

Full Length Research Paper

Performance measurement model and academic staff: A survey at selected Universities in South Africa and abroad

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This study explores academic staff's perception of performance measurement at selected universities in the USA, UK, Australia, Nigeria and universities in South Africa. The primary objective of this article is "to develop a conceptual model which can be applied to South African universities in developing educational policy" based on empirical evidence. It explores the scholarship of performance management and questions if lectures' performance can be measured using the seven performance dimensions pointed out in the literature review. The author also argued for the importance of performance management in enhancing the effectiveness of lecturers in their work. The author avers that, following a thorough literature review, it could be logically concluded that a mixed or integrated model of performance measurement can be used to evaluate both competencies and performance outputs of lecturers. Furthermore, the statistical analysis on perspectives of lecturers from selected universities in the United Kingdom, United States, Nigeria, Australia and South Africa, confirmed that lectures' performance can be measured. The basis of this measurement can be the seven performance dimensions, namely knowledge; student-teacher relations; organisational skills; communication skills; subject relevance, assessment procedure and utility of assignments. The said dimensions attracted a Cronbach alpha reliability coefficient of above 0.70.

Key words: Lecturer's performance measurement dimensions, performance management, performance evaluation, performance appraisal, performance assessment, integrated performance management model.

INTRODUCTION

Performance management, particularly in terms of academics in higher education has not received enough attention from Government and policy makers in the past (Alam, 2009). Its contribution to enhance institutional performance and quality appear to have been neglected. Consequently, universities adopted a *laissez-faire* approach to performance management and thus, operated on a "high trust" basis within an ethos that emphasized independence of thought and scholarship, academic freedom and collegiality (Alam and Khalifa, 2009). The high trust mode of operation therefore meant that academic staff members were not closely monitored or assessed. However, higher education institutions like any other organ of state are now expected to face the economic realities and become more market and

consumer responsive to provide "value for money" to its clients (Simmons, 2002: 87). Furthermore, for almost a decade, South African higher education institutions have been undergoing radical transformation due to the release of a plethora of policy and legislative initiatives which these institutions were expected to comply with (Mapesela and Strydom, 2004). These policy demand leads to the change in scope, nature and intensity of academic work, but have also subjected academic work to performance management and quality assessment (Mapesela and Strydom, 2004). The aforesaid restorative national policies and legislative initiatives included the following: National Plan for Higher Education (2001), South African Qualification Authority Act (1995), Skills Development Act (1998), Skills Development Levies Act

(1999), National Training Strategy Initiative (1994) and White Paper on Transformation of Higher Education (1997) (Tait et al., 2002; Taylor and Harris, 2002; Wilkinson et al., 2004).

On the basis of the aforementioned scenario, the study calls for a need to investigate an effective and efficient performance measurement model that can add value to the effectiveness of the academic staff and thus raise institutional growth measures that encompass increased graduate rates, research output and quality of teaching. Furthermore, research has shown that higher education institutions are facing major challenges regarding the management of performance of academic staff (Mapesela and Strydom, 2004). It is therefore on the basis of the foregoing, as well as the preceding background that this study aims to address the following research problem, which if adequately addressed, may assist the leadership in higher education institutions to face the challenges referred to in the study's background, namely:

The need for an empirical model to confirm the relevance of the seven postulated performance measurement dimensions for lecturers posited by Robbins et al. (2007).

The core research objectives of this study are therefore to:

1. Investigate the relevance of Robbins et al. (2007: 373) seven performance measurement dimensions for lecturers and explore the influence of demographic variables on these dimensions
2. Explore and empirically test the seven performance dimensions for lecturers at universities as suggested by Robbins et al. (2007).
3. Derive a performance measurement model that can guide the academic leadership in assessing and managing the performance of lecturers at universities.

Although, Robbins et al. (2007) intimated that research has shown that there are seven performance dimensions for the lecturer's job, there was no tested evidence to support this claim and a need therefore arose to close this gap through this inquiry. Therefore, the essential value-add that this study seeks to contribute is to provide an empirical performance measurement model which universities can use as a guideline in policy formulation regarding selection, placement and measurement of performance of lecturers at universities. The questions that require answers regarding this study are:

1. Which of the seven performance dimensions suggested by Robbins et al. (2007) – knowledge or subject knowledge; testing procedure; student-lecturer relations; organisational skills; communication skills; subject relevance and utility of assignments – could be regarded as acceptable performance dimensions for lecturers?

2. To what extent would the demographic variables of the respondents influence their perceptions of these dimensions?

3. What model can be derived from this inquiry to guide policy on performance measurement for lecturers?

The inquiry is organised into five sections, namely: the literature synopsis on the nature of performance measurement and measurement; research design; data analysis; and the results and recommendations flowing from this study.

PERFORMANCE MANAGEMENT IN THE CONTEXT OF PERFORMANCE MEASUREMENT

Performance measurement is a goal-oriented process (Mondy, 2008) and the term is often used interchangeably with performance evaluation, performance appraisal or performance measurement (Mello, 2006).

It is argued that to manage performance one has to first be able to measure it (Thorpe and Holloway, 2008: 43). To this end, it may be necessary to lay a theoretical foundation regarding underlying definitions and assumptions of the terms "evaluation", "assessment", "measurement" and "performance management", (Arreola, 2000).

To give credence to the aforementioned views, Airasian (2001) asserted that performance evaluation judges the worth of information collected for a specific purpose such as determining effectiveness while assessment is concerned with collecting, synthesizing and interpreting the information that will be used in making the evaluation decision.

In addition to the foregoing, Millmore et al. (2007: 530) on the other hand, defined performance measurement as a "process of assessing the performance against pre-determined measures of performance, based on Key Success Factors (KSF) which may include measures of deviation from the norm, track past achievements and measures of output and input". Thorpe and Holloway (2008) further indicated that to manage performance, one first has to measure it, and that measurement is attractive to stakeholders because:

1. For individual managers, it offers a sense of direction.
2. It also offers decision-making a defence and a rationalising mechanism against challenges to colleagues above and below and thus assists them to justify the status quo.

To further clarify the salient difference between measurement and evaluation, Arreola (2000: xviii) indicated that "evaluation is the process of interpreting a measurement (or aggregate of measurements) by means of a specific value or a set of values, to determine the degree to which the measurement(s) represent a

