HESA submission on costing in Higher Education

Task team:
Philip Bester (Unisa)
Willem du Plessis (Unisa)
Liana Griesel (Unisa)
Gilbert Mncube (Unisa)
Annalie Retief (Unisa)
Rueon Scott (Unisa)

10 September 2008

CONTENTS

1 INTRODUCTION

1.1 Background

By carrying out research and providing professional training for the labour force, the Higher Education sector plays a central role in enhancing the ability of South Africa's commerce and industry sectors to compete effectively in national, African and international markets. Of equal importance is the role it plays in the cultivation of expertise linked to social and cultural development, and the creation of a skilled and well-informed community that is able to advance democracy and social responsibility.

The role of the sector is articulated in the National Plan for Higher Education (NPHE, 2001). Its goals include:

- more equitable student access
- improved quality of teaching and research
- increased student progression and graduation rates
- greater responsiveness to social and economic needs

Achieving these national goals places a dynamic responsibility on HEI to go beyond the traditional approach of institutional planning and the allocation of scarce resources. In consequence, more sophisticated and aligned institutional planning is vital, together with a renewed architectural fabric of processes, technologies and systems, to take cognisance of the numerous challenges HE is facing in addressing the national goals.

This changing landscape requires an influx of financial support, and in response to these demanding goals and the associated increased costs of higher education provisioning, universities have raised tuition fees (HESA, 2008).

Analyses pertaining to HE income and in particular to subsidy and student fee incomes remain popular among HE planners and financial managers. Sustaining the operational needs and national challenges through increased income is a matter of regulating internal policies and is effective in the short term. However, to become more efficient and effective through rigorous cost analyses in aligning human, financial and infrastructural resources strategically to the core functions of HE requires an institutional culture responsive to how resources are consumed and to the impact of this over a longer period. The latter scenario

is not a quick solution to HEI but in the long run HEI can reap the strategic benefits of introducing sound costing methodologies.

Introducing costing methodologies in HE has far-reaching strategic benefits, of which pricing is but one. Price management in HE is difficult because one needs to satisfy all stakeholders in relation to the sustainability and quality objectives set by each institution. Merely applying a CPIX or even an internal rate of inflation does not provide adequate and knowledgeable insight to ensure that the student fee is reasonable to compensate for the benefit that the student receives by enrolling at a particular institution (Cant, 2003).

There are a number of pricing methods and approaches but for the purpose of this discussion document it was decided to apply cost based pricing as an appropriate methodology for HEI. Cost based pricing methods are the most widely used, for several reasons (Cant, 2003). Firstly, they are simple. Secondly, cost orientated pricing methods are less risky, because they are based on a known factor, namely cost. Thirdly, cost based methods tend to lead to more stable process over time, because prices are set based on factors internal to HEI, such as staff cost (Cant, 2003).

Against this backdrop, this report focuses not on the argument of diminishing income as a core research area in Higher Education but rather on an approach to manage the consumption of the available resources, through applying a cost methodology in an attempt to understand the allocation and consumption of resources in HE.

1.2 Approach

The approach followed was to create an awareness of the efficacy of adopting a standardised cost accounting methodology and its potential strategic spinoffs.

1.3 Outline of the submission

This report comprises four sections, namely:

- Costing in Higher Education
- Costing methodology (strategic benefits)
- Cost model
- From costing to pricing

2 COSTING IN HE

In 2000, Cropper and Cook investigated the state of costing in the higher education sector, also indicating the maturity and uptake of specifically activity-based costing in United Kingdom universities. Their findings state:

> As higher education continues to function in a period characterized by limited resources and constraints on growth, it is clear that an assessment of the cost of institutional activities will become an ever more important component of every management decision. While traditional costing methods undertaken by the central finance department are still important for defining the expenditure incurred by faculties, schools and departments, it is clear that there is a growing need for an entirely different kind of analysis. This would be one which will aid planners and administrators at the sharp-end of the organization - the academic department – in costing to a detailed level. (Cropper & Cook 2000, p.67)

In 2001, Professor Tatikonda, focusing on the United States HEI, wrote "... (HEIs) are in a state of turmoil and fiscal crisis. Escalating costs, diminishing resources, increased competition, unhappy customers (students, parents), and state legislators demanding accountability are pressuring them to manage their costs better".

