

Establishing Performance Indicators for University Academics through a Consensus-based Approach: A South African Case Study

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ABSTRACT This study sought to identify Key Academic Performance Indicators (KAPIs) for academics (university teachers) based on a consensus among academics and management. The research questions were: (a) what are consensus-based KAPIs for academics on some selected factors such as publications, conference papers, presentations at faculty-based research seminars, research projects, evaluation of academics, and community projects or engagement; and (b) what factors (if any) might hamper the achievement of the KAPIs. A quantitative survey design was used. A sample of academics was selected from one comprehensive university (CU) using stratified sampling in order to ensure that all faculties were represented. The sample consisted of 243 academics and 12 members of the university management. Due to their small number, all members of the management were selected. A questionnaire was used to collect the data. The questionnaire return rate for academics and members of the management was 41% and 92%, respectively. The data were analysed using frequencies and percentages. The study identified consensus-based KAPIs for academics in a CU. These KAPIs were on: publications; conference papers; research seminars; research projects; evaluation of academics by students, peers and subject experts. The respondents also identified a number of concerns in achieving these KAPIs and these were: large class sizes; heavy workloads; inadequate resources; and a non-conducive environment. Based on these concerns, the study recommends short-, medium- and long-term interventions.

INTRODUCTION

In April 2001, the South African Minister of Education mandated a National Working Group (NWG) to investigate and advise him on appropriate arrangements for consolidating the provision of higher education. Based upon the NWG's recommendations and further consultations and discussions, the Higher Education (HE) landscape was re-structured, *inter alia*, into public universities and private HE providers. The number of Higher Education Institutions (HEIs) were reduced from 36 to 21, constituting 11 traditional universities, five universities of technology (former technikons which are similar to polytechnic institutions) and five comprehensive universities (Amoore and Qhobela 2004; Cele and Menon 2006). The above was later revised and currently (2011) there are 23 universities: 11 traditional universities, six universities of technology and six comprehensive universities (CUs). Besides technikon-type programmes, the new type

of CUs also offer programmes which are integrated technikon and university programmes, and traditional university programmes.

Public HEIs are largely dependent upon government funding, student fees and foundation financial resources for their teaching/learning, research and community engagement activities. The financial burden of HEIs are further compounded by the economic recession and factors such as the government grants being not usually inflation-related, student-fees collection becoming more and more difficult and donations from donors and sponsors dwindling. Despite these constraints, all stakeholders still look for better performance delivery and hence Performance Indicators (PIs) are important for improved efficiency and effectiveness. Furthermore, the need for equitable academic workloads, transparency in allocation and distribution of academic workloads is driving institutions to develop PIs which can be measured for recognition and rewards.

Goal-setting theory states that people who set goals outperform those who don't (Locke and Latham 1990). The organizational process of goal setting deals with (1) aligning personal and organizational goals and (2) rewarding goal attainment. Goal-setting principles are evident in such popular programmes as Management by

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Objective (MBO) and self-management (Ivancevich et al. 1994). Goal-setting research emphasizes the role of conscious intentions in work (Locke and Latham 1984). That is, people with goals perform at higher levels than people without goals. Goals can help to: direct attention and action; mobilize effort; create persistent behaviour over time; and lead to strategies for goal attainment (Locke et al. 1981). It is within this theoretical background that PIs are being formulated for academic staff in CUs. Soutar and McNeil (1996:72), state that, "it would seem appropriate if all faculties became involved in the establishment of clear strategic goals for their respective departments and developed pertinent PIs to measure progress towards these goals." The same should be true for academic staff. In an era that places emphasis on quality management in the HE sector, it is important that universities formulate key academic performance indicators (KAPIs) for staff. Managing an organisation without performance indicators is like a captain of a ship navigating without any instrumentation (Besterfield et al. 1995:101). Therefore, every organisation which is serious about quality must have key performance indicators (KPIs).

The concept of Quality in Higher Education (QHE) often remains vague and unspecified. According to Nightingale and O'Neil (1994), Aschroft (1995), Harvey and Green (1996) and Singh (1999), QHE can be defined in terms of fitness for purpose, transformation and value for money. The Higher Education Quality Committee (HEQC), that is responsible for promoting quality assurance in HE in South Africa, has developed a quality assurance framework and criteria, based amongst others, on 'fitness for purpose', 'quality as transformation' and 'value for money' (HEQC 2004). It is important not to ignore statements such as "what gets measured, gets done" (Stables 2001:315), "if you can't measure it you can't manage it" (Ketteridge et al. 2002:78), "if it cannot be measured, it cannot be controlled" (Finch 1994:65), "what gets measured gets attention" (Eccles 1991:131), and "if you cannot measure it, you cannot improve it" (Lomas 2002:76). In this context, terms such as 'critical success factors', 'performance measures', 'performance indicators' and 'key performance indicators' are pertinent. KAPIs are a group of PIs that are important to achieve certain stated objectives. The objectives of the performance indicators would be to firstly, establish baseline measures and to reveal trends; secondly, to compare goals with actual performance; and thirdly, to provide

