	<---	personal	.779
New	<---	personal	.780
compliments	<---	personal	.790
constructively	<---	personal	.783
Tactically	<---	personal	.790
environment	<---	personal	.796
Corrects	<---	personal	.749
Teaching	<---	personal	.757
Changes	<---	personal	.765
representation	<---	personal	.783
Sticks	<---	personal	.758
Truth	<---	Work	.822
Cheating	<---	Work	.827
Stealing	<---	Work	.851
Believe	<---	Work	.786
Follow	<---	Work	.800
uprightness	<---	Work	.784

Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Skills	<-->	Work	.463	.024	19.289	***	
personal	<-->	Work	.438	.023	19.296	***	
Skills	<-->	personal	.436	.023	19.219	***	

APPENDIX XII

IRTPRO Version 3.0

Output generated by IRTPRO estimation engine Version 5.10 (64-bit)

Project:	AROWOJOLU CFA IRT DATA
Description:	IRT ANALYSIS FOR 3-DIMENSIONS
Date:	11 December 2018
Time:	09:53 AM

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Graded Model Item Parameter Estimates for Group 1, logit: aθ + *c* **(Back to TOC)**

Item	Label	Label	a_1		*s.e.*	a_2		*s.e.*	a_3		*s.e.*
1	b39	Skillful	6	2.54	0.12	7	3.05	0.15	8	1.88	0.12
2	b37	Stable	14	2.20	0.11	15	2.94	0.14	16	1.81	0.11
3	b38	Defends	22	2.45	0.12	23	2.82	0.13	24	1.89	0.11
4	b99	Sequentially	30	2.87	0.14	31	2.74	0.14	32	2.13	0.11
5	b79	Through	38	3.17	0.16	39	3.39	0.17	40	2.49	0.13
6	b73	Solution	46	2.91	0.16	47	3.83	0.18	48	2.87	0.15
7	b85	Stress	54	2.61	0.13	55	2.79	0.13	56	2.19	0.11
8	b75	Deals	62	3.10	0.16	63	3.80	0.18	64	2.93	0.15
9	b95	Humility	70	2.48	0.12	71	2.55	0.13	72	2.00	0.11
10	b66	Writes	78	2.13	0.11	79	2.64	0.12	80	2.17	0.11
11	b72	Composed	86	2.85	0.15	87	3.80	0.18	88	2.89	0.16
12	b45	Usefulness	94	2.52	0.12	95	3.12	0.14	96	2.18	0.12
13	b97	Firmness	102	2.97	0.16	103	2.70	0.16	104	2.39	0.13
14	b80	Contributes	110	2.81	0.15	111	3.43	0.16	112	2.62	0.14

15	b76	Discouraged	118	2.61	0.13	119	3.19	0.15	120	2.43	0.13
16	b74	appropriate	126	2.98	0.16	127	3.97	0.19	128	3.06	0.17
17	b98	intelligence	134	2.81	0.13	135	2.63	0.13	136	2.27	0.12
18	b100	Evaluation	142	3.01	0.14	143	2.79	0.14	144	2.39	0.12
19	b49	Investigate	150	2.20	0.11	151	2.51	0.12	152	2.01	0.11
20	b96	Document	158	2.46	0.12	159	2.33	0.12	160	2.20	0.11
21	b123	Time	166	3.97	0.20	167	1.90	0.12	168	3.56	0.19
22	b121	Recovery	174	3.60	0.17	175	2.10	0.12	176	2.99	0.14
23	b122	Confident	182	3.40	0.16	183	1.93	0.11	184	3.07	0.17
24	b117	New	190	3.11	0.15	191	1.77	0.11	192	2.90	0.14
25	b127	compliments	198	3.11	0.15	199	1.94	0.11	200	2.88	0.14
26	b125	constructively	206	3.15	0.15	207	2.00	0.11	208	3.09	0.15
27	b130	Tactically	214	2.96	0.14	215	1.94	0.11	216	2.95	0.14
28	b118	environment	222	3.22	0.15	223	1.95	0.12	224	2.97	0.14
29	b131	Corrects	230	2.56	0.13	231	1.84	0.10	232	2.46	0.13
30	b114	Teaching	238	2.64	0.12	239	1.75	0.11	240	2.66	0.13
31	b115	Changes	246	2.66	0.13	247	1.84	0.11	248	2.77	0.13
32	b113	representation	254	3.02	0.14	255	2.08	0.12	256	2.68	0.13
33	b135	Sticks	262	3.14	0.15	263	2.21	0.12	264	2.39	0.12
34	b69	Truth	270	1.85	0.13	271	3.21	0.16	272	4.40	0.23
35	b67	Cheating	278	1.81	0.12	279	3.36	0.17	280	4.31	0.20
36	b68	Stealing	286	2.01	0.14	287	4.04	0.22	288	4.80	0.26
37	b47	Believe	293	1.93	0.11	294	2.69	0.13	295	3.14	0.15
38	b70	Follow	301	2.37	0.13	302	3.63	0.17	303	3.14	0.15
39	b46	uprightness	308	2.06	0.11	309	2.61	0.13	310	2.95	0.14