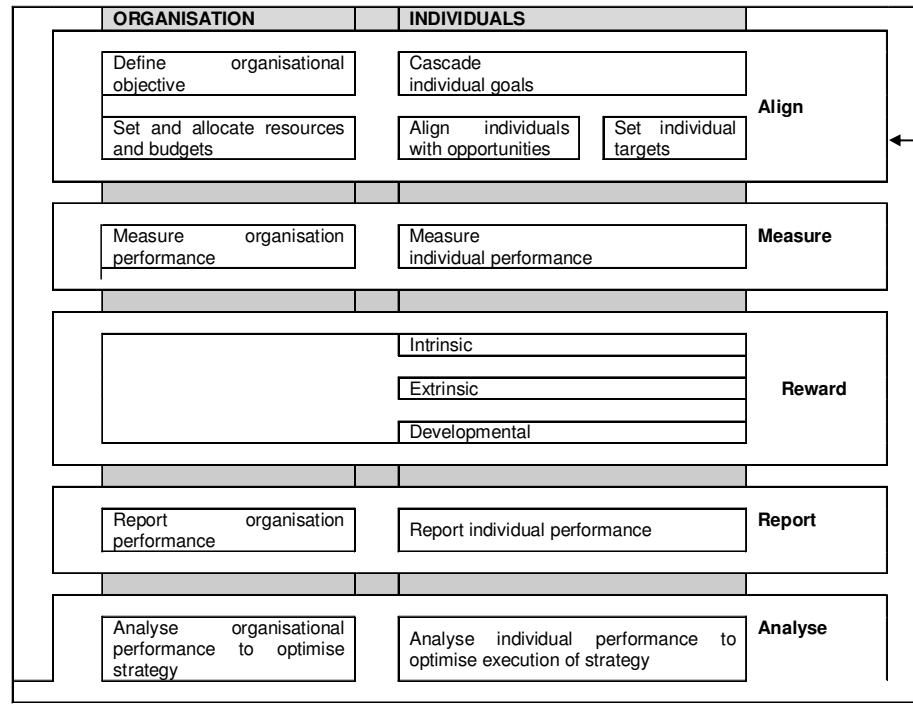


Figure 1. Adapted unified performance management perspective. **Source:** Stiffler. M. A (2006: 42).

desirable condition". Thus, the result of evaluation is a judgement of the degree to which the measurement or aggregate of measurement represents the desirable condition. Therefore, judgements may be represented as either a word (that is, "excellent", "good", "poor", or a number where the number is used simply as a label equivalent to a word (e.g. excellent = 1, good = 2, poor = 3) (Arreola, 2000: xviii).

Therefore, based on the above discussion, it is clear that performance measurement monitors and reports "how well someone or something is doing". In theory, it is a broad term applicable to people, things, situations, activities and organisations while performance management is a process that helps organisations to formulate, implement and change their strategy in order to satisfy their shareholders' needs (Verweire and Van der Burghe, 2004: 7).

For purposes of further clarity regarding performance management, Stiffler (2006) outlines the relationship of this term with those explained above by pointing out that a unified approach to performance management is constituted by five (5) core components which aim to:

1. Align the objectives, resources and budgets of different parts of the organisation and goals, opportunities and targets for individuals.
2. Measure organisational and individual performance.
3. Reward individuals for performance.
4. Report organisational and individual performance.

5. Analyze organisational and individual strategy execution using models and analytics.

Stiffler (2006) further indicated that the core components, except the reward component, have two parts – one associated with the organisation and the other associated with individuals who make up the organisation. Therefore, combining all the key pieces of organisational and individual performance into a single model, as shown in Figure 1, can assist to visualise how the organisational performance and individual performance are intertwined and how the two come together to create a unified view of performance management. Figure 1 also reflects the unified perspective as discussed in the foregoing analyses and also depicts where performance measurement fits in, in the overall performance management picture.

It is therefore depicted in Figure 1 that performance management constitutes the several elements of the unified perspective of Performance Management. This then leads to the emphasis that for the organisation to be effective, people need to operate efficiently.

Performance management can also be seen as the umbrella term used to describe not only a single activity but a range of activities that may be gathered to enhance organisational performance (Millmore et al., 2007). It uses performance measurement information to help to set agreed-upon performance goals, allocate and prioritise resources, inform managers to either confirm or

change a current policy or programme direction to meet chosen goals and report on the successes in meeting those goals (Lichielle and Turnock, 2007).

Consequently, the performance measurement concept rests on the foundation of performance management, namely, setting strategic objectives, cascading those objectives down into the workforce and aligning the organisation and its individuals (Stiffler, 2006). It is not something that should be reserved for the selected few. In a high-performing organization, everyone is measured according to his or her performance. If done correctly, both the organization and the people within it will be impacted positively (Alam et al., 2010). For the organization, measurement leads to improvement in virtually every aspect of the organisational performance from accident reduction to zero defects, including improved strategy execution, better investment decisions, increased value creation and value capture from diverse assets (tangible and intangible), improved relationships (customers, employees, suppliers, partners and others), increased synergy and synchronicity of supply chain, increased forecasting accuracy, enhanced employee motivation and performance, greater organisational learning and much, much more (Spitzer, 2007).

Performance measurement can also be viewed as a regular collection and reporting of data to track work produced and results achieved. It essentially analyses the success of individuals or workgroups, programmes or organisational efforts by comparing data on what actually happened to what was planned or intended (Alam et al., 2010). It basically asks: Is progress being made toward the desired goals? Are appropriate activities being undertaken to promote achievement of those goals? Are there problem areas that need attention? (Lichielle and Turnock, 2007).

Hence, performance measurement forms part of the overall performance management system of the organisation. If performance measurement simply means the introspection and collection of historical results, it is very likely that little useful purpose will be served from the point of view of performance management (Williams, 2002). Therefore, if measurement is to be useful in performance management it has to be forward-looking and concerned with performance improvement, largely because performance measurement serves the very important purpose of monitoring the effects of strategic plans (Hashim et al., 2010). The latter has to be monitored to make the necessary adjustments so as to ensure achievement of long-term goals. Indicators have to be chosen to monitor consequences and achievements. Furthermore, the measurement process should assist in the diagnosis of goal achievement and give some warnings in advance as input in the search for reasons for performance gaps (Williams, 2002).

In the context of this discourse it is quite clear that "measurement could be seen as an antidote to ambiguity; it forces one to impose clarity on vague concepts and to

take action. What we measure communicates our priorities and thus has a powerful link to strategy." Hammer, 2007: 27). Therefore, in the entire performance measurement process there has to be some measures that form the basis of performance measurement. The aforesaid statement then begs the question:

"What exactly is a performance measure in the context of performance measurement?"

In light of the foregoing, Lichielle and Turnock (2007: 11) indicate that there is no "exactly" when it comes to the extensive use of the term "performance measure". Different people have different views regarding what constitutes a "measure". While there are many different ideas about what a measure is, there is however one commonality among them, namely that a measure "measures something usually progress towards an objective or goal". So, it does not matter if we call it a performance measure, a performance indicator or in some cases a performance standard. What matters is the fundamental idea that performance measure measures something! Thus, a measure can be defined as a specific quantitative or qualitative representation of a capacity, process or outcome deemed relevant to the assessment of performance. Hence, performance measures should be designed to drive people towards the overall vision of the organisation and to focus on the future and not simply on the past (Millmore et al., 2007).

Measuring individual performance through competency assessment could also act as an active ingredient to help to focus employee attention on what the organisation considers important, especially since the business environment constantly changes.

Competencies as performance dimensions

Competencies could also be regarded as overt and manifesting behaviour that allows a person to perform competently. Hence, dimensions in the context of the aforesaid statement refer to a cluster of behaviours that are specific, observable and verifiable and that can be reliably and logically classified together (Williams, 2002). Therefore, competencies could be seen as synonymous with performance dimensions largely because the behavioural interpretation of the term competency is simply a replacement (or synonym) for performance dimensions (Williams, 2002). In this study, the required performance output (results) will be combined with the behaviour (competencies or dimensions) that brought about that level of performance so as to determine the lecturer's level of performance. Dimensions for assessing the lecturer's level of performance are discussed next.

Performance dimensions for assessing the lecturer's level of performance

Having defined performance management, performance

Table 1. An overview of the biographical details of the respondents in terms of gender, age and qualification.