information for individual, departmental and faculty evaluation (Besterfield et al. 1995). According to Oakland (1995:173), performance indicators play an important role in identifying opportunities for improvement (quality costing); comparing performance against internal standards (process control and improvement); and comparing performance against external standards (benchmarking). Therefore, the concepts of performance indicators and quality assessment have clearly become international issues (Dochy et al. 1990; Kells 1992). They are becoming an integral part of an emerging international method on how to better manage and assess HE, and they serve as signals or guides for making national or international comparisons in educational quality, effectiveness and efficiency (Sizer et al. 1992; Burke 1993).

This paper deals with one part of a larger study carried out at one CU in South Africa. The research questions were: (a) what are consensus-based KAPIs for academics on some selected factors such as publications, conference papers, presentations at faculty-based research seminars, research projects, evaluation of academics, and community projects or engagement; and (b) what factors (if any) might hamper the achievement of the KAPIs.

Research, publications, teaching and administration and community service are some of the major functions of HEIs. Research is a significant performance indicator as it forms a fundamental component of the higher education system (Jinabhai 2003). The advancement of knowledge through research has long been recognised as one of the major goals of universities (Ellis 1993; Mamdani 1995; Mwamwenda 1997). Mwamwenda (1997:94) reported that a study by Colman et al. (1992) in 16 universities (among them Kent, Cambridge, Bristol, Oxford and Manchester) indicated that academics produced an average of two publications per person per year. In Singapore, at least one regional and one international journal publication annually appears to be the norm (Loh et al. 1997:267). Gillard (2004:28) refers to Massaro (2002) who reported that in Australian universities, academics are expected to have an average of 0.5 refereed publications per annum per full-time equivalent academic staff member. In South Africa, academics are expected to publish at least 1.25 articles annually in journals which the Department of Education has accredited (Schulze 2008). An ideal platform to share research results are national and international conferences and seminars. Carl and Kapp (2004) state that staff must participate authoritatively in a forum with academics,

who share their field of specialisation. Schulze (2008) refers to grants being awarded to researchers on condition that there is a research output of at least three articles in accredited journal plus three conference papers during the preceding five year period. Balfour and Lenta (2009) suggest attendance at one conference per year. Seminars, on the other hand, are encouraged by Naidoo and Lange (1994) and Heijnen et al. (2003). Heijnen et al. (2003) recommend monthly seminars. Staff members at one South African university were encouraged to present at least one seminar per semester (Balfour and Lenta 2009:15).

Internationally, there is a strong belief that HEIs exist to serve and strengthen the society of which they are a part. Institutions should strive to create social capital by preparing students to contribute positively to local, national and global communities. The conference on Civic Engagement (Taillores Declaration 2005) resulted in the adoption of The Taillores Declaration which spells out the civic roles and responsibilities of higher education (Nduna 2006; Walker and McLean 2010). This emphasises that academics must be engaged in community projects. Finally, there is international recognition of evaluation of academics by students, peers and subject experts. Student evaluation is recommended by Ellis (1993) and Veld et al. (1996); peer evaluation is advocated by Heijnen et al. (2003) and Gravett and Geyser (2004); and the use of experts is supported by Barnett (1992) as cited by Quinn and McKellar (2002) and Gosling (2002). Peer review is used for quality maintenance and enhancement in HE in countries such as Australia, France, Germany, New Zealand, United Kingdom, USA and South Africa (Frazer 1994).

At the time of this research at the CU at which the study was carried out, there were five faculties: Faculty of Business, Management Sciences and Law (FBMSL); Faculty of Education (FED); Faculty of Health Sciences (FHS); Faculty of Humanities and Social Sciences (FHSS); Faculty of Science Engineering and Technology (FSET). All the faculties took part in the research.

