

# Facilitating university sustainability through decision-oriented financial reporting

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## ABSTRACT

**Purpose of the study** – To discover a set of reports, computations and analyses that will display financial information about the operational realities of an HEI in a manner that will facilitate the economical, efficient and effective utilisation of resources towards its core activities of teaching, research and community outreach.

**Design/methodology/approach** - Existing literature were reviewed to explore the theoretical underpinnings underlying the accountability and to locate existing research into the financial reporting for HEI performance. Guidelines for reporting the financial performance of HEI performance were developed from the results of the literature search. A case study approach was used to present financial data to portray the financial realities of the core functions of a university.

**Findings** – Financial reports constitute the major medium for accountability by the HEI for the knowledge-production process. The prescribed GAAP oriented aggregated financial reports do not portray the financial realities of the core functions of a university. The deconstruction of the aggregated costs and the reporting of the financial data in relation to student numbers improve the accountability by the HEI for the utilisation of resources. The financial reports proposed in this study facilitates decision-making in respect of, inter alia, tuition fee increases, cost-reduction strategies, productivity through workload management, and the restructuring of academic service offerings.

**Research limitations/implications** – The study focuses on the disaggregation of the income statement, and is primarily concentrated on the teaching function.

**Originality/value** – The study shows the financial impacts on costs per student at academic module level, at departmental level, at faculty level, and at institutional level, thereby showing the effects of cross-subsidisation at all levels of management. The reports were developed in terms of the guidelines compiled in terms of Llewellyn's five levels of theorisation.

**Keywords** – Accountability; knowledge-production, higher education institutions, financial performance; efficiency, effectiveness and economy; financial sustainability; performance indicators; public good; state subsidisation; going-concern.

## DECLARATION

I declare that the mini-thesis entitled: *Facilitating university sustainability through decision-oriented financial reporting* is my own work, that it has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Ebrahim Arnold

November 2006

Signed: \_\_\_\_\_



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# CHAPTER 1: INTRODUCTION

## 1.1 The problem

There is an increasing international call for accountability in higher education because of various global and national trends such as massification; decreasing state funding; increasing personal cost to students and their families through rapid tuition fee increases; the shift from regarding higher education as a public good towards regarding it more as a private good; and the national agendas for making higher education institutions (HEIs) more competitive against global challenges. (Huisman and Currie 2004:533-534)

In South Africa, the state instituted a new funding framework aimed at paying for the delivery of teaching-related and research-related services that would contribute to the social and economic development of the country (Ministry of Education (MoE) 2003: par 1.8). The Department of Education (DoE) requires the structures of governance and management of HEIs to be accountable for the resources entrusted to them by the state and others, through prescribing the formats of financial statements and supporting data to be submitted to the Minister of Education (DoE 2003: 17-19).

The DoE-prescribed financial statements, in particular the income statement, provide an aggregated portrayal of the financial performance of a HEI and do not portray the operational financial realities for which HEIs exist, viz. teaching, research and community outreach and for which the state has provided the funds (viz. for teaching-related and research-related services). Aggregated information does not allow users to understand how management disaggregates information for making relevant operating decisions and hence reduces the ability of users to evaluate past, present or future events or to confirm or correct past evaluations (IFRS Framework 2005: 40). This shortcoming hampers the accountability to the stakeholders of the HEI for the economical, efficient and effective utilisation of resources for which the structures of governance and management of HEIs is responsible (DoE 2003:17).

## 1.2 The aim of the research

This study is aimed at compiling a set of reports, computations and analyses that will display financial information about the operational realities of an HEI in a manner that will facilitate accountability to the stakeholders for the economical, efficient and effective utilisation of resources towards its core activities of teaching, research and community outreach. The study seeks to answer the following research questions.

## 1.3 Research questions

- What guidelines for financial reporting may be derived from an understanding of the meaning, nature and inter-relationship of accountability, responsibility, teaching and research in a higher education context?
- What formats of financial reports may facilitate the promotion of accountability for the economical, effective and efficient utilisation of resources towards the primary activities of an HEI?