Variable		Frequency	Percent	Cumulative frequency	Cumulative percent
Gender	Male	96	56.47	96	56.47
	Female	74	43.53	170	100.00
Age (years)	25-40	61	35.88	61	35.88
	41-45	29	17.06	90	52.94
	46-50	26	15.29	116	68.24
	51-55	20	11.76	136	80.00
	56-60	15	8.82	151	88.82
	> 61	19	11.18	170	100.00
Qualification	Doctorate	87	51.18	87	51.18
	Master's/Honours (3) degree	69	40.59	156	9.76
	Bachelor's degree	14	8.24	170	100.00

measurement, competencies and their contexts, here, we will briefly discuss performance dimensions in general and also point out the seven performance dimensions for assessing the lecturer's level of performance as posited by Robbins et al. (2007) and which this study is poised to confirm or refute.

Performance dimensions in the context of this study describe the behaviour or result that employees are expected to exhibit when they are successfully performing their duties. It is a perspective which assists supervisors in the development of performance plans and is generally categorised into three types, namely universal dimensions (included in all performance plans); job content dimensions (which vary from job to job) and other performance dimensions (Anon, 2006a). For the purpose of this study, attention will focus on universal dimensions with particular focus on the seven (7) performance dimensions for lecturers' job as suggested by the Robbins et al. (2007), namely: 1) knowledge; 2) testing (assessment) procedures; 3) student-teacher relations; 4) organizational skills; 5) communication skills; 6) subject relevance and; 7) utility of assignments.

RESEARCH PROBLEM

Tertiary institutions in South Africa are currently faced with a variety of challenges which include decreasing subsidies; increasing competition in the sector; a growing need to address the concerns of different stakeholders (namely students, staff, unions, government, private sector organisations, the community groupings) as well as the increasing demand for quality results and services including an efficient management (Wiese et al., 2009). In line with the aforesaid statement, the problem this study aims to address is a gap in knowledge based on:

"The absence of a well researched performance measurement model or frame-work incorporating

scientifically tested performance measurement dimensions that could assist in improving the service quality and output of academic staff at universities".

As stated earlier, although, Robbins et al. (2007) mentioned the seven performance dimensions for a lecturer's job, there was no empirical evidence to support this claim. A need then arose to undertake this study with the view to closing this gap.

Research objectives

A research objective is normally adopted to indicate the direction in which the research will proceed in an attempt to answer a given research problem (Bernt, 2009: 6). The research objective is also intended to depict the intended results of the study (de Vos et al., 2005: 104). The following as stated earlier, is therefore the research objectives set out to address the aforementioned research problem:

1. Investigate the relevance of Robbins et al. (2007: 373) seven performance measurement dimensions for lecturers and explore the influence of demographic variables on these dimensions
2. Explore and empirically test the seven performance dimensions for lecturers at universities as suggested by Robbins et al. (2007).
3. Derive a performance measurement model that can guide the academic leadership in assessing and managing the performance of lecturers at universities.

RESEARCH METHODOLOGY

As Bernt (2009: 6) indicated, the development of a sound research methodology is critical to the success of any research inquiry. To this end, a quantitative methodology was employed to investigate

the performance dimensions for the lecturers' job at universities in line with the objectives of this study.

Population

The population in this study are lecturers irrespective of faculty at selected universities in South Africa and abroad. The basis of selection of a particular overseas university was their world renowned status in terms of excellent teaching and research output. The chosen university could either be a university of technology or a traditional university and could either be classified as a distance or a contact university.

Sampling

A stratified random sample of 500 participants was selected based on Sakaran (2001) sample size determination. Hence, a stratum was proportionately apportioned on the basis of the population size of each University. Except for South Africa, two leading universities in a particular country overseas constituted a stratum on the basis of their perceived fame as world acclaimed universities (Table 4). Sakaran (2001) in this regard suggested that 379 responses could act as a minimum for a population size of 30,000. However, a sample of 500 was targeted to make provision for possible non-response error.

Participants in the study were employees (lecturers) of South African universities as well as those of leading universities in the US, UK, Nigeria and Australia. As a quantitative data collection instrument, a questionnaire was electronically sent out to 500 lecturers at the said universities with the hope of receiving 379 back. In total 178 questionnaire responses, representing a 36% response rate, were received back and were included in the analyses. However, 8 of the received questionnaires were found to be unreliable leaving us with a sample of 170. In general when using an online questionnaire as in the case of this study, a 30% response rate is regarded as satisfactory, thus the response rate of 36% exceeded this threshold (Saunders et al., 2003: 284; Tustin et al., 2005: 193).

Of the responses received, the biographical data indicated that 56, 47% of the respondents were male and 43, 53% of the respondents were female. The majority of responses received in the age group category were from respondents between 25 and 50 years old. The cumulative percentage for the four groups between these ages was 68, 24%. The respondents thus, constituted a reasonable spread between the young and the old as well as, between male and female. Furthermore, 51% of the respondents had a doctoral qualification while 41% had a master's degree and those with a bachelor's degree constituted 8%. The respondents were therefore reasonably qualified. Table 2 reflects the proportional sampling of the study participants. The last column shows the actual respondents received per stratum.

Questionnaire design

The measuring instrument specifically designed for this study by the author was titled Performance measurement dimension questionnaire. It was designed to measure various performance dimensions for lecturers. The author was unable to source any other comparative questionnaires previously psychometrically tested and used in a university context to assess a performance measurement instrument for lecturers. The author has thus developed and pilot tested his own instrument among purposively selected lecturers at the University of South Africa (UNISA). The questionnaire consisted of the following three sections:

Section 1: Biographical information

The respondents' personal particulars in respect of age, gender, length of service, position within the organization and the level of seniority is contained here. This information could be used to draw comparisons about respondents' tendencies towards responses to questions, and also when employing factor analysis, to determine whether the postulated factors differ according to demographic variables.

Section 2: General perception of performance management

The items contained here, attempts to solicit information about the respondents' general perception regarding performance management.

Section 3: Performance dimensions for academic staff

The seven performance dimensions of a lecturer's job is thus, highlighted here. Furthermore, an attempt was made to assign at least five sub-dimensions to each question which was all stated in a question format on the basis of a five-point intensity scale, where "one" specified low preference while "five" signified high preference.

Data collection

Data was collected through use of a questionnaire. The said questionnaire containing 49 items was converted into a web-based format located on a host site with a asd covering letter bearing a hyper text linked to the web-site. All the respondents had to do was to click on the hyperlink in order to go into the web-site and open the questionnaire. The said respondents were requested to respond to a predetermined range of questionnaire items and simply 'submit' the completed questionnaire with one key stroke on the computer. The submitted document would then be automatically read into the data-base (Denscombe, 2003: 42).

ANALYSIS AND RESULTS

The main purpose of the statistical analysis in this inquiry was to investigate and evaluate the appropriateness of the seven performance measurement dimensions defined and discussed in the literature review, and once verified, determine how and by which biographical characteristics of respondents' perceptions of these aspects Performance Management (PM) would be influenced. A private statistical consultant utilized a SAS statistical analysis package, version 9.1² to conduct all analyses. The following analyses were undertaken:

- 1) Exploratory one-way frequency tables on all questionnaire items: This was done to verify data integrity and validity, decide on class intervals for those variables which required re-categorization to condense sparsely populated classes, generate tables for the biographical indicators to assist in describing the sampled population

² Anon Copyright (c) 2002-2003b by SAS Institute Inc., Cary, NC, USA.
NOTE: SAS (r) 9.1 (TS1M3)

Table 2. Proportional sampling for the study participants.