METHODOLOGY

A questionnaire consisting of a total of 12 items (two on each of the six selected KAPIs) in structured and unstructured formats were used. The questionnaire items were developed by the researchers on the basis of ideas which were gathered from an extensive literature survey. Feedback from a pilot study with 18 academics was helpful in modifying the items in the

questionnaire. Statistical test for reliability was not carried out and this could be a limitation. The sample consisted of 243 academics out of a population of 608, selected through stratified sampling, in order to ensure representation from all the faculties and all 12 members of the university executive management. Due to the geographical separation of the four main campuses of the CU, with distances of more than 100 km in one case and more than 250 km in others, a mail survey was preferred. Despite many reminders, only 108 questionnaires were returned and out of these, only 100 were correctly and fully completed. The questionnaire return rate for academics and members of the management were 41% (100 out of 243) and 92% (11 out of 12), respectively. The data were analysed for frequencies and percentages. Data triangulation and method triangulation were used as means of enhancing the credibility of the findings. On most of the structured items, the members of the sample were requested to respond to a statement on specific performance indicators on the Likert scale options of 'Strongly agree', 'Agree', 'Neutral', 'Strongly disagree' or 'Disagree'. They had to comment if they disagreed or strongly disagreed on the unstructured part.

The study had its limitations such as: revised vision and mission statements emanating from the merger and transformation context during the period of the study; former technikon and university staff with different qualifications and experiences, different cultural backgrounds and having been tuned to different performance indicators of technikons or universities. These could have influenced the results. Besides, responses from members of heterogeneous groups usually differ. Ethical considerations were taken care of, amongst others, by obtaining the required institutional permission and requiring all respondents to sign informed consent forms.

RESULTS

The responses in the returned questionnaires for the Likert scale items 'Strongly agree' and 'Agree' were collapsed to 'Agree' and 'Disagree' and 'Strongly disagree' were collapsed to 'Disagree' throughout the data presentation.

Respondents' Biographical Data and Spread of Academic Respondents Across Faculties

The academics' ranks ranged from Junior Lecturer to Professors with the majority (79%) in the Lecturer and Senior Lecturer category. The majority (72%)

had either Master's (55%) or Doctoral degrees (17%). The academic ranks of the participants from the university management were Executive Deans (27%); Vice-Dean (18%); Directors and equivalent levels (55%). Amongst them 36% were Professors. The respondents' academic affiliations before the merger were Technikon (32%) and University (68%). From the above description, it is evident that the respondents were adequately qualified and experienced enough to apply their minds while responding to the items in the questionnaire.

Table 1 presents the data on the distribution of respondents per Faculty.

Table 1: Distribution of respondents per faculty

Faculty	No. of respondents in the sample	No. and % of respondents returning questionnaires per faculty	% of respondents returning questionnaires per faculty
FED	20	13 (65%)	13%
FHSS	20	10 (50%)	10%
FHS	32	13 (41%)	13%
FBMSL	88	35 (40%)	35%
FSET	83	29 (35%)	29%
TOTAL	243	100 (41%)	100%

Note: Business, Management Sciences and Law (FBMSL); Education (FED); Engineering, Science and Technology (FSET); Health Sciences (FHS); Humanities and Social Sciences (FHSS).

According to Table 1, the return rate in descending order for respondents per faculty was 65% (FED), 50% (FHSS), 41% (FHS), 40% (FBMSL) and 35% (FSET), respectively. FBMSL and FSET were two of the largest faculties and they offered programmes at three of the four campuses where this study was conducted. The return rates amongst faculties were, in descending order, 35% and 29% for FBMSL and FSET respectively, and 13% each for FED and FHS and 10% for FHSS. The overall return rate for the sample was 41% and in the context of the other studies on quality management with return rates of 35% (Elmuti et al. 1996) and 34% (Hay and Herselman 2001) the return rate of 41% is considered as satisfactory.

KAPIs for all Academics

The recommendations on the minimum expectations per rank level year, based on the majority of respondents, are summarised in Table 2:

Table 2: Recommendations on the minimum expectations per rank level

year	No. of publications in refereed journals per year		No. of conference paper per year		No. of faculty based research seminars (FBS) annually and no. of annual research projects (ARP) in 2-3 year cycle		Evaluations(s) in 3-year cycle		No. of Community projects in 2-3 year cycle	
	For JA*	For SA*	For JA*	For SA*	All academics	All academics	By students	By peers	By experts	All academics
AR ^{E%}	1 (64%)	2 (68%)	1 (72%) LC# or NC#	1 (78%) NC# or IC#	1 (67%) FBS;	1 (77%) ARP	1 (75%)	1 (72%)	1 (81%)	1 (93%)
MIR ^{E%}	1 (91%)	1 (91%)	1 (100%)	1 (73%)	1 (91%) FBS;	1 (100%) ARP	1 (73%)	1 (82%)	1 (73%)	1 (91%)

^{E%} Academic respondents (AR); Management respondents; *JA: Junior Academics (Lecturer); SA: Senior Academics (Senior to Professor); #LC: Local conference; NC: National conference; IC: International conference.