Graded Model Item Parameter Estimates for Group 1, logit: aθ + *c*

Item	Label	Label	c_1		*s.e.*	c_2		*s.e.*	c_3		*s.e.*	c_4		*s.e.*	c_5		*s.e.*
1	b39	Skillful	1	8.89	0.54	2	4.45	0.20	3	0.97	0.08	4	-2.05	0.10	5	-8.22	0.45
2	b37	Stable	9	6.56	0.31	10	4.27	0.19	11	0.88	0.08	12	-2.33	0.10	13	-8.15	0.46
3	b38	Defends	17	7.17	0.37	18	4.67	0.20	19	0.95	0.08	20	-2.25	0.10	21	-7.99	0.43
4	b99	sequentially	25	8.18	0.45	26	4.66	0.20	27	1.11	0.09	28	-2.62	0.11	29	-8.21	0.43
5	b79	Through	33	9.36	0.52	34	5.21	0.24	35	0.72	0.08	36	-2.96	0.12	37	-9.14	0.48
6	b73	Solution	41	8.39	0.43	42	5.77	0.27	43	0.92	0.09	44	-3.03	0.13	45	-9.86	0.54
7	b85	Stress	49	7.58	0.39	50	4.59	0.20	51	0.75	0.08	52	-2.70	0.11	53	-7.39	0.34
8	b75	Deals	57	9.61	0.51	58	5.78	0.27	59	1.31	0.10	60	-2.69	0.12	61	-9.85	0.53
9	b95	Humility	65	6.63	0.32	66	4.23	0.18	67	0.88	0.08	68	-2.21	0.09	69	-8.73	0.62
10	b66	Writes	73	6.40	0.31	74	3.76	0.16	75	0.41	0.07	76	-2.77	0.11	77	-7.13	0.33
11	b72	composed	81	9.23	0.48	82	5.72	0.27	83	0.72	0.09	84	-2.98	0.12	85	-9.81	0.54
12	b45	usefulness	89	7.53	0.38	90	4.35	0.19	91	0.43	0.08	92	-2.77	0.11	93	-9.84	0.66
13	b97	firmness	97	8.08	0.42	98	4.69	0.21	99	0.73	0.08	100	-2.68	0.11	101	-8.52	0.47
14	b80	contributes	105	9.64	0.56	106	5.46	0.25	107	0.86	0.08	108	-2.88	0.12	109	-9.09	0.48
15	b76	discouraged	113	8.22	0.44	114	4.65	0.20	115	0.85	0.08	116	-2.61	0.11	117	-8.63	0.45
16	b74	appropriate	121	11.21	0.67	122	6.31	0.30	123	0.98	0.09	124	-3.16	0.13	125	10.16	0.55
17	b98	intelligence	129	8.10	0.43	130	4.51	0.20	131	1.13	0.08	132	-2.76	0.11	133	-8.91	0.60
18	b100	evaluation	137	8.05	0.42	138	4.41	0.19	139	0.26	0.08	140	-3.04	0.12	141	-8.53	0.45
19	b49	investigate	145	6.82	0.34	146	3.97	0.17	147	0.59	0.07	148	-2.88	0.11	149	-8.55	0.61
20	b96	document	153	6.64	0.33	154	4.26	0.18	155	1.12	0.08	156	-1.94	0.09	157	-7.85	0.44
21	b123	Time	161	11.02	0.69	162	5.54	0.26	163	1.18	0.10	164	-2.89	0.14	165	12.72	1.34
22	b121	recovery	169	9.73	0.55	170	6.26	0.31	171	0.56	0.08	172	-3.12	0.13	173	-9.53	0.58
23	b122	confident	177	9.45	0.54	178	5.55	0.25	179	0.95	0.09	180	-2.40	0.11	181	-9.46	0.59