One of the original articles[1] relating to activity-based costing highlighted the change in the landscape of organisations in general and the impact thereof on the environment. This culmination of events leads to the following:

- distorted cost information because of accounting, system and pricing legacy
- the substantial rise of indirect cost elements
- product line and marketing channel proliferation
- plummeting cost of information technology

Thus, the absence of a sophisticated costing methodology and a simplistic approach to costing is no longer justifiable. The imperatives cited in this activity-based costing article

[1] COOPER, R & KAPLAN, RS. 1988. Measure costs right: make the right decisions. *Harvard Business Review*. September–October. pp 96-103.

still hold true today. The current South African higher education landscape also bears testimony to distorted and flawed cost information of products on tuition level.

In the absence of a detailed study regarding the different costing methods applied by the institutions of higher education in the South African market, one can only conclude that there is an urgent need for a sophisticated costing approach within South African HEIs.

From international and local evidence, it is possible to highlight the symptoms resulting from the absence of a costing methodology. These are:

- duplication of course offerings among departments
- production of courses in the absence of a market[2]
- the continuous subsidisation of institutional inefficiencies and waste
- outdated and bureaucratic procedures
- annual unsubstantiated increases in student fees
- cost increases which exceed inflation and are recovered from students
- internal failure to deliver on strategic interventions
- cross-subsidisation of non cost-effective academic programmes
- cross-subsidisation of noncore business activities

Students, through increased student and tuition fees, are expected to subsidise the above shortcomings.

This highlights the need, specifically in the South African environment, for higher education to embrace not only a comprehensive but also a sophisticated costing methodology.

The continuous subsidisation of institutional inefficiencies and failures through annual unsubstantiated increases in student fees is addressed in one way or the other in most of the articles scrutinised. Inefficient systems, internal failure to deliver on strategic interventions and cross-subsidisation of noncost-effective academic programmes as well as noncore business activities are (could be) partly subsidised by students through increased student fees.

[2] Enrolment planning could address this symptom and shortcoming.

The way to inculcate a regimen of quality and effectiveness so as to support long-term effectiveness is through the establishment of a sound cost accounting methodology; more importantly, such methodology must underpin pricing management in HE. In the long term, institutions should reap the benefits of strategic spin-offs, using the costing platform to benchmark exercises to benefit all HEIs striving to reach effectiveness. Benchmarking may ultimately not only cover academic cost but also be extended to services, systems, procedures and programmes.

3 A STRATEGIC COST MANAGEMENT FRAMEWORK FOR HE

3.1 Background

In the recent published *Costing guidelines for higher education institutions* (Higher Education Funding Council), Professor David Westbury (University of Birmingham) writes: "Sound costing information to underpin decision-making in higher education institutions is vital, particularly as financial constraints become tighter".

Back home, many HEIs found themselves struggling to balance strategic needs with the available resources, seeking for solutions focusing on the income stream rather that following Professor Westbury's advice to move towards sound costing principles.

This statement is supported by the HESA analysis of HE pricing and in particular of the process of setting tuition and registration fees. Setting fees in HE is an annual event and forms a fundamental part of the normal budgetary process during which the financial statements are subjected to rigorous scrutiny, taking into account the following factors:

- Strategic objectives
- Academic plan
- Financial aid to students
- Projected expenditure
- Projected subsidy income
- Projected student enrolments
- Tuition and related fee scenarios
- Projected residence fees
- Comparison with other universities
- National inflation rate or a derived inflation rate

From the above it is evident that very little or – even worse – no emphasis is placed on cost, a fundamental determining factor for setting fees. Is this not an omission on the part of HE practitioners to include cost analysis as part of strategic decision making?

Is there a need for HEIs to investigate a standardised costing approach that outlines the core, primary and secondary functions of HE in such a way that it does not comprise the institutional identities nor their social mandates which recognise and acknowledge each institution's uniqueness?

3.2 Integrated costing and funding approach

The Ministry report on the new funding framework states that the basic feature of the funding framework is that it links the awarding of government higher education grants to national and institutional planning. This therefore makes the funding framework a goal oriented mechanism which is underscored by the available financial resources and enrolment planning. The enrolment planning process takes into account FTE students and FTE staff as input measures and throughput and research outputs as output measures, among others, as the determining factors of the resources available to be allocated to institutions in support of the goals outlined in the National Plan for Higher Education (NPHE).

The funding should not be seen merely as a source of income but rather as how these income sources are being consumed by the various institutional processes, and their interrelatedness with one another. As soon as a process consumes resources it incurs cost. Understanding cost behaviours (ie cause/effect relationships) helps institutional planners and managers to understand the drivers which influence the cost of teaching, research and community engagement together with the primary and secondary support functions. This insight lies at the heart of achieving enhanced quality and institutional effectiveness. The relationship between funding and cost behaviours is presented in the schematic illustration below.