Strata or Country of location of the selected³ university (No actual name shown)	Lecturer population	Proportion	Calculated responses	Minimum expected responses as per Sakaran (2001)	Actual responses received
United States					
University A	11022				
University B	2952	0.522	261	198	15
Total	13974				
United Kingdom					
University C	341				
University D	375	0.027	247	10	19
Total	716				
Nigeria					
University					
University E	796	0.072	36	27	11
University F	1122				
Total	1918				
Australia					
University G	665				
University H	2916	0.133	67	50	33
Total	3581				
South Africa					
University I	2000				
University J	350				
University K	1385	0.246	123	93	92
University L	745				
University M	350				
University N	1765				
Total	6595				
Gross Total	26784		500	399	170

³ Pseudonym to protect the identity of the institution concerned.

Table 3. Descriptive statistics on mean score.

General perceptions	N	Mean	Standard deviation
2.1 Goals agreed	170	3.58	1.129
2.3 Conduct performance appraisal (PA)	170	3.49	1.178
2.6 Accountability agreed goals	170	3.48	1.152
2.5 Workload considered in PA	170	3.29	1.170
2.2 Feedback on performance	170	3.16	1.178
2.4 Career path discussed	170	3.07	1.294
2.7 PM as improvement tool	170	3.05	1.307
2.8 PM as control instrument	170	2.95	1.288
Valid N (listwise)	170		

Table 4. Descriptive statistics on competencies of importance on PM.

Variable	N	Mean	Standard deviation
2.9.10 Research	170	4.42	0.959
2.9.8 Subject mastery	170	4.04	1.109
2.9.11 Writing skills	170	3.82	1.155
2.9.2 Professional relationships	170	3.68	1.165
2.9.1 Communication	170	3.66	1.161
2.9.4 Self development	170	3.42	1.225
2.9.3 Leadership	170	3.31	1.26
2.9.12 Student assessment	170	3.26	1.307
2.9.9 Organizational skills	170	3.26	1.188
2.9.5 Development of others	170	3.14	1.284
2.9.13 Listening Skills	170	2.85	1.295
2.9.7 Project management	170	2.82	1.252
2.9.6 Change management	170	2.72	1.227
Valid N (listwise)	170		

and assist in validating the correctness of calculated cross-referenced tables. Graphical representations of the frequency tables via bar graphs were also undertaken to further summarise initial results.

2) Calculation of descriptive statistics per item on subsets of questionnaire items which probed specific aspects of PM (for example, respondents' general perception of the PM process).

The two analysis earlier referred to were done to obtain an initial overall impression of respondents' perceptions of each aspect. The initial patterns/trends emerging from the exploratory analyses were further investigated in more specific analysis. The results of the analysis referred to above are shown in Tables 3 and 4.

The descriptive statistics indicated the responses and reflected what actually happened in the selected sample in terms of the way participants responded to the individual questionnaires in terms of their general perceptions of the Performance Management (PM) process and the competencies to be included and evaluated in the PM process. Respondents' general

perceptions of the Performance Management (PM) process at their universities are reflected in Table 3. The mean scores were calculated even though the scale range was fairly small, in order to give an indication of the central tendency in terms of scores. These are presented in Tables 3 and 4 in descending order of the means.

Inspection of the mean scores in Table 3 shows that the central tendency of responses leaned towards the positive side of the scale, as all scores except the score for question 2.8 were below 3 thus, depicting a positive perception about the listed items.

Important competencies

Respondents' general perceptions on competencies to be evaluated within the performance management processes at their university are reflected in Table 4. Descriptive statistics in order of descending means indicate which competencies respondents deemed to be most important to be included and evaluated in the PM process. Competencies 8 and 10 represents subject

mastery and research, and perceptions indicate that respondents believe these are important as the mean score of above 4 indicates. Competencies 6 and 7 (change management and project management) on the other hand indicate that respondents perceived these two competencies as well as competency 13 (listening skills) as “not that important” PM indicators.

Factor analysis was conducted on all questionnaire items addressing aspects of PM. The purpose of the analysis was to investigate the underlying structure contained within the dataset and to verify whether one or more than one basic PM structure defined the data. A factor analysis procedure used is discussed subsequently.

Factor analysis on individual questionnaire items

Factor analysis, using the Maximum Likelihood method with Varimax rotation (an orthogonal rotation method) was conducted on all PM questionnaire items describing PM. Several models – with varying numbers of presumed underlying structures – were investigated.

A question that begged an answer in this regard was: “Is a single factor structurally responsible for the co-variation between the response variables, or were there more underlying structures involved?” Several criteria can be evaluated to decide on the number of structures underlying a particular process.

Apart from the criterion for the variation in the data explained by each structure in any particular analysis, other criteria to determine the optimum number of structures include scree plots, interpretability of the structures suggested in the analysis and Chi-square tests on the null hypothesis that the number of structures assumed in a particular analysis is sufficient as well as, a null hypothesis stating that there is no underlying structure in the set of response variables investigated. These criteria were evaluated in conjunction with one another.

The results of the most promising factor analysis for the PM data indicated that a single structure underlies the data. In this particular model 74% of the variation in the data was described by the single factor. The scree plot also suggested a uni-structured model, and the null hypothesis of no underlying structure was rejected on the 0.1% level of significance. The criterion for the interpretability of factors in models where more than one factor was included in the model also indicated one all-encompassing structure, since higher-order factors became difficult to interpret.

All questionnaire items dealing with the seven proposed PM issues loaded significantly onto the first factor (correlation coefficients all >0.53 , where the correlation coefficients are equivalent to the factor loading for the first factor in an orthogonal rotation) and all seem to relate to the different aspects of performance

measurement for lecturers. Furthermore, the questionnaire items excluding those probing assessment methods were included in the overall structure (Q3.19.1 to q3.19.9).

These results therefore confirmed that one underlying PM structure was present in the research data and that the seven suggested PM dimensions namely 1) knowledge; 2) testing (assessment) procedures; 3) student-teacher relations; 4) organisational skills; 5) communication skills; 6) subject relevance and 7) utility of assignments, could be regarded as aspects of a unstructured model.

Scale reliability testing and calculation of dimension scores

The focus here is to verify the internal consistency reliability of proposed PM dimensions shown in the preceding part of the study.

Scale reliability

In the foregoing discussion, factor analysis confirmed that all aspects probed within the PM questionnaire address academic Performance Management. Once this had been established, the next question to consider was whether the subsets of questionnaire items designed to define the seven proposed PM dimensions (within the general PM arena), all truly contributed towards explaining the particular PM aspects.

Item analysis (also referred to as scale reliability testing) was then conducted on each subset of questionnaire items to establish internal consistency reliability. If internal consistency reliability is established for each dimension, a statistically reliable dimension score (calculated as the mean response score of sub-item responses within a PM dimension) for each respondent can be calculated to represent respondents’ perceptions on the PM dimensions or aspects. (The dimension scales mentioned above thus provide a means of summarising respondents’ perceptions on the individual sub-questions within a PM dimension into a single score representing the dimension perception, which facilitates further analysis and interpretations).