24	b117	New	185	7.97	0.42	186	4.54	0.19	187	0.76	0.08	188	-2.87	0.12	189	10.13	0.81
25	b127	compliments	193	9.12	0.55	194	4.78	0.21	195	1.13	0.09	196	-2.67	0.11	197	-9.87	0.73
26	b125	constructively	201	8.94	0.49	202	5.30	0.24	203	0.77	0.08	204	-2.84	0.12	205	10.13	0.75
27	b39	tactically	209	7.86	0.42	210	4.57	0.20	211	0.74	0.08	212	-3.03	0.12	213	-9.68	0.69
28	b37	environment	217	7.51	0.38	218	4.45	0.19	219	0.56	0.08	220	-2.92	0.12	221	-8.01	0.39
29	b38	Corrects	225	7.24	0.39	226	4.25	0.18	227	0.84	0.08	228	-2.69	0.11	229	-8.56	0.58
30	b99	teaching	233	7.58	0.43	234	4.06	0.17	235	1.18	0.08	236	-2.17	0.10	237	-8.23	0.49
31	b79	changes	241	6.48	0.32	242	4.25	0.18	243	1.11	0.08	244	-2.46	0.10	245	-8.33	0.48
32	b73	representation	249	9.13	0.55	250	4.68	0.20	251	1.09	0.08	252	-2.19	0.10	253	-8.08	0.41
33	b85	Sticks	257	9.08	0.55	258	4.44	0.19	259	0.70	0.08	260	-2.78	0.11	261	-8.05	0.40
34	b75	Truth	265	8.96	0.49	266	5.56	0.26	267	1.75	0.12	268	-2.54	0.13	269	11.80	0.82
35	b95	cheating	273	8.80	0.49	274	5.59	0.26	275	1.75	0.12	276	-2.59	0.13	277	11.93	0.87
36	b66	Stealing	281	9.75	0.54	282	6.70	0.34	283	1.71	0.13	284	-2.82	0.15	285	11.27	0.63
37	b72	Believe	289	8.01	0.44	290	5.06	0.23	291	1.02	0.09	292	-2.20	0.10			
38	b45	Follow	296	8.36	0.43	297	5.06	0.22	298	0.81	0.09	299	-3.15	0.13	300	-9.48	0.50
39	b97	uprightness	304	6.68	0.33	305	4.28	0.18	306	0.91	0.08	307	-2.14	0.10			

Factor Loadings for Group 1 (Back to TOC)

Item	Label	λ_1	*s.e.*	λ_2	*s.e.*	λ_3	*s.e.*
1	skillful	0.54	0.02	0.65	0.02	0.40	0.03
2	Stable	0.50	0.02	0.66	0.02	0.41	0.03
3	defends	0.54	0.02	0.62	0.02	0.42	0.03
4	sequentially	0.60	0.02	0.57	0.02	0.44	0.02
5	through	0.57	0.02	0.61	0.02	0.45	0.02
6	solution	0.50	0.02	0.65	0.02	0.49	0.02
7	Stress	0.55	0.02	0.59	0.02	0.46	0.02
8	Deals	0.52	0.02	0.64	0.02	0.49	0.02
9	humility	0.56	0.02	0.58	0.02	0.45	0.02
10	Writes	0.49	0.02	0.60	0.02	0.50	0.02
11	composed	0.49	0.02	0.65	0.02	0.50	0.02
12	usefulness	0.52	0.02	0.64	0.02	0.45	0.02
13	firmness	0.60	0.02	0.54	0.02	0.48	0.02
14	contributes	0.52	0.02	0.63	0.02	0.48	0.02
15	discouraged	0.51	0.02	0.63	0.02	0.48	0.02
16	appropriate	0.49	0.02	0.65	0.02	0.50	0.02
17	intelligence	0.59	0.02	0.55	0.02	0.47	0.02
18	evaluation	0.60	0.02	0.55	0.02	0.47	0.02
19	investigate	0.52	0.02	0.59	0.02	0.47	0.03
20	document	0.56	0.02	0.53	0.02	0.50	0.02
21	Time	0.67	0.02	0.32	0.02	0.60	0.02
22	recovery	0.67	0.02	0.39	0.02	0.55	0.02
23	confident	0.65	0.02	0.37	0.02	0.58	0.02
24	New	0.63	0.02	0.36	0.02	0.59	0.02
25	compliments	0.63	0.02	0.39	0.02	0.58	0.02
26	constructively	0.61	0.02	0.39	0.02	0.60	0.02
27	tactically	0.60	0.02	0.39	0.02	0.60	0.02
28	environment	0.63	0.02	0.38	0.02	0.58	0.02
29	corrects	0.59	0.02	0.42	0.03	0.57	0.02
30	Teaching	0.59	0.02	0.39	0.03	0.59	0.02
31	Changes	0.58	0.02	0.40	0.02	0.60	0.02
32	representation	0.62	0.02	0.43	0.02	0.55	0.02
33	Sticks	0.65	0.02	0.46	0.02	0.49	0.02
34	Truth	0.31	0.02	0.54	0.02	0.73	0.02
35	Cheating	0.30	0.03	0.56	0.02	0.72	0.02
36	Stealing	0.30	0.02	0.59	0.02	0.71	0.02
37	Believe	0.40	0.02	0.55	0.02	0.64	0.02