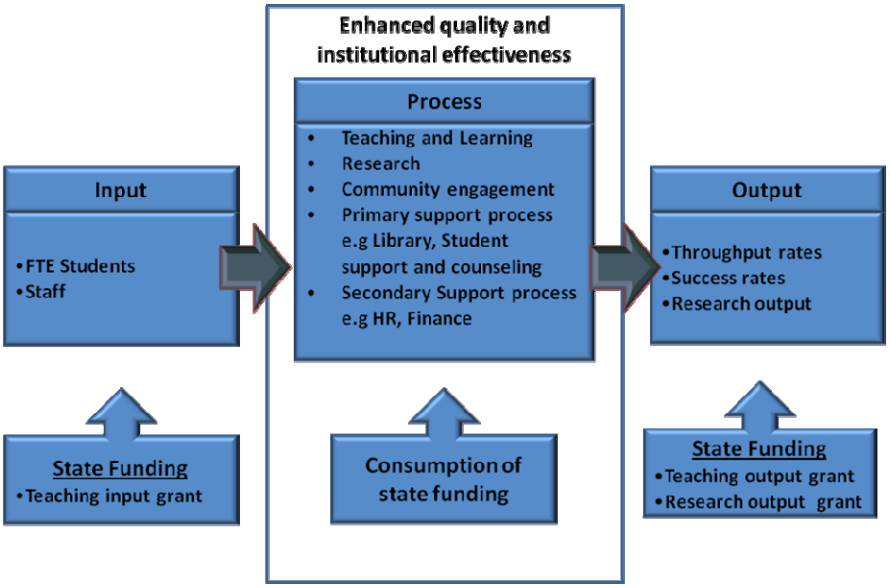


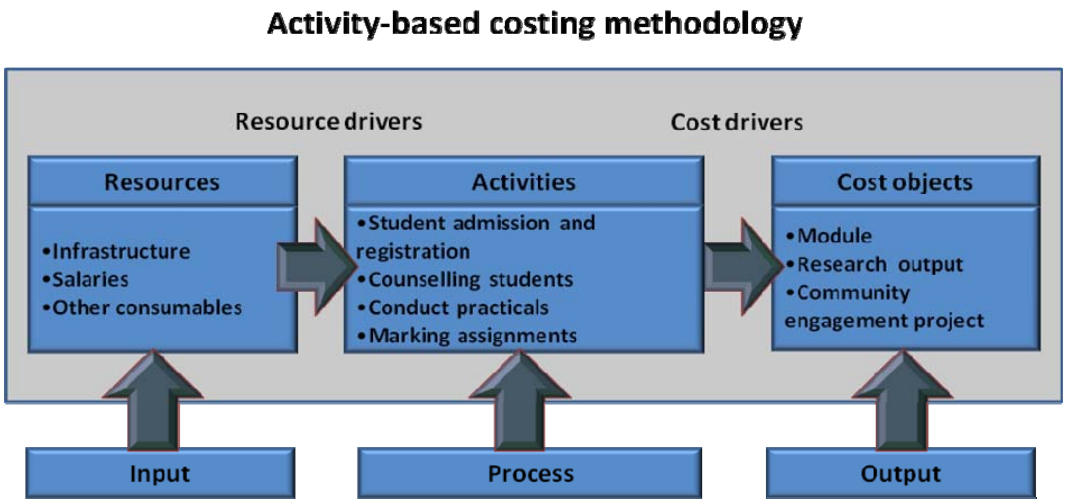
Figure 1: Relationship between state funding and costing

Professor Tatikonda in his article "Activity based costing for higher education institutions" says that to achieve excellence requires a critical evaluation of academic and support processes and activities.

A critical evaluation of processes requires, among others, adequate financial management information based on an assessment of the cost of institutional processes and activities. While traditional costing methods undertaken by the central Finance department are still important for defining the expenses incurred by faculties/colleges, schools and departments, it is clear that there is a growing need for an entirely different kind of analysis.

Such analysis reveals a need to introduce a sophisticated and integrated cost management system for HEIs underscored by a set of costing guidelines. The principal objective of a set of costing guidelines is to ensure a consistent costing framework applied across institutions to derive and report on costs. This framework should also be integrated with current and well-established national planning and funding frameworks.