It stands to reason that the reliability of the PM dimension scales representing perceptions has to be validated before any analysis can be conducted on these scales, and furthermore, before any deductions can be made.

Internal consistency reliability is indicated by a coefficient referred to as Cronbach alpha calculated as part of scale reliability testing. An alpha value greater or equal to 0.7 is generally seen as a good indicator of reliability (Hatcher, 1994: 137).

A summary table on scale reliability testing results

Table 5. Summary results on scale reliability testing.

PM Dimension/Construct	Items included	Items excluded	Standardized cronbach alpha coefficient	Mean construct scores	Std deviation mean construct scores
01. Knowledge	q3.1. q3.3. q3.4. q1.9.8	q3.2	0.7	4.1	0.71
2. Student-Lecturer relations	q3.5-q3.8		0.79	3.62	0.95
3. Communication skills	q3.9-q3.12		0.89	3.42	1.04
4. Organizational skills	q3.13-q3.16		0.87	3.16	1
5. Assessment procedures	q3.17. q3.18. q3.20	q3.19	0.82	3.17	1.08
6. Subject relevance	q3.21-q3.24		0.85	3.37	1
7. Utility of assignments	q3.25-q3.28		0.87	3.34	1.01

Rating scale legend

- 1: Not at all
- 2: To some extent
- 3: To a moderate extent
- 4: To a reasonable extent
- 5: To a great extent

Reliability indicator

An alpha value greater or equal to 0.7 is generally seen as a good indicator of internal consistency reliability (Hatcher. 1994: 137).

Summary of results table indicating internal consistency reliability associated with each proposed PM dimension. The PM aspect analyzed, items included in the dimension, items excluded and items reversed for each construct, as well as Cronbach Alpha coefficients and dimensions mean scores are included in the body of the table

conducted on the seven PM dimensions is presented in Table 5. Each row of the table represents the results of an analysis conducted on a subset of questionnaire items designed to represent a particular PM dimension. The Cronbach alpha coefficient; the subset of items designed to represent the construct; questionnaire items excluded from the construct as indicated by the analysis as not contributing towards explaining the construct; dimension mean scores and standard deviations are reported.

The construct mean scores presented in the second to last columns of the summary table

represent a general measure on respondents' perceptions on the PM aspects. For example, the construct mean score for the Knowledge dimension with a value of 4.10 (high on the perception rating scale) indicates that respondents perceived an academic's knowledge of subject matter as an important element of PM.

The dimension mean score of 3.16 associated with both the organizational skills and assessment procedures PM dimensions indicate that respondents regarded these PM aspects as of lesser importance than subject knowledge.

Parametric analysis of variance (ANOVA) and

multiple comparisons of means tests were lastly conducted to verify the significance of biographical effects gleaned in the preceding means calculation. The analyses of variance were conducted once ANOVA assumptions were verified with Levene's test for homogeneous variances and Shapiro-Wilk and Anderson-Darling tests for normality of residuals.

Analysis of variance was used to establish whether the various biographical indicators significantly affected respondents' perceptions of the seven PM aspects or dimensions, while multiple comparisons of means tests were

Table 6. Subject knowledge dimension.

T-grouping		Mean	N	University
	A	4.4667	15	USA
B	A	4.3409	11	Nigeria
B	A	4.2895	19	UK
B	A	4.0530	33	Australia
B		3.9810	92	RSA

Means with the same letter are not significantly different (least significant difference, $l_{sd} = 0.4382$).

Table 7. Assessment procedures PM dimension.

T-grouping	Mean	N	University
A	3.5758	11	Nigeria
A	3.3535	33	Australia
A	3.2456	19	UK
A	3.1558	92	RSA
B	2.4000	15	USA

Means with the same letter are not significantly different ($l_{sd}=0.666$).

employed to establish how the identified significant effects influenced perceptions.

Analysis of a variance (ANOVA) and significance of attributes on PM dimensions

As stated earlier, the ANOVA was run to establish the significance of various biographical attributes on perceptions regarding the PM dimensions.

Parametric analysis of variance is regarded as a reliable and valid analysis technique since the seven sets of dimension scores on which the analyses were conducted could be regarded as continuous variables (calculated as the mean of rating responses for each respondent). The technique requires the dependent variable to be on a continuous measurement scale, and as explained, the dimension scores complied with this requirement.

The analysis of variance technique is furthermore based on the assumptions of homogeneity of group variances (for the categorical levels of the independent variable/s) and normality of residuals emanating from the analyses results. Both these assumptions were tested in each analysis and compliance was established in each case.

Various analysis of variance models were investigated and tested. In all analyses a particular PM perceptions score (for example, subject knowledge) was regarded as the dependent variable. In the ANOVA models individual biographical indicators or combinations of biographical indicators – which included a joint interaction effect between the effects investigated – were regarded as the independent variables. True to ANOVA assumptions these variables constituted categorical or classification

variables (such as academic position or university). The tables of mean perception scores presented subsequently described the nature of the significant biographical effects identified in the ANOVA.

Subject knowledge dimension and statistically significant effect of University

Table 6 depicts the significant influence of the university on the subject knowledge dimension. As illustrated in Tables 6 and 7, the significant influence of the university on Subject Knowledge and assessment procedure perceptions indicates that the USA rated subject knowledge significantly higher than other universities and assessment procedures significantly lower than other institutions. The USA respondents also perceived these aspects significantly different to their colleagues in other countries.

Assessment procedures dimension and statistically significant effect of University

Table 7 depicts the significant influence of the university on the assessment procedures. In terms of entries in Table 7, USA respondents perceive assessment procedures significantly different to their colleagues in other countries.

Organisational skills dimension means calculated according to statistically significant effect of qualification

Table 8 reflects the significant influence of qualifications on organisational skills. As shown in Table 8 qualifications,

Table 8. Organizational skills.

T-grouping	Mean	N	Qualification
A	3.45	14	B degree
AB	3.38	69	M/H degree
B	2.95	87	Doctorate

Means with the same letter are not significantly different (Lsd=0.4921).

Table 9. Significant effect by qualification.

t-g	Mean	N	Qualification
A	3.42	69	M/H degree
B	3.36	14	B degree
B	2.93	87	Doctorate

Means with the same letter are not significantly different (Lsd = 0.5)

significantly influenced perceptions on organisational skills and assessment procedures in the sense that doctorate respondents perceived both these aspects significantly less positive than graduate respondents (that is, Organisational Skills) and Master's or Honours respondents (that is, Assessment Procedures).

Assessment procedures dimension and statistically significant effect of qualification

Table 9 reflects reflects the significant influence of qualification on assessment procedures. Perceptions are at the three degree levels as shown in Table 9.

Interaction effect of position and age on perceptions re assessment procedures, subject relevance and utility of assignments

If we keep in mind that academic position and age go hand in hand, the significance of a combined effect (interaction effect) of position and age on some PM issues is not surprising. Perceptions regarding Assessment Procedures, Subject Relevance and Utility of Assignments indicated that the greatest difference in perceptions for all of these PM dimensions existed between senior lecturers in the age category 56 to 60, and lecturers in the age category 41 to 45 (for the purpose of this study, professors aged 41 to 45 were included). The latter group was significantly more convinced of the impact of these PM issues than the senior group.