38	Follow	0.42	0.02	0.65	0.02	0.56	0.02
39	Uprightness	0.43	0.02	0.55	0.02	0.62	0.02

Likelihood-based Values and Goodness of Fit Statistics (Back to TOC)

Statistics based on Monte Carlo estimated loglikelihood (95% CI)	
-2loglikelihood:	94818.32 ± 19.94
Akaike Information Criterion (AIC):	95438.32 ± 19.94
Bayesian Information Criterion (BIC):	97058.21 ± 19.94

APPENDIX XIII

Marginal fit (X^2) and Standardized LD X^2 Statistics for Group 1 (Back to TOC)

SUB SET 1

Item S/N	Item	Label	Marginal X^2	1	2	3	4	5	6	7	8	9	10
1	b39	Skillful	6.1										
2	b37	Stable	1.6	4.0									
3	b38	Defends	7.9	8.8	3.4								
4	b99	sequentially	5.8	7.0	7.6	9.4							
5	b79	Through	6.8	4.8	4.2	9.1	4.9						
6	b73	Solution	1.8	6.8	4.2	8.0	9.1	7.5					
7	b85	Stress	3.0	0.3	6.7	5.2	4.4	2.6	8.8				
8	b75	Deals	8.5	4.9	6.7	6.5	0.9	5.3	6.2	6.5			
9	b95	Humility	2.0	8.7	0.2	6.2	8.9	8.4	1.5	7.2	7.0		
10	b66	Writes	2.8	4.7	5.5	7.6	4.9	6.6	5.0	3.4	0.4	8.2	
11	b72	Composed	2.0	6.0	4.8	3.4	3.7	4.5	8.7	8.7	2.7	0.7	2.2
12	b45	usefulness	4.4	3.1	8.4	8.2	6.4	1.9	4.0	4.2	5.1	3.9	3.2
13	b97	Firmness	5.8	0.4	6.1	8.0	0.1	4.9	4.9	2.4	0.4	4.7	2.1
14	b80	contributes	3.7	7.4	7.1	7.7	5.8	2.6	2.3	5.7	4.5	3.6	8.8
15	b76	discouraged	6.7	5.7	7.9	7.3	4.6	5.7	7.4	6.5	3.9	8.5	7.3
16	b74	appropriate	2.3	3.1	6.9	3.5	5.2	5.2	1.9	7.4	9.0	0.9	1.2
17	b98	intelligence	8.8	2.0	3.9	9.6	3.9	7.5	2.7	7.9	9.0	9.6	1.6
18	b100	Evaluation	3.6	3.9	7.9	8.0	0.2	8.6	6.1	3.1	0.1	1.5	5.7
19	b49	investigate	3.4	7.3	8.8	4.3	8.8	0.1	6.2	1.3	0.9	7.8	4.0
20	b96	Document	8.5	6.1	9.1	4.7	2.9	4.7	8.1	6.3	9.0	1.3	5.1
21	b123	Time	8.4	5.0	2.8	3.1	7.0	4.7	9.3	0.2	5.4	8.2	4.2
22	b121	Recovery	1.8	2.1	0.3	9.8	2.7	8.5	6.8	4.0	0.8	8.8	8.8
23	b122	Confident	9.8	7.2	9.2	9.0	5.0	6.7	5.4	4.7	0.6	3.5	1.9
24	b117	New	9.9	7.0	2.5	6.1	4.4	8.1	1.9	8.4	0.2	8.1	1.6
25	b127	compliments	6.1	0.7	2.2	5.6	6.5	4.0	7.1	5.7	9.7	5.4	7.7
26	b125	constructively	8.9	3.5	4.1	7.5	5.6	8.4	5.3	7.9	5.7	5.0	0.9
27	b130	Tactically	5.2	5.7	8.7	8.5	6.9	7.1	1.6	0.5	1.4	4.7	1.2
28	b118	environment	9.4	5.7	8.1	6.6	7.3	9.2	5.6	1.2	7.6	9.1	0.2