## 1.4 The arrangement of this study

The thesis follows up this introductory chapter with a chapter that describes the research methodology employed to achieve the research objective. Chapter three explores the literature in order to derive guidelines for financial reporting as envisaged by this study. Chapter four applies the guidelines derived from the literature review to the case study university, the University of the Western Cape (UWC), to develop formats of financial reports that would address the shortcomings of the current financial reporting formats as described above. Chapter five concludes the study. The formats of the reports proposed by this study are provided as appendices after Chapter five.



## CHAPTER 2: RESEARCH METHODOLOGY

The study uses the literature review to develop a framework that serves as a foundation for the case study. The chapter defines the objectives of the literature review and shows its value in developing the framework. Furthermore, it justifies the case study as an appropriate methodology for the development of financial reports that will facilitate accountability, and shows how a single-case study may be used as a basis for generalisations. The study defines its focus through specifying its delimitation.

### 2.1 Literature review.

Existing literature, comprising state pronouncements, papers published in research journals, articles in professional journals, and existing practices in management accounting and financial management were reviewed to gain an understanding of the debates around the meaning, nature and inter-relationship of accountability, responsibility and the core activities of HEI viz. teaching, research and community outreach. This is done with the aim of deriving guidelines for developing the proposed financial reporting formats as formulated in the research questions.

The literature review of this study has the following objectives;

- It provides a theoretical framework for the study by exploring the theoretical underpinnings and core concepts of the responsibility for accountability by governance and management structures of HEIs to the stakeholders.
- It derives guidelines for reporting the financial performance of its operations to the stakeholders by examining the literature to understand the metaphors, differentiations, conceptualisation, theorising settings and grand theories associated with the production of teaching-related, research-related and outreach-related services by HEI, and the concomitant performance reporting responsibilities for the efficient, effective and economical application of resources
- It places the present study towards HEI accountability in the context of the debates and findings of existing research literature regarding accounting and financial reporting for HEI performance.

## 2.2 Case Study

The primary focus of this study is to facilitate accountability by HEIs to the stakeholders for the economical, efficient and effective utilisation of resources towards its core activities of teaching, research and community outreach. Although the afore-mentioned research questions are framed in the form of “what”-type questions, in reality the underlying questions that need to be answered before the guidelines and formats for financial reporting may be derived and compiled are:

*Why* is the external financial reporting format for accounting for HEI operations not adequate to ensure accountability for the economical, efficient and effective utilisation of resources towards the core functions?

*How* may accountability be enhanced?

These “how” and “why” types of questions are explanatory and deal with operational links through the knowledge-production process of HEIs traced over a period of time. This makes the case study an appropriate research strategy (Yin 1994:6). The justification for a case study research approach to support the literature review is further supported where the research seeks to develop socially informed theories of accounting practice through an issue-driven, problem-solving approach (Humphrey and Scapens 1996:101), and where findings of the study may potentially inform decision-making (Llewelyn 1992: 27).

The single-case study approach for this study finds justification in contingency theory (Drury 2004:695) that posits that there is no best design for a management accounting information system but that it depends on a number of variables. Management accounting information systems of HEIs are contextualised in terms of

- their external environment (e.g. the state subsidy policy; the socio-economic circumstances of student population, the primary and secondary schooling system);
- their competitive strategy and strategic mission (e.g. massification; tuition fee policy); their access to technology (e.g. information and communication technology);

- their industry and organisational variables (e.g. size of the HEI and its articulation – whether it is a university, a university of technology, and the number and types of faculties and departments that the HEI has) and
- their knowledge and observability of outcomes and behaviour (e.g. the knowledge-production process between inputs and outputs; output measurement; performance assessment and scorekeeping; predictability of decision outcomes; the role of accounting as providing solutions to problems, as encouraging exploration and debate, as a basis for assessing alternative courses of action, as a trigger for creative problem-solving) (Collier 2003:170; Drury 2004; 695-719; Mitchell 1983: 187-211).