The nature of all effects discussed thus far proved to be significant on the 5% level of significance. Significant interaction effects on the 10% level of significance (a less

conservative level of significance) were established between university and academic position for a few additional PM dimensions. These interactions are listed thus, and are illustrated in Tables 10 to 11:

1. University by position interaction effects on the 10% level of significance: The relevant analysis of variance tables and means tables are shown in Table 10. In terms of Table 10, the perceptions of Senior Lecturers in Nigeria are significantly less positive about the element of Organisational Skills in PM than Lecturers in the same Country.
2. 10% Significance level. Interaction effect of University versus position for assessment procedures: The analysis of a variance and the means table is depicted in Table 11. According to Table 11, Lecturers in Australia and Nigeria differ significantly in perceptions regarding Assessment Procedures from Professors in the USA. Furthermore, Professors in the USA regard Assessment Procedures with significantly less enthusiasm than lecturers in Nigeria and Australia.
3. 10% level of significance: Interaction effect of age versus position for student-lecturer relations dimension: As shown in Table 12, Lecturers in the age group 41 to 45 years regarded Student-Lecturer relations of significantly higher importance than Senior Lecturers in the age group 56 to 60 years.
4. 10% level of significance: Interaction effect of age versus position on communicational skills: Table 13 reflects the age position interaction in respect of communication skills. According to Table 13, the 56 to 60 years age group differ significantly in their perceptions regarding Communication Skills from Senior Lecturers in the 56 to 60 age group, with the latter group being significantly more positive on this aspect than the former group.

Table 10. University versus position interaction for Organisational Skills:

Source	DF	Type III SS	Mean square	F- value	Pr > F
Position	2	3.60516056	1.80258028	1.90	0.1535
University	4	3.88096245	0.97024061	1.02	0.3984
Position* University	6	11.49503358	1.91583893	2.02	0.0666

Mean perception scores for position × University interaction			
Position	University	Org LSMEAN	Which mean differ sign?
Lecturer	Australia	3.56666667	1 AB
Lecturer	Nigeria	4.03125000	2 A
Lecturer	RSA	3.16250000	3 AB
Lecturer	UK	2.87500000	4 AB
Lecturer	USA	3.00000000	4 AB
Professor	Australia	2.88636364	5 AB
Professor	RSA	3.20370370	6 AB
Professor	UK	2.71428571	7 AB
Professor	USA	2.78846154	8 AB
Senior Lecturer	Australia	3.75000000	9 AB
Senior Lecturer	Nigeria	2.08333333	10 B
Senior Lecturer	RSA	3.09000000	11 AB
Senior Lecturer	UK	3.12500000	12 AB

Summary deductions from analysis results

The general perception of the performance measurement (PM) process is discussed subsequently.

General perceptions of the PM process

General perceptions of the PM process also queried respondents' perceptions of competencies regarded as crucial to the PM process. Combined agreement ratings on the various competencies indicated that the priorities on some competencies were regarded as significantly more important than others. Subject mastery and research were perceived as significantly more important as, for instance, change management and project management.

PM dimensions designed as subsets of questionnaire items to describe specific PM issues

First general impressions as to how respondents perceived the subsets of questions designed to jointly describe PM issues were obtained via frequency tables and descriptive statistics. Analysis of the subsets of items indicated that Subject Knowledge (first dimensions), Student-Lecturer relations (dimension 2), Communication Skills (dimension 3), Organisational Skills (dimension 4), and the Utility of Assignments (dimension 7) revealed a positive perception tendency amongst respondents. Although mostly positive, the perception pattern for

assessment methods seemed to present more than one aspect of assessment (addressed in the scale reliability analyses).

Analysis of variance

The statistical significance of the apparent influential effects of university, position, age and qualifications was validated by analyses of variance. The significant influence of university on Subject Knowledge and Assessment Procedure perceptions indicates that the USA rated subject knowledge significantly higher than other universities and assessment procedures significantly lower than other institutions.

Qualifications significantly influenced perceptions of organisational skills and assessment procedures in the sense that doctorate respondents perceived both these aspects significantly less positive than graduate respondents (Organisational Skills) and Master's or Honours respondents (Assessment Procedures).

Perceptions regarding assessment procedures

Subject Relevance and Utility of Assignments indicated that the greatest difference in perceptions for all of these PM dimensions existed between Senior Lecturers in the age category 56 to 60, and lecturers in the age category 41 to 45 (for the purpose of assignments, professors in the age group 41 to 45 were included) – the latter group being significantly more convinced of the impact of these PM issues than the senior group.

Table 11. University position interaction for assessment procedures.

Source	DF	Sum of squares	Mean square	F- value	Pr > F
Model	12	30.1939087	2.5161591	2.35	0.0085
Error	157	168.3054378	1.0720092		
Corrected total	169	198.4993464			

Source	DF	Type III SS	Mean square	F- value	Pr > F
Position	2	8.38036195	4.19018097	3.91	0.0220
University	4	2.32734965	0.58183741	0.54	0.7046
Position*university	6	15.46976500	2.57829417	2.41	0.0299

Assessment procedures. perception mean scores for position × university interaction			
Position	University	Assess LSMEAN	Which mean differ sign?
Lecturer	Australia	3.66666667	1 A.
Lecturer	Nigeria	4.04166667	2 A
Lecturer	RSA	3.14166667	3 AB
Lecturer	UK	3.29166667	4 AB
Lecturer	USA	3.50000000	5 AB
Professor	Australia	2.66666667	6 AB
Professor	RSA	3.30864198	7 AB
Professor	UK	3.14285714	8 AB
Professor	USA	2.23076923	9 B
Senior Lecturer	Australia	3.76190476	10 AB
Senior Lecturer	Nigeria	2.33333333	11 AB
Senior Lecturer	RSA	3.01333333	12 AB
Senior Lecturer	UK	3.33333333	13 AB

DISCUSSION

Literature in respect of performance management and measurement suggests a near consensus of opinion that there is a positive relationship between performance measurement; competencies; goal setting; work-load and leadership in the context of performance management (Areolla, 2000; Becker, Huselid and Ulrich, 2001; Bryman and Haslam, 1994; Carl and Kapp, 2004; Franzen, 2003; Green, 1999; Hecht, Higgerson et al., 1999; House, 2004; Lundy and Cowling, 1996; Meyer and Botha, 2004; Mondy, 2008; Okafor, 2005; Phillips and Schmidt, 2004; Simmons, 2002; Spencer and Spencer, 1993; Stephen and Roithmayr, 1998; Stiles, 2003; Wilkinson et al., 2004; Williams, 2002; Alam et al., 2010).

It also became evident from the quantitative results of this study that respondents positively perceived aspects such as knowledge, including the currency of the subject material and in-depth tuition of the subject matter; student-lecturer relations; communication skills; subject relevance; utility of assignments in a more positive light than organisational skills and assessment procedures, albeit that these may be included in the PM dimensions for lecturers. However, competencies such as project management and change management were perceived

as unimportant, thus suggesting that they should not form part of dimensions for PM for lecturers. The findings further revealed a 5% level of significance based on ANOVA that:

1. The USA rated subject knowledge significantly higher than other universities whilst at the same time rating assessment procedures significantly lower than other countries. The USA therefore perceived these aspects significantly different to the other countries.
2. University, academic position, age, and to some extent experience and qualifications affected the respondents' perceptions. However, gender appeared not to have had any influential effect and the opinions of both men and women were the same on these matters.
3. Qualifications significantly influenced perceptions on organisational skills and assessment procedures in the sense that doctorate respondents perceived both these aspects significantly less positive than graduate respondents. In other words, they felt organisational skills and assessment procedures should not be part of the required competencies for lecturers at universities.