From the number of widely accepted and used costing methodologies available, two universities are practising activity-based costing (ABC) as a preferred methodology, namely Unisa and NMMU. The rationale for introducing ABC as a separate financial management system is to deal with the



challenge of tighter financial constraints by enhancing the efficiency of resource allocation and consumption. The schematic illustration below shows how resource costs are assigned to activities through resource drivers (eg time spent per activity) and subsequently how activities are linked to cost objects using cost drivers (number of staff, students or square metres).

ABC is likely to be most appropriate in an environment such as the HE sector, and to serve as an important strategic management and planning instrument in the provision of a more accurate picture of the true costs of modules/programmes; it can also help HEIs to manage their PQM better and to eliminate module proliferation and obsolete modules (Tatikonda, 2001).

3.3 Steps in applying ABC

Comparing the work of Tatikonda, Cropper and Kaplan, there is consistency in the way they approach the implementation of an ABC system. The steps in applying ABC are standardised, and Unisa in particularly applies the same steps as outlined in the work of Kaplan. These steps are:

- Structure the expense types into resource categories in terms of the institutional

Figure 2: Activity-based costing methodology

  characteristics (e.g staff, consumables, travel, equipment and infrastructure).
- Identity the activities of the institution (course delivery, admissions etc).
- Assign resources to activities.
- Identify the cost objects (modules, programmes, accredited research outputs, community project).
- Link the activities to the cost objects using cost drivers (staff, students, departments).
- Analyse and report the results.
- Engage in institutional reengineering initiatives to ensure continuous improvement.

3.4 A strategic cost management framework

Tatikonda states that education is a public good, and because taxpayers directly subsidise higher education institutions, cost effectiveness is a legitimate public concern. Many critics complain that only the rich can attend colleges, but accurate costing could potentially free up public resources, allowing resources to flow into scholarship and grants for needy students rather than into inefficient programmes and irrelevant curricula.

From the HESA analysis on pricing it is clear that HEIs do not have adequate knowledge of the cost of their academic offerings. Accurate costing will in future become a prerequisite for pricing,

irrespective of the pricing strategy followed to determine tuition fees. The table below shows how costs, fees, funding and planning can be integrated into one framework so as to assist HE planners and decision makers to make sound strategic choices, ensuring an optimal balance between funding, quality provisioning and planning.

Funding Group	Undergraduate	Honours	Master's	Doctorate
1	Teaching input grant per module/course Tuition fee per module/course # Enrolments per module/course Total cost per module/course Cost per enrolment Breakeven analysis and strategic choices			
2				
3				
4				

4 PROPOSED PROCESS AND PROCEDURE FOR SETTING OF TUITION FEES

4.1 South African student fees in context

During the late 1990s, the Minister of Education announced that the Department of Education (DoE) would start with a process of reducing the number of HEIs in South Africa (around 36 at the time). The first step was to incorporate all teacher training colleges into the existing universities. This process of incorporation was finalised by approximately 2002. The next step in the restructuring of HE in South Africa was the process of merging the remaining universities and technikons into single institutions of higher education, thereby gradually reducing the number of HEIs from 36 to 23 from 2004 onwards. From information supplied by the DoE, higher education in South Africa now consists of 7 universities of technology, and 16 traditional universities. Student debt however still remains a huge concern: at the end of 2006,

- total student debt for all HEIs stood at R2 386 billion (2004: R58 046 billion)
- student debt written off/provided at R173 254 million (2004: R6 583 billion)
- provision for irrecoverable debt at R780 508 million (2004: R40 927 billion). Although there has been a huge decrease from 2004–2006, the combined debt and provisions for debt amounted to R3 339 billion at the end of 2006. This emphasises the need to come up with a comprehensive strategy on calculating tuition fees that will be

affordable to all students across all HEIs in South Africa, yet simultaneously not compromise the financial sustainability of the HEI.

4.2 Student fee rationale

Given the above, as well as an apparent tendency in certain HEIs to use tuition fees as a means of balancing the books, the Minister of Education has on a number of occasions expressed her concern about the diverse ways in which tuition fees are determined among HEIs in South Africa. This has again emphasised the need to align the drivers, processes and procedures in determining tuition fees across all HEIs in South Africa.

In 2006, total income from tuition fees for all HEIs (excluding fees for accommodation) amounted to R6 159 billion, representing 23,29% of total income. Should fees for accommodation be taken into account, the total tuition fee income amounts to R7 215 billion, or 27,28% of total income. Total subsidy amounted to R11 882 billion (44,93% of total income), investment income of R1 616 billion (6,11%), while the remaining amount of R5 735 billion (21,68%) is made up of income from contract research and other activities such as short courses.