29	b131	Corrects	9.1	7.0	0.0	6.1	0.2	0.2	5.3	5.6	4.6	7.8	4.4
30	b114	Teaching	3.8	4.9	0.7	2.0	1.8	2.5	1.3	4.5	2.1	8.5	1.2
31	b115	Changes	8.3	1.8	0.7	.3	2.7	7.4	8.2	3.6	6.2	5.2	2.0
32	b113	representation	4.0	0.3	6.4	3.4	9.4	5.6	9.9	9.1	7.0	8.6	4.5
33	b135	Sticks	3.3	5.2	4.3	4.3	7.9	2.8	7.1	7.5	3.0	4.6	5.9
34	b69	Truth	6.1	4.8	1.0	4.6	6.6	9.1	4.0	2.2	9.2	4.8	7.9
35	b67	Cheating	9.8	5.2	7.9	5.6	1.9	3.5	4.5	6.6	3.0	0.3	5.8
36	b68	Stealing	3.1	0.1	6.5	1.8	3.7	6.0	2.8	2.9	2.3	0.2	7.3
37	b47	Believe	8.6	8.4	4.4	7.0	3.2	0.5	0.2	2.8	7.0	8.1	3.1
38	b70	Follow	6.1	0.1	8.7	1.6	2.4	3.6	0.1	7.1	6.4	6.3	6.4
39	b46	uprightness	3.2	8.1	4.1	5.2	5.9	2.4	9.5	6.0	9.5	4.8	6.6

SUB SET 2

Item S/N	Item	Label	Marginal X^2	11	12	13	14	15	16	17	18	19	20
11	b72	Composed	2.0										
12	b45	Usefulness	4.4	1.7									
13	b97	Firmness	5.8	4.5	8.9								
14	b80	contributes	3.7	2.9	4.0	7.3							
15	b76	discouraged	6.7	7.9	8.6	8.3	0.7						
16	b74	appropriate	2.3	6.6	3.5	0.7	6.7	0.6					
17	b98	intelligence	8.8	9.3	2.5	3.5	7.7	6.3	9.9				
18	b100	Evaluation	4.6	7.2	9.9	8.0	7.2	3.8	0.7	3.4			
19	b49	Investigate	5.4	4.3	6.9	8.3	4.9	5.6	3.0	8.8	4.2		
20	b96	Document	8.5	9.0	4.2	1.9	5.3	7.9	8.0	6.0	4.9	3.8	
21	b123	Time	8.4	5.3	7.0	8.2	6.6	3.7	5.2	2.9	6.7	7.8	3.5
22	b121	Recovery	5.8	6.3	8.0	5.8	3.5	9.1	6.8	3.5	5.4	5.9	3.5