Table 2, row 3 is labelled AR to refer to academic respondents and row 4 is labelled MR to refer to management respondents. In columns 2 and 4, JA refers to junior academics, that is, those below Senior Lecturer level and in columns 3 and 5, SA refers to senior academics. The expectations on the minimum numbers of different performance indicators were:

Publications in Refereed Journals Per Year: The majority of respondents (64% academics and 91% members of management) agreed on at least one and two publications in refereed journals per year for junior and senior academics, respectively.

Conference Papers Per Year: The majority of respondents agreed on at least one conference paper per year each for junior academics and (72% academics and 100% members of management) senior academics (78% academics and 73% members of management). However, they were local or national conference for the former group and national or international conference for the latter group.

Faculty-based Research Seminars Per Year: The majority of respondents (67% academics and 91% members of management) agreed on at least one presentation in faculty-based research seminars per year for all academics.

Research Projects: The majority of respondents (77% academics and 100% members of management) agreed on at least one research project per year in a 2-3 year cycle for all academics.

Evaluation of Academics by Students, Peers and Subject Experts: The majority of respondents agreed on at least one evaluation of academics by each of the following groups in a 3- year cycle for all academics: students (75% academics and 73% members of management); peers (72% academics and 82% members of management); subject experts (81% academics and 73% members of management).

Community Projects: The majority of respondents (93% academics and 91% members of management) agreed on at least one community project in a 2-3 year cycle for all academics.

Table 3: Summary of comments

<i>Performance indicator</i>	<i>Comments by academics</i>	<i>Comments by members of the management</i>
Publications	heavy workloads; one publication per annum is a high expectation; lack/shortage of computers and other resources	the period from conceptualising a paper to its publication takes long time; novice academics do not find it easy to publish.
Conference papers	depends on allocation of teaching duties; heavy workload; one conference per annum is a high expectation for junior academics	two papers annually, especially by professors; one paper should be the minimum.
Faculty seminars	depends on allocation of teaching duties; depends upon workload constraints.	one seminar is the basic minimum; seminar presentation helps to train/develop staff and build confidence.
Student evaluation by students	should be yearly; student evaluation may not be objective; establishment of criteria essential for evaluation.	should be yearly; should be more frequently; should be once at the end of the module/course.
Staff evaluation by peers	should be yearly; results could be biased; should be done by an independent body.	comprehensive responses will be received if done once in a three year cycle.
Staff evaluation by experts	who are these experts; who chooses these experts; as long as there are resources.	every five years; evaluation goes with programme accreditation evaluations ensure standards.
Research projects	teaching workloads need to be reduced; provide for assistance and leave; an enabling environment is required.	all should be involved in research.
Community involvement	depends upon lecture workloads; an enabling environment is required; must reduce no. of students in class.	20% of time should be spent on community engagement; sharing of information with communities and to help them substitute with definition (of 'community' project) is broad and it differs from department to department.

Table 3 summarises the key comments for all the KAPIs.

Table 3 depicts the summary of the respondents' qualitative comments on the unstructured parts of the questionnaire. Heavy workloads, unavailability of resources and a disabling environment were the main concerns which repetitively surfaced in the comments. Academics agreed that research was an important part of their job description. Nevertheless, they indicated that it was difficult to engage actively in research because of heavy workloads and time constraints.

DISCUSSION

The majority of respondents from academics and management groups indicated consensus on at least one and two publications in refereed journals per year for junior and senior academics, respectively. This is more or less in line with: the South African Ministry of Education's standpoint (2004:13) that approved the following benchmarks for permanently appointed instruction/research staff for the period 2004/05 to 2006/07: 1.25 units for universities and 0.5 units for technikons; Loh et al.'s 1 unit for all academics; Carl and Kapp's (2004) 1 unit for a Senior lecturer and 1.33 for a Professor. However, Mwamwenda's (1997) report on the results from Colman et al.'s (1992) 2 units, Gillett's (1987) 2.6 units by British academics and Schulze's (2008) 3 units are above these. Nonetheless, the respondents of this study were concerned about the heavy workloads and the lack/shortage of computers and other resources which prevent academics from achieving these targets.

There was agreement that junior academics are expected to present at least one conference paper per year (regionally or nationally) and senior academics (nationally or internationally). The findings of this study concur with that of Balfour and Lenta's (2009) one conference per year. However, Schulze (2008) recommends at least three conference papers in the preceding five year period which could be a target to aim at by academics at CUs.