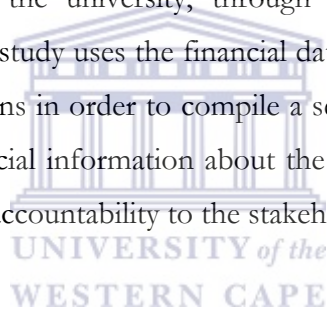
The University of the Western Cape (UWC) has been selected as a case study because it operates in a dynamic socio-economic and political setting (Abdolmohammadi & McQuade, 2002:46) in order to test whether the proposed formats of financial reports may serve as a medium to facilitate accountability.

Using the single case approach in a dynamic and changing context does not preclude generalisations. Generalisations are drawn from case studies through relating theoretically relevant characteristics reflected in the research case to another through logical or causal inferencing or extrapolation (Mitchell 1983:177, Yin 1994:10). The financial accounting and management accounting techniques used to compile financial reports to depict the financial realities of UWC performance, facilitates the process of drawing analytic generalisations that may benefit other HEIs.

UWC is appropriate as a case study because over the years of its existence it had relied on state funding as its main source of income. State funding was primarily driven by student numbers. As the higher education landscape changed there was a significant drop in student numbers, which caused a decrease in state funding that in turn caused the university to suffer deficits in its financial performance. These deficits resulted in UWC's sustainability as a 'going concern' being questioned by the auditors which brought about a qualified auditor's report. A qualified audit report relating to a 'going-concern' uncertainty causes financial institutions and creditors to consider the HEI as a financial risk and therefore may cease further financial advances and extension of credit which in turn may cause its operations to be discontinued.

In an environment of diminishing state subsidies per student, the risk for financial failure becomes even greater. In order to identify the operational areas that contribute to an HEIs operational deficits, it becomes necessary to disaggregate the income and expenditure into the core functions of the university as a means of assessing the extent of cross-subsidisation amongst faculties, departments, and academic modules and as a means of measuring the cost of academic effort associated with the core functions of teaching, research and community outreach. The disaggregated financial reports would facilitate accountability for the financial resources of the university and assist strategic decision-making that may contribute towards the sustainability of the university.

UWC has primarily used external financial reporting formats to communicate its financial operational results. These reports do not display the efficient, effective and economical application of resources towards the operational process, because it aggregates the entire range of practices in which the university, through its faculties and departments, conducts its mission. This case study uses the financial data of UWC to trace through the financial impact of its operations in order to compile a set of reports, computations and analyses that will display financial information about the operational realities of an HEI in a manner that will facilitate accountability to the stakeholders.



### **2.3 Delimitation of the study**

This study focuses on the disaggregation of the income statement section of the audited annual financial statements. The proposed financial reports computations and analyses of this study are primarily concentrated on the teaching function, which forms the largest part of UWC's operations.

An HEI comprises various academic departments that form the building blocks of the institution (Al-Turki and Duffuaa 2003: 330-338). The academic department is the fundamental unit of knowledge production of an HEI and forms the centre of the inputs and outputs of the institution where decisions concerning curriculum, academic standards and the recruitment, development and advancement of faculty are made (Lewis and Dundar 1999: 39-102). The study provides a university-wide perspective of costs and

outputs of UWC, but focuses its attention on the financial implications of operations at department level, in order to provide reports that will assist the process of accountability



## **CHAPTER 3: LITERATURE REVIEW**

### **A. REVIEW OF THE LITERATURE**

The literature review of this study has the following objectives;

- It provides a theoretical framework for the study by exploring the theoretical underpinnings and core concepts of the responsibility for accountability by governance and management structures of HEIs to the stakeholders.
- It derives guidelines for reporting the financial performance of its operations to the stakeholders by examining the literature to understand the metaphors, differentiations, conceptualisation, theorising settings and grand theories associated with the production of teaching-related, research-related and outreach-related services by HEI, and the concomitant performance reporting responsibilities for the efficient, effective and economical application of resources
- It places the present study towards HEI accountability in the context of the debates and findings of existing research literature regarding accounting and financial reporting for HEI performance.