23	b122	Confident	9.8	5.3	5.9	7.5	6.7	7.2	2.8	4.9	9.9	3.9	1.5
24	b117	New	9.9	4.1	9.0	6.1	3.7	5.5	8.9	1.5	5.1	9.5	4.6
25	b127	compliments	6.1	4.1	3.6	4.5	2.4	3.1	9.9	7.5	2.8	7.5	9.1
26	b125	constructively	8.9	2.3	1.8	2.6	2.9	1.5	2.6	9.1	3.0	9.0	7.8
27	b130	Tactically	5.2	5.0	3.3	7.9	3.2	5.5	4.6	4.4	5.7	4.4	8.7
28	b118	environment	9.4	3.7	9.4	1.4	5.5	5.1	8.9	6.9	2.1	7.7	3.6
29	b131	Corrects	9.1	4.3	2.4	5.2	7.3	2.6	4.3	3.6	7.6	5.0	6.5
30	b114	Teaching	3.8	1.6	6.9	9.0	5.3	4.0	7.7	1.0	0.3	2.1	9.8
31	b115	Changes	8.3	8.5	8.1	4.9	6.8	1.1	7.1	7.9	7.8	6.6	7.2
32	b113	representation	4.0	9.3	7.8	3.7	3.3	5.3	2.7	3.4	8.9	4.7	9.9
33	b135	Sticks	3.3	4.3	3.5	1.9	3.2	1.9	2.3	2.3	9.7	9.6	3.3
34	b69	Truth	6.1	2.9	2.0	4.5	5.9	8.5	8.4	1.5	1.1	9.6	7.4
35	b67	Cheating	9.8	1.8	9.4	8.3	6.5	2.1	8.8	6.4	4.5	7.0	5.0
36	b68	Stealing	3.1	8.4	5.9	8.4	6.9	2.9	2.0	6.3	1.1	9.9	5.9
37	b47	Believe	8.6	8.7	3.3	0.4	4.6	5.2	6.1	1.7	2.5	8.9	3.2
38	b70	Follow	6.1	0.8	3.4	1.5	5.1	4.9	5.4	2.6	9.4	8.9	6.8
39	b46	uprightness	3.2	7.4	7.4	7.8	7.5	8.3	9.2	5.9	8.3	1.3	6.7

SUB SET 3

Item S/N	Item	Label	Marginal X^2	21	22	23	24	25	26	27	28	29	30
21	b123	time	8.4										
22	b121	recovery	1.8	3.5									
23	b122	confident	9.8	6.4	3.1								
24	b117	new	9.9	7.8	1.4	3.0							
25	b127	compliments	6.1	1.1	9.5	5.4	2.7						
26	b125	constructively	8.9	1.8	7.2	0.6	9.9	9.4					
27	b130	tactically	5.2	8.3	5.4	7.1	6.1	2.9	0.0				
28	b118	environment	9.4	5.5	9.4	0.1	5.7	2.9	6.3	4.6			
29	b131	corrects	9.1	5.2	7.3	1.4	5.5	8.8	8.3	2.0	6.7		
30	b114	teaching	3.8	2.0	8.7	3.7	4.3	3.9	4.1	0.2	5.1	2.2	
31	b115	changes	8.3	7.0	2.7	1.5	4.9	3.9	8.0	7.8	3.1	4.4	7.6
32	b113	representation	4.0	7.5	7.0	6.9	8.2	8.6	3.1	7.2	0.1	2.1	7.9
33	b135	sticks	3.3	7.2	1.4	6.9	2.4	0.7	4.8	7.8	8.0	3.3	2.9
34	b69	truth	6.1	7.2	6.5	3.2	2.6	2.5	5.0	8.2	4.3	3.0	2.4
35	b67	cheating	9.8	8.4	8.2	0.2	8.0	5.3	8.3	1.9	6.8	8.3	5.7
36	b68	stealing	3.1	0.2	0.4	1.6	0.1	9.9	3.8	2.4	8.9	6.4	0.3
37	b47	believe	8.6	8.3	9.3	8.8	8.5	0.4	6.5	0.8	2.3	5.8	4.1
38	b70	follow	6.1	5.8	3.4	0.7	9.6	7.6	6.7	0.6	6.9	7.9	3.7
39	b46	uprightness	3.2	1.2	5.8	7.5	6.8	3.5	4.0	5.8	8.2	8.1	7.7

SUB SET 4

Item S/N	**Item**	**Label**	Marginal X^2	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**
31	b115	changes	8.3								
32	b113	representation	4.0	6.0							
33	b135	Sticks	3.3	1.3	3.9						
34	b69	Truth	6.1	8.9	8.2	4.5					
35	b67	cheating	9.8	3.4	6.9	0.7	4.4				
36	b68	stealing	3.1	5.7	5.5	5.1	2.0	9.0			
37	b47	Believe	8.6	1.3	3.3	6.0	3.7	0.2	4.0		
38	b70	Follow	6.1	7.5	3.6	7.2	2.3	9.1	7.0	5.1	
39	b46	uprightness	3.2	6.0	2.8	4.6	9.9	6.6	7.2	6.8	8.3