The majority of respondents from academics and management groups indicated consensus on at least one presentation in faculty-based research seminars per year for all academics. Seminars on both teaching and research are encouraged by Naidoo and Lange (1994) and Heijnen et al. (2003). However, the results of the present study are at variance with those of Balfour and Lenta's (2009) one seminar per semester and Heijnen et al.'s (2003)

monthly seminars. In this study however, respondents referred to heavy workloads and allocation of teaching duties as possible barriers to achieving these targets both for conference papers and seminar presentations. An important point was made by one member of management who stated that seminars help to train/develop staff and build confidence.

Academics and members of management in this study agreed on at least one research and one community project per year in a 2-3 year cycle for all academics. Other studies, for example, Mandani (1995), Mwamwenda (1997), Carl and Kapp (2004) also support research projects in universities. Similarly, Nduna (2006) and Walker and McLean (2010) recommend community projects or engagements. These studies do not specify the number of projects. However, this would depend on the capacity and resources of academic departments.

The majority of respondents from academics and management groups agreed that all academics be evaluated once in a 3- year cycle by students, peers and subject experts. Other studies do not specify a number per cycle, but recommend evaluations. Student evaluation by means of questionnaires is a long-standing and significant practice of higher education in the USA (Cave et al. 1997) and in the UK (Committee of Vice-Chancellors and Principals 1987). While Gravett and Geysler (2004) recommend student and staff evaluations, Heijnen et al. (2003) recommend external evaluations of teaching and assessment. The peer review system is used in countries such as Australia, France, Germany, New Zealand, United Kingdom, USA and South Africa (Frazer 1994). The use of experts is supported by Barnett (1992) as cited by Quinn and McKellar (2002) and Gosling (2002).

Heavy workloads, high student numbers, unavailability of resources and a disabling environment were the main concerns which academics reported in order to achieve the above performance indicators. Although academics agreed that research was an important part of their job description, they indicated that it was difficult to engage actively in research, conferences and community projects because of heavy workloads and time constraints. Heavy workloads are also referred to by Lessing and Schulze (2002), Schulze (2006) and Garnett and Pelsler (2007). Another concern is the high number of students in classes. This is confirmed by Roberts et al. (2006:221) who

claim that while full-time equivalent student numbers in South Africa increased by 141 per cent in the higher education system from 1986 to 2003, the total number of academic staff increased only by 53 per cent. Availability of resources is also a challenge in most HEIs. Previous studies in South African HEIs, for example Du Plessis (2005) and Garnett and Pelsler (2007) also report on insufficient resources as barriers in HE. Schulze (2008:654) reports a 'lack of supportive environment' in a HEI as a factor militating against the delivery of quality research. These concerns must be addressed to achieve the recommended KAPIs.

CONCLUSION

The study identified KAPIs for academics in CUs on a consensus-based approach in order to elicit their support. These were at least one and two publications in refereed journals per year for junior and senior academics, respectively; one conference paper each per year for both junior and senior academics (local or national conference for the former and national or international conference for the latter group); one research seminar presentation per year for all academics in faculty-based seminars; one research project activity in a 2-3 year cycle for all academics; one evaluation of academics in a 3-year cycle for all academics by each of the following groups: students, peers and subject experts; one community project in a 2-3 year cycle for all academics. However, respondents raised various concerns in achieving the KAPIs: large class sizes; heavy workloads; inadequate resources and a non-conducive environment to pursue research, research-based seminar presentations, conference presentations, research publications, and active community engagements. On the one hand, the institution needs to take steps to address and solve the concerns raised by the respondents in the short- and medium-terms, and also the respondents must be innovative and find ways to meet the minimum expectations and standards despite the challenges, on the other.

RECOMMENDATIONS

The short-term measures recommended are: institutional actions to improve staff development including research-capacity building programmes; improved funding and infrastructure; availability of equipment and other resources for research; and,

facilitating equitable workloads. Academics also need to take personal initiatives to improve participation in research activities, enhance research outputs and become active in community engagements. The medium-term measures recommended are: institutional support to improve staff qualifications and positive steps to lower staff-student ratios. As part of staff personal initiatives, academics also need to strive hard despite existing challenges. In concurrence with the Goal Setting theory, the authors recommend that institutions set some long-term goals. Members of the management ought to actively engage with academics in joint activities to set goals. One of the key elements in a performance management system is the development of job descriptions in order to attain the strategic aims of the university and achieve relevant KAPIs. Individualized profiles can consist of the incumbent's rank level expectations. Finally, research on KAPIs for staff in general and academics in particular for CUs is still in its infancy since CUs in South Africa are new. Similar research may be carried out at other CUs nationally and internationally in order to formulate KAPIs that may be internationally recognised.

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