The findings on theory also added that the assessment criteria in performance measurement for academics

Table 12. Reflects the university position interaction in respect of student-lecturer relations.

Source	DF	Sum of squares	Mean square	F- value	Pr > F
Model	17	26.1794441	1.5399673	1.84	0.0279
Error	152	127.3337912	0.8377223		
Corrected Total	169	153.5132353			

Source	DF	Type III SS	Mean square	F- value	Pr > F
Position	2	0.17420682	0.08710341	0.10	0.9013
Age	5	3.78656877	0.75731375	0.90	0.4802
Position versus age	10	20.53811420	2.05381142	2.45	0.0096

Student-lecturer relations perception mean scores for position x age interaction					
Position	Age (years)	SL Relatn LSMEAN	Which means differ sign?		
Lecturer	25-40	3.52976190	1	AB	
Lecturer	41-45	4.10000000	2	A	
Lecturer	46-50	3.57142857	3	AB	
Lecturer	51-55	3.12500000	4	AB	
Lecturer	56-60	4.41666667	5	AB	
Lecturer	> 61	3.00000000	6	AB	
Professor	25-40	2.89285714	7	AB	
Professor	41-45	4.10714286	8	AB	
Professor	46-50	3.39583333	9	AB	
Professor	51-55	3.27500000	10	AB	
Professor	56-60	4.16666667	11	AB	
Professor	> 61	3.57692308	12	AB	
Senior Lecturer	25-40	3.72916667	13	AB	
Senior Lecturer	41-45	3.42857143	14	AB	
Senior Lecturer	46-50	3.64285714	15	AB	
Senior Lecturer	51-55	4.12500000	16	AB	
Senior Lecturer	56-60	2.16666667	17	B	
Senior Lecturer	> 61	4.00000000	18	AB	

should take into account: teaching workload or the distribution of workload between members of the department; results of student evaluation based on an acceptable format used by the faculty; student numbers per course; research output with emphasis on accredited output; and service to the community with the focus on service without compensation. The members' participation and availability to the faculty's activities such as graduation ceremonies, meetings and committees, as well as their participation and availability to the institution in general (e.g. portfolio committees, meetings, task teams, etc.) would also be critical (Wilkinson et al., 2004: 105).

In addition to the foregoing, the findings on a research visit by the author to the leading international universities in the USA and UK - as part of this inquiry - revealed furthermore that in terms of performance measurement, these universities:

1. Operated in terms of a dualistic system – one for academic staff and one for the support staff.

2. The support staff system was driven by the staff development units within the human resources function, while the academic system was run from faculties or schools with secretarial support from the human resources function.

3. Followed a mix of the formative (developmental) and the summative (judgmental) approach to the appraisal process and in the UK in particular, there was a strong leaning towards the developmental approach where emphasis was on the future development of the appraisee and the weeding out of obstacles to his or her performance. The judgmental approach on the other hand emphasised current performance and had a concern for control and the evaluation of the appraisee's performance. The latter was also very evident in the American system and was underpinned by a system of tenure.

4. The emphasis at the US universities visited, was on the development of the non-faculty staff while the judgmental approach was used for academics under the tenure system within a defined "career or tenure track".

Table 13. Age position on communication skills.

Source	DF	Sum of squares	Mean square	F- value	Pr > F
Model	17	32.1005099	1.8882653	1.91	0.0213
Error	152	150.6553724	0.9911538		
Corrected total	169	182.7558824			

Source	DF	Type III SS	Mean square	F- value	Pr > F
Position	2	0.40859451	0.20429725	0.21	0.8140
Age	5	2.37665322	0.47533064	0.48	0.7911
Position*age	10	27.78367489	2.77836749	2.80	0.0033

Mean perception scores for position x age interaction			
Position	Age (years)	Communication LSMEAN	Which means differ sign?
Lecturer	25-40	3.32738095	1 AB
Lecturer	41-45	3.91666667	2 AB
Lecturer	46-50	3.42857143	3 AB
Lecturer	51-55	2.75000000	4 AB
Lecturer	56-60	4.25000000	5 A
Lecturer	> 61	2.50000000	6 AB
Professor	25-40	2.64285714	7 AB
Professor	41-45	3.82142857	8 A
Professor	46-50	3.31250000	9 AB
Professor	51-55	3.25000000	10 AB
Professor	56-60	4.05555556	11 AB
Professor	> 61	3.28846154	12 AB
Senior Lecturer	25-40	4.04166667	13 AB
Senior Lecturer	41-45	3.00000000	14 AB
Senior Lecturer	46-50	3.21428571	15 AB
Senior Lecturer	51-55	3.45833333	16 AB
Senior Lecturer	56-60	2.00000000	17 B
Senior Lecturer	> 61	3.81250000	18 AB

5. The KPAs for academics at all the universities visited were teaching, research and service as it is the case at universities in South Africa.

6. None of the universities were identified as following a purely judgmental approach where pay, promotion and discipline were the major driving forces of performance management.

Proposed model

The model as shown in Figure 2 reflects aspects of PM per se that were empirically tested as important aspects for the Performance Measurement for lecturers. Furthermore, the said model also reflects aspects suggested by theory as important to consider for evaluating performance of the lecturing staff at universities. The model depicts in words or pictures the important features of a framework of Performance Measurement dimensions of lecturers (Robbins et al., 2001: 15; Wendell and Bell, 1999: 730; Franzen, 2003:

134). It thus supports the primary objectives of this study and can be regarded as a basic framework and guideline for policy formulation and implementation in the area of performance management and measurement for the lecturing staff at universities.

The reliability of the questionnaire as a measuring instrument of perceptions regarding the various sub aspects of PM used in this inquiry is discussed subsequently.

Reliability of the model

A Cronbach alpha coefficient is used to measure the internal consistency and reliability of the dimensions. The seven postulated performance dimensions were tested for reliability and yielded a Cronbach Alpha coefficient level of between 0.70 and 0.89, thus indicating an acceptable reliability and internal consistency of the said postulated dimensions. The two reliability indices fell within the generally accepted Cronbach Alpha limit of 0.70.