#### **3.1 Theoretical underpinnings and core concepts for the accountability by HEIs to their stakeholders.**

The presentation (and subsequent analysis) of empirical data in the next chapter provides an understanding of the day-to-day operations of an HEI within its wider socio-economic and political contexts that is nuanced by underlying assumptions, beliefs and value judgements (Humphrey & Scapens 1996:93-94). The underlying assumptions, beliefs and value judgements constitute the theoretical/conceptual framework that supports the empirical research. The construction of a theoretical framework for accounting related financial reports would not lie in a single theory perspective such as social theory (Young & Preston 1996:107). The study reviews Llewelyn's (2003:667) five levels of theorisation and its appropriateness for this study:

- Level 1 Metaphor theories (i.e. understanding and experiencing one kind of thing in terms of another or imaging an experience). It is a structural form that helps to construct a perspective of the world in a certain way through emphasis of certain key characteristics (Andriessen 2006: 93-100). Metaphorical mapping positions the elements from the source to the target domain. Through the connotations of metaphors, called entailments, characteristics of the elements of the source domain are transported onto the target domain (Andriessen 2006: 93-100). In this study an HEI is portrayed as a *factory* that uses *inputs* (resources) to produce *outputs* (degrees, research-services, teaching-services) and *outcomes* (quality of programmes, employability of graduates) through a process of *knowledge-production* (assigning and monitoring *workloads* of academics to produce lectures, research articles and community services). *Stakeholders* are individuals or groups that have an interest in the operations of the HEI.
- Level 2 Differentiation theories (i.e. making contrasts and categories that order the world e.g. private/public participative; practical/theoretical). Differentiation is the process of making contrasts between two concepts. Dualisms are pairings of two inextricably interrelated terms that are seen in contradiction to each other, frequently with one term assuming a dominant position. This study uses the opposing nature of the private/public dualism to show that private sector financial reporting and performance measurement approaches are profit-driven and therefore may not be appropriate for public sector financial reporting that has non-profit accountability objectives.
- Level 3 Concepts theories (i.e. theorising practice e.g. accountability, decision-making, financial reporting). Mulgan (2000:555-573) demonstrates how the concept of accountability is expanded beyond its core use of being called to account to being applied to internal aspects of official behaviour, to making officials responsive to public wishes. Llewellyn (2003) illustrates the term ‘accountable’ as feeling of responsibility and as a structural system through which people are called to account. This level of theorisation links metaphor and differentiation to context bound (level 4 theory) and context-free theorising (level 5). The various perspectives of the concept of accountability have resulted, for instance, in the exploration of the relationship between stakeholders and accountability (Burritt & Welch (1997) in order to develop an environmental accounting system for the public sector. This study makes substantial use of

this methodology in framing an understanding of concepts such as ‘accountability’, ‘responsibility’, ‘performance’

Level 4 Theorising settings (i.e. ideas concerned with the relationship between organisations and their environment e.g. contingency theory, institutional theory). It is the process of theorising within a contextual setting, being concerned with the social conditions under which human activity takes place. This is a prevalent method in the disciplines of management and accounting. In this study the impact of state policies regarding subsidies and annual reporting, the influence of demographics on fee recoveries, the socio-economic conditions of the student body are some of the theorising settings against which the financial reports are compiled.

Level 5 Grand theorising is abstract thinking that is concerned with ‘structural, impersonal, large-scale and enduring aspects of the social realm’, (Llewellyn 2003: 676). Through this level of theorising, the actions of organisational members are explained in terms of the social influencing forces. Grand theorising offers universal explanations that are beyond history and society (e.g. Marxist ideology). This study recognises that the increasing call for accountability is grounded in the grand theories of New Managerialism and Market Governance that has resulted in the undermining of the Welfare State and in the growth of Neo-liberalism (Häyriinen-Alestalo & Peltola 2006: 252), and thus the shift in state funding policies for HEIs.

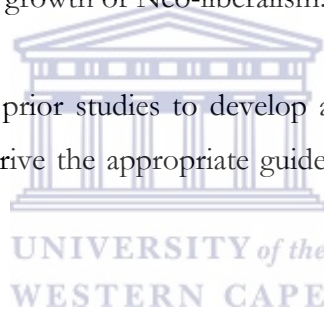
Llewellyn’s study of empirical research published over a five year period (ending in 2002) in *Accounting, Auditing & Accountability Journal* showed limited reliance placed on metaphor theory (level 1) and grand theory (level 5). Concepts theory (level 3) represented the primary theoretical approach used in her study, with five concepts viz. accountability, politics, stakeholders, power and money found to be the central focus of the empirical researchers. Llewellyn (2003:687) describes the appropriateness of level 3 theorisation:

The “middle point” on the levels presented here is “conceptualization”- this is not thought to be the “best” level of theorizing for all phenomena. However, in so far as management is conducted in organizations (and, therefore, “meso” level of analysis) and concepts relate closely to practices (and management is predominantly about practices) then, often, conceptualization is the most appropriate form of theorizing in the management and accounting disciplines.