Since tuition fees represent a substantial portion of total income, it follows logically that extreme care has to be taken regarding the whole process of determining tuition fees. The basis for calculating tuition fees should in all instances be the costs of product offerings, funding framework and academic levels, all to be in support of the overall vision of HE in South Africa. This basis should be informed through calculating all tuition related costs on a generic set of Activity Based Costing (ABC) principles to be applicable to, and implemented by, all HEIs in South Africa. These principles are covered elsewhere in this document.

4.3 Process and procedure: a proposal

It is of extreme importance that the student body should be consulted through the whole process of setting tuition fees at an HEI, since price sensitivity plays an increasing role in the composition of the total student body in South Africa (570 315 weighted FTE students enrolled in 2006). A vast number of these students come from historically disadvantaged backgrounds; this is borne out by an amount of R1 007 billion in NSFAS loans having been awarded to students in 2006, representing 13,96% of total tuition fee income. Should other loans funded by universities and the private sector, bursaries and scholarships be taken into account, this percentage increased to 20,32% in 2006.

The NSRC should be part of the whole process of calculating tuition fees (including the process of identifying activities directly related to tuition), thus getting full buy-in from all major stakeholders.

A chronological process should therefore be as follows, as depicted in figure 1:

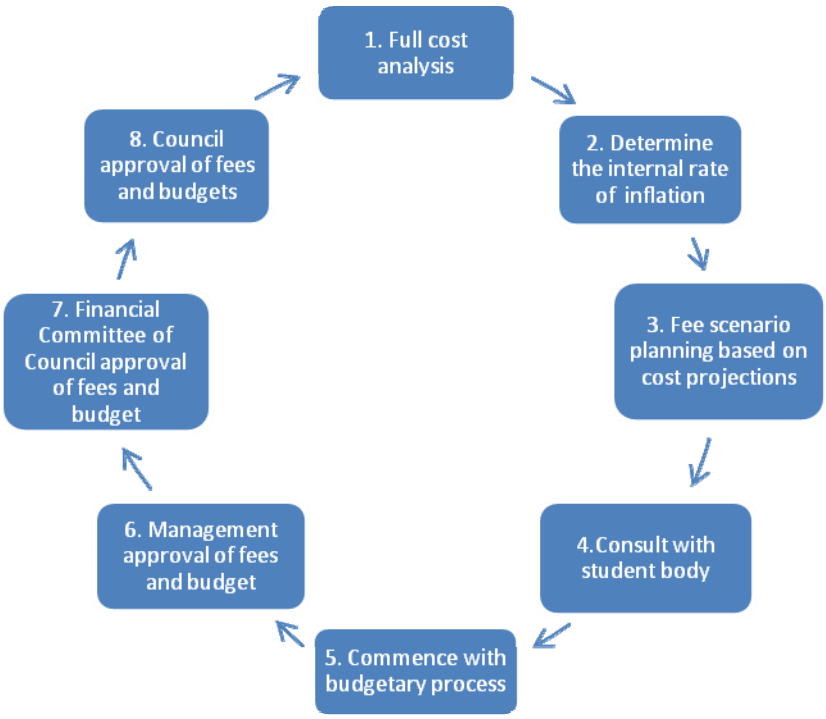


Figure 3: Chronological flow of setting fees

It is clear from the above that the whole process of setting tuition fees should be part of the budget process; it therefore follows logically that the costing exercise should precede the process of setting the tuition fees.

It should be noted that the student body is to be consulted throughout the process, with the full support and buy-in of the Dean of Students during the whole process. The involvement of the latter is of particular importance, since the Dean of Students is normally the first point of access the student body has to Management. It therefore follows that the Dean should also be fully informed on the total composition of the tuition fee model.

In identifying the drivers and activities as described in (1) in the above figure, the main point of departure should be the major SAPSE categories, which are well known to all HEIs in South Africa.

In conclusion, the process of setting tuition fees should be one of commitment to setting tuition fees at fair and equitable levels, while at the same time balancing costs to the institution with affordability to students. Inefficiencies should therefore be identified and addressed as a matter of importance. Factors to be taken into account should include the following:

- full cost analysis per module/qualification
- analyse market trends at applicable levels
- price sensitivity analyses, in support of the institutional enrolment plans
- IRI

5 RECOMMENDATIONS

Key strategic initiatives to be considered are:

- To investigate the possibility of introduce a set of costing guidelines for HE
- To develop a HE costing framework
- Consider cost-based pricing as a preferred methodology for pricing
- The use of an internal rate of inflation to project future cost