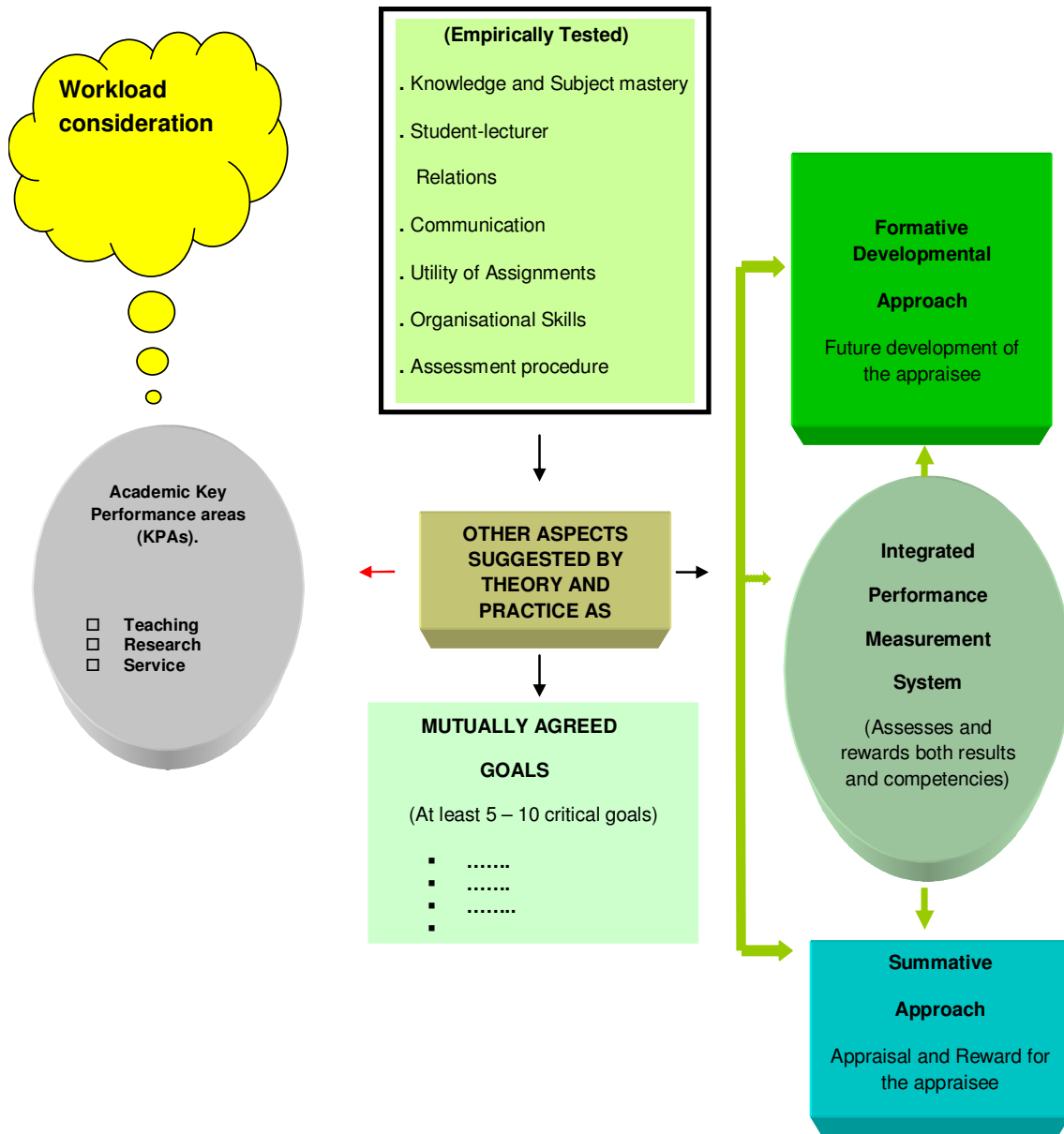


Figure 2. Conceptual model of performance measurement for lecturers. ModelLecturers.

Conclusion

The suggested Performance Measurement Model is intended to assist and guide universities in measuring the performance of existing lecturers. It is also poised to guide in measuring the quality of newly appointed lecturers at recruitment and selection level and once appointed, by tracking their level of performance throughout their first academic year of employment and thereafter, thus assuring quality at entry level of the employment process and during tenure.

Furthermore, the tested competencies encapsulated in

the model may also be used by lectures for self evaluation purposes and by students (in class) to evaluate their lecturers.

This study achieved its objective of developing a social science tool which could be used as a guideline to assist universities in managing performance of their staff. The objectives set for this study were to:

1. Investigate the relevance of Robbins et al. (2007: 373) seven performance measurement dimensions for lecturers and explore the influence of demographic variables on these dimensions.

2. Explore and empirically test the seven performance dimensions for lecturers at universities as suggested by Robbins et al. (2007).
3. Derive a performance measurement model that can guide the academic leadership in assessing and managing the performance of lecturers at universities.

Despite the limitations already pointed out, the major strength of this study is its discussion on the scholarship of performance measurement mainly as it appears in the discipline of management and also its attempt to capture lecturers' perspectives on the subject matter using a survey questionnaire and statistical analyses.

Practical and managerial implications of the study

The study is poised to inform policy on Performance Measurement for lecturers and thus assist in introducing a performance culture and a broadly researched measuring tool that will help universities to effectively manage performance of the lecturing staff, and also assist academic leaders in this sector to identify the developmental needs of the lecturing staff.

In addition to the aforesaid, the literature review has revealed that organisations that lack a performance culture and a reliable system of managing performance, often find it extremely difficult to fairly reward good performers accordingly. The latter may ultimately end up being demotivated based on the feeling that excellent performance does not mean anything to them in terms of reward.

Limitations of the study

The limitations of the study were identified as follows:

1. Sample size appears to be a limitation in this study. However, other authors like Cattell (cited in McCallum; Widaman et al. (1999) suggested a subject to variable ratio that is within the range of between 3 and 6. In the case of this study the aforesaid condition was satisfied. In so far as sample size is concerned, Gorsuch and Kline (cited in McCallum; Widaman and Hong (1999) recommended that N should at least be 100 to obtain factor solutions that closely corresponds to the population factors. A suggested rating scale in this regard is: less than 100 = poor; 101 to 200 = fair; 201 to 300 = good; 301 to 500 very good and 1000 or more = excellent. To this end, the results of this study seem to fall within the 'fair' bracket as the N falls between the 101 and 200.

Based on the aforesaid motivation for using the 170 responses for analysis purposes, the results including the suggested model can at best, be seen as a preliminary structure with the view to verifying the results in larger samples. Furthermore, the said results can also be used

as a basic framework for universities in their effort to develop performance measurement for their lecturing staff.

2. It may be pointed out in general terms that academics were reluctant to respond to a survey questionnaire. Consequently, the ultimate response to the questionnaire was not very good, especially for factor analysis purposes and would render the results somewhat difficult to generalise.
3. Not all lectures accessed through internet had email addresses. A mail questionnaire could also have been used to supplement the electronic one so as to improve the response rate.
4. The performance dimensions or the critical success factors and sub factors were not weighted or ranked in order of significance. An extended study, which falls somewhat outside the original scope and defined objectives, could include a forced ranking with subsequent follow-up tests including the Kruskal-Wallis and Mann-Whitney tests.

Suggestions for further research

1. The design of a future instrument for measuring performance dimensions should focus on the Performance Measurement dimensions only and exclude the other sections of the questionnaire relating to the general perceptions of Performance Management. This may assist to improve the response rate and would be less intimidating as respondents would be expected to answer relatively fewer questions.
2. It is further suggested that the body of knowledge revealed by this study be administered to larger sample so as to secure a response sample of at least 300 respondents.

RECOMMENDATIONS

Based on the value of the study, the following recommendations are made:

1. The suggested model is used as a guiding framework for development of policies and as an instrument for measuring performance of academic staff at universities. Universities in South Africa that do not have a performance management system can rely on this framework to develop their systems in this regard.
2. The seven performance dimensions tested in this study be integrated with mutually agreed goals as shown in the suggested model when performance agreements are being entered into.
3. Competencies suggested by Franzen (2003) with mean comparison score greater than 3, be considered for inclusion in the tested model. These are: self-development; organisational skills; leadership; developing

others; research skills and writing skills.

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