This study uses the factory metaphor to examine the knowledge production metaphor in (level 1) in the contrasting settings of the private/public sector (level 2) approaches to Higher education. It places its primary reliance on the concepts theory (level 3) approach and uses the concepts of ‘accountability’, ‘performance’ for the ‘public good’ as the central concepts from which to derive guidelines for financial reporting. The relationship between stakeholders and the HEI forms the theorising setting (level 4) within which the concept of accountability is located in terms of structure and productivity. Discussions around this theorising setting facilitate the assessment of strategic choice in the effective, efficient and economic utilisation of resources. Strategic choice in the utilisation of resources is regarded as a theory of agency, and agency is about how things are accomplished (Llewelyn 2003:693). Agency theory and stakeholder theory form the foundation for the responsibility of accountability to stakeholders for the public good. The study further acknowledges the shift in emphasis of grand theorisation (level 5) from that of the Welfare State to the growth of Neo-liberalism.

The literature review looks at prior studies to develop a view of the relevant concepts and settings from which to derive the appropriate guidelines for the financial reporting formats.



### **3.1.1 Accountability and responsibility for the public good to stakeholders.**

The DoE holds the structures of governance and management of HEIs *accountable* to internal and external stakeholders and *responsible* for promoting the economical, efficient and effective utilisation of resources towards its primary activities of teaching and research (DoE 2003:17).

To be held ‘accountable’ for something is to be required or expected to justify actions or decisions (Oxford 2002:8); an answerability for performance (Huisman & Currie 2004). An accountability relationship (principal – agent relationship) has to exist (Coy & Pratt 1998: 540); information has to be provided by the “accountor” to the “accountee”, and there needs to be a process for holding the “accountor” (the governance and management of the HEI) accountable for the actions taken by them and the consequences that ensues from those actions (Burrirt & Welch 1997: 533). The DoE’s

demand for accountability to internal and external stakeholders (“accountees”), suggests the existence of a multiplicity of stakeholders with different interests in the outcomes of the HEI (Burritt & Welch 1997: 533). Accountability implies a free flow of appropriate information between “accountor” and “accountee”, through effective forums for discussion, debate, questioning, assessing and cross-examination (Mulgan 2000: 567, 569). Financial reports constitute part of this flow of information at these forums that requires to be explained, questioned, accepted, or contested (Mulgan 2000: 569-570). The primary aim of the delegated power from principal (the state) to the agent (the governance and management of the HEI) is towards achieving the mission and goals of the institution (the HEI). Accountability for resources managed or controlled by the agent is to place a restraint on arbitrary power (Huisman & Currie 2004: 531), and prevent the abuse of delegated power through fraud and manipulation (Coy & Pratt 1998: 540, Huisman & Currie 2000:531). The theory embracing the principal-agent relationship is known as Agency Theory, which is concerned with the *agency problem* that occurs when the goals of the principal and the agent is in conflict, and the *problem of risk* (Eisenhardt 1989: 58) where a problem arises between principal and agent as a result of differing approaches to risk.

This demand for accountability by the state is not uncontested. Many academics do not consider the state as having the right to demand them to formally account for their performance, on the grounds that it infringes their academic freedom and professional autonomy (Huisman & Currie 2004:529). There are counter-arguments holding that demands for efficiency would make higher education less self-indulgent and wasteful (Singh 2001:8). Others report that the demand for better accountability arose because of the current substantial escalation in tuition fees; arguing that the high costs of education, and hence the impact on tuition fees, may be a result of academics, inter alia, having decreasing workloads, pursuing their own interests ahead of their teaching responsibilities, doing little or no research etc. (Doost 1998:480). Changed attitudes towards access to information and a more educated public are other reasons posited for the increased calls for accountability.