APPENDIX XIV

Item	CONTENT VALIDITY RATIO OF UNIVERSITY SENIOR NON-TEACHING STAFF WORK SKILLS SCALE												
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**TOTAL No of Experts**	**CVR**	
1	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
2	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
3	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
4	1	1	1	1	1	1	1	1	0	0	8	**0.6**	
5	1	1	1	1	0	0	1	1	1	1	8	**0.6**	
6	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
7	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
8	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
9	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
10	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
11	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
12	1	1	1	1	1	1	1	1	0	0	8	**0.6**	
13	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
14	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
15	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
16	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
17	1	1	1	1	1	1	0	1	1	1	9	**0.8**	
18	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
19	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
20	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
21	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
22	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
23	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
24	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
25	1	1	1	1	1	1	1	1	1	1	10	**1.0**	

26	1	1	1	1	1	1	0	1	1	1	9	**0.8**	
27	1	1	1	1	1	1	0	1	1	1	9	**0.8**	
28	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
29	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
30	1	1	0	1	0	1	1	1	1	1	8	**0.6**	
31	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
32	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
33	1	1	1	1	1	1	1	1	0	0	8	**0.6**	
34	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
35	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
36	1	1	0	1	0	1	1	1	1	1	8	**0.6**	
37	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
38	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
40	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
41	1	1	1	1	1	1	0	0	1	1	8	**0.6**	
42	1	0	1	1	1	1	1	1	1	1	9	**0.8**	
43	1	1	1	1	1	1	1	1	0	0	8	**0.6**	
44	0	1	1	1	1	1	1	1	1	1	9	**0.8**	
45	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
46	1	1	1	1	1	1	0	0	1	1	8	**0.6**	
47	1	1	1	1	1	1	1	1	0	0	8	**0.6**	
48	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
49	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
50	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
51	1	1	1	1	1	1	1		1	1	9	**0.8**	
52	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
53	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
54	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
55	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
56	1	1	1	0	1	1	1	1	1	1	9	**0.8**	
57	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
58	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
59	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
60	1	1	1	1	1	1	1	1	1	1	10	**1.0**	

61	1	1	1	0	1	1	1	1	1	1	9	**0.8**	
62	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
63	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
64	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
65	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
66	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
67	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
68	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
69	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
70	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
71	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
72	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
73	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
74	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
75	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
76	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
77	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
78	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
79	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
80	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
81	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
82	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
83	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
84	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
85	1	1	1	1	1	1	0	0	1	1	8	**0.6**	
86	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
87	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
88	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
89	1	1	1	1	1	1	1	1	0	0	8	**0.6**	
90	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
91	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
92	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
93	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
94	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
95	1	0	1	1	1	1	1	1	1	1	9	**0.8**	

96	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
97	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
98	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
99	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
100	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
`101	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
102	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
103	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
104	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
105	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
`106	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
107	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
108	1	1	1	1	1	1	1	1	1	1	10	**1.0**	0.006944
109	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
110	1	1	0	1	1	1	0	1	1	1	8	**0.6**	
111	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
112	1	1	1	1	1	1	0	1	1	1	9	**0.8**	
113	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
114	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
115	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
116	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
117	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
118	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
119	1	1	0	1	1	1	1	1	1	1	9	**0.8**	
120	1	1	1	1	1	1	0	0	1	1	8	**0.6**	
`121	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
122	1	1	1	1	1	1	0	0	1	1	8	**0.6**	
123	1	1	0	1	1	1	1	1	1	1	9	**0.8**	0.008333
124	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
125	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
126	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
127	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
128	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
129	1	1	1	1	1	1	1	1	1	1	10	**1.0**	

130	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
131	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
132	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
133	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
134	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
135	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
136	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
137	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
138	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
139	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
140	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
141	1	1	1	1	1	1	0	0	1	1	8	**0.6**	
142	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
143	1	1	1	1	1	1	1	1	0	1	9	**0.8**	
144	1	1	1	1	1	1	1	1	1	1	10	**1.0**	
CVI												**0.9**	