‘Responsibility’ is described as “the opportunity or ability to act independently and take decisions without authorization” (Oxford 2002:1220), being linked to the exercise of discretion and connoting the idea of morality of an action (Lindkvist & Llewelyn

2003:253; Mulgan 2000:557). While the terms accountability and responsibility are used interchangeably, responsibility connotes the ethical aspect of personal liability (Mulgan 2000:558). Higher education is traditionally regarded as being responsible for the production of new knowledge through research, the dissemination of knowledge through teaching, and the applied use of knowledge for social development through community service (Singh 2001:8). The DoE focuses its call for responsibility on initiating measures to promote the economical, efficient and effective utilisation of resources (DoE 2003:17). This focus is aligned to globalisation trends to position national and local economies for global success through business re-engineering drives (Singh 2001:10). The requirement to demonstrate 'value for money' for public funds, now involves the higher education communities of teachers and researchers, through the imposition of private sector managerial techniques (now referred to as 'new managerialism'), in the creation of internal cost centres, the management of institutional and staff outcomes and performance (Deem 1998:49-50), the repositioning of students as 'economic entities' and condensing of education to a 'market function' (Ayers 2005:540, 543). Education is now seen in this context as a factory that seeks to attain efficiency gains through staff reduction and as a shift in responsibility and support of higher education from the state to the consumers of higher education (Chaharbaghi & Newman 1998: 516). This increasing trend towards the 'marketisation' or 'commodification' of higher education has brought into focus the debate of whether education is a 'public good' or a 'commercial service'. The World Trade Organisation (WTO) defines educational services as a commercial product which would be subjected to the rules and principles of the General Agreement on Trade Services (GATS). International universities, parliamentary representatives, and associations representing 180 countries objected to the WTO directives for the commodification of higher education, indicating that it serves the 'public interest' (Dias 2004:93-94). As a 'public good' it means that higher education should be provided and regulated by society (through the state), in the interests of the citizens as a whole i.e. for the public good. Society, through the state, would thus be regarded as having a public responsibility for higher education, which means that the aims ought to be to prepare individuals for the labour market and for better citizenship; to contribute to the personal growth of individuals and to develop and maintain an advanced knowledge base (Nyborg 2003: 356).

The governance and management structures of an HEI that hold delegated powers and responsibilities are; the Council (for governance); the Senate (for academic affairs) and the Principal (for leadership, management and administration). The Council is responsible for the strategic direction, the approval of major developments and receipt of operating performance of management. (DoE 2003: 18, 26-35). The National Commission on Higher Education (NCHE) in South Africa in 1996 suggested cooperative governance as a system in which the higher education institutions would be autonomous but would govern in a partnership relationship with the state and other stakeholders (Hall & Symes 2005:200). In response to the ill-defined nature of the participation concept which requires the state merely to consult stakeholders, Hall & Symes (2005:199) suggest 'conditional autonomy' as a way of seeking a balance between institutional autonomy and public accountability. They argue that this would allow the HEI to pursue its academic and social responsibilities on their own terms, while recognising the state's 'overarching accountability for the disbursement of public funds and for authentication of academic qualifications' (Hall & Symes 2005:209). This argument by Hall & Symes for self-accountability by HEIs ignores the premise of Stakeholder Theory which positions the institution in a system of social performance relationships that it affects and by which it is affected (Key 1999: 323) as well as the Agency Problem that is founded on the conflicting goals of the principal and agent. The lack of accountability to stakeholders may increase the risk of wastefulness and self-indulgence as argued by Singh (2001)

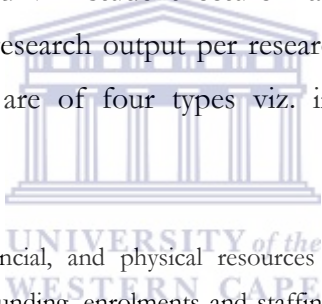
### **Summary and financial reporting implications**

Financial reports ought to be part of a free flow of appropriate information that will facilitate discussion, debate, questioning, assessing and cross-examination amongst internal and external stakeholders, and are focussed on accountability for the actions taken by the various responsible structures of HEIs as agents towards the stakeholders affecting the HEI and being affected by it. The shift in approach to responsibility for higher education funding by the state from a Welfare State approach to a Neo-liberal approach, results in the knowledge-production outputs of HEIs to be regarded more as private goods for which the consumers ought to pay. This implies from a financial performance reporting and strategic decision-making perspective, an expectation of

reporting formats that may mimic the private sector and Marketisation/entrepreneurial approaches to decision-making in HEIs.

### **3.1.2 Monitoring accountability and responsibility through ‘Performance Reporting’.**

HEIs are being held accountable, through performance reporting for the application of the financial resources allocated towards the performance of the core activities traditionally associated with higher education, particularly teaching and research. Performance reporting is aimed at enhancing external accountability, improving institutional performance, in increasing HEIs responsiveness to governmental needs and potentially increase state funding, and in reconciling public accountability with higher education autonomy (Burke & Minassians 2002: 1-2). The performance of HEIs is monitored through a wide range of ‘performance indicators’. In South Africa, broad types of indicators are selected viz. student-lecturer ratio, qualifications awarded per lecturer, graduation rates and research output per researcher (Steyn & de Villiers 2006: 119). Performance indicators are of four types viz. inputs, processes, outputs and outcomes;



*Inputs* involve the human, financial, and physical resources received to support programs, activities and services, such as funding, enrolments and staffing indicators. *Processes* include the means used to deliver programs, activities, and services. Assessment of student learning, use of technology, and teacher training constitute process measures. *Outputs* reflect the quantity of products actually produced – degrees awarded, retention or graduation rates, and sponsored research funding. *Outcomes* cover the quality of programs, activities, and services or benefits to students, states and society. Test scores, job placements, and satisfaction surveys results of students, alumni, and employers represent common outcomes measures (Burke & Minassians 2002: 36).

Burke & Minassians (2002:118) regards the obligation to accept responsibility as the key to accountability, and contends that performance reporting does not fix responsibility for good or poor results nor are the purposes and audiences for performance reporting clear. Discussing the results of a survey of state and campus representatives of 29 states in the USA, Burke & Minassians (2003:23), whilst acknowledging the positive contributions that performance reporting may make, report that it failed to align the performance indicators with state priorities on policy issues, it failed to fix responsibility

for results, it failed to report on academic departments which are mainly responsible for performance results, it failed to include a common core of indicators to enable tracking the level and source of successes, and it failed to encourage state and campus leaders to use the results for planning and budgeting purposes.

The performance of HEIs in South Africa for the period 1986 to 2003 in respect of teaching and research drawn from the state prescribed performance indicators, showed - an increase in the number of instruction/research personnel per student; that the number of qualifications awarded per instruction/research personnel increased; that the graduation rates at universities was constant but that the technikons sector showed a decline; that there has been very little change in approved publications at universities, but there was a dramatic improvement in publications at technikons; and that five universities with the highest publication numbers are annually responsible for about 60% of the total number of approved publications in the higher education sector (Steyn & de Villiers 2006: 134-135).

Al-Turki & Duffua (2003:330-338) propose a performance measurement system for academic departments, as 'the building blocks of educational institutions' which may assist in overcoming one of the shortcomings mentioned by Burke & Minassians (2003:23). Academic departmental performance relies on the major *inputs* of faculty, students, support staff, lecture and tutorial facilities, curricula, laboratories, computing facilities, library resources and procedures and academic standards; *delivery of service* (processes) through teaching, research supervision and support, student support services and quality control processes; culminating in *outputs* in the form of graduates, basic and applied research, training, seminars and workshops. (Al-Turki & Duffua 2003: 331). They put forward various performance measures for *inputs* (faculty utilisation, course offerings and laboratory utilisation, the quality of incoming students, quality of graduate students and research assistants, and support staff capabilities); for *processes* (teaching and learning – through student evaluations, new course proposals, new book proposals and excellence awards received by staff, research support – through time to arrange/approve proposals, conferences, promotions, administrative support – through faculty satisfaction surveys, percentage of goals achieved, time to service requests); for outcomes (quality of graduates – through employer surveys, alumni surveys, scores in professional exams, grade point average for graduating students in the last three years.).



Coy & Pratt (1998:540) posits that the increasing importance in 'accountability' has brought with it the decline in importance of information for decision making. Doost (1998:479) holds that the missing link in the accountability for performance is financial accountability in the traditional responsibility accounting/managerial accounting approach for assessing performance and seeking improving'.

### **Summary and financial reporting implications**

HEI performance involves inputs in the form of human, financial and physical resources that are applied in the processing of academic, administrative and community services towards outputs in the form of degrees, graduation rates, sponsored research funding and outcomes that are measured in terms of the quality of programs, job placements and employer satisfaction with graduate performance.

Financial reports ought to produce information that will facilitate the development of performance indicators that may contribute to reflecting and measuring the efficient, effective, and economical use of resources through production processes that convert resource inputs (human, financial, and physical resources) to outputs (number students passing academic modules, graduation rates, research articles etc.) (Burke & Minassians 2002; Steyn & de Villiers 2006).

The major and key resource of an HEI is the academic staff who are located within academic departments and who design and provide courses, conduct research and consultancy and liaise with the external community (McAleer and McHugh 1994:20-24). It is the primary unit for decision-making affecting academic effort. The development of a performance measurement system at academic departmental level would therefore assist in the overall assessment of HEI performance. Financial accountability measures ought to be part of that system. The academic department is the fundamental unit of knowledge production of an HEI and forms the centre of the inputs and outputs of the institution where decisions concerning curriculum, academic standards and the recruitment, development and advancement of faculty are made (Lewis and Dundar 1999: 39-102). Different academic disciplines have different teaching and research-

production functions and therefore each department has a different cost structure. This justifies the use of the academic department as the primary unit of financial reporting.

### 3.1.3 Financial accountability and responsibility for HE performance

The ever-increasing cost of higher education, resulting in higher tuition and residential fees and charges for students and their families, has brought financial accountability into sharp focus (Doost 1998:481). Writers like Sykes (1988) propose that the self-indulgent activities of faculty such as abandoning their teaching responsibilities to pursue their own interests, having low academic workloads, doing little or no research etc. have increased the demand for financial accountability. This increased public interest by stakeholders in financial accountability by HEIs holds various benefits (Coy & Pratt 1998: 547):

- A student (or parent, or other sponsor) may want to assess the fairness of the tuition charges in relation to operating costs in order to use the information to argue for lower fees.
- An academic may want to see the extent of cross-subsidisation between faculties to assess their job security or secure more resources for their own faculties or departments.
- Employers may gain greater competitiveness (and profits) from a more trained workforce.
- The general public may benefit from the facilitation of open debate about issues that annual report information can provide.

The complexity, timeliness, distribution and accessibility of reports by the HEIs may cause a low level of public interest. However, new style financial reports that simplify and clearly communicate the operations of the HEI facilitate and generate a considerable public interest (Coy & Pratt 1998: 547).

The international developments in the public sector management has seen the impact of 'managerialism' and the emergence of New Public Management (NPM) practices (Goddard 2004: 543), with accounting gaining greater prominence. The role of annual reports, accounting and accountability must be seen in the context of the bargaining processes between the state and pressure groups (Goddard 2004:542). In the bargaining



process, accounting may serve conflict-resolving as well conflict-enhancing roles (Drury 2004:714) as demonstrated in the case of the University of New England where the opposing parties used similar accounting technologies in supporting their bargaining positions (Mir & Rahaman 2002:298). From a conflict resolving perspective the bargaining process had a common objective i.e. to reach an agreement on the allocation of the resources in order to maintain the economic viability of the university. The conflict-enhancing role emerged when the management argued on the basis of the accounting information that the university did not have the capacity to pay a salary increase. This view was challenged by a member of the union who was a senior academic accountant on the basis of cash flow analysis that the university did in fact have the capacity to pay the increase. So both parties used different perspectives of the same financial information to justify their claims (Mir & Rahaman 2002:308)

The role of accounting in accountability processes raises questions regarding the neutrality of accountants, who 'participate in the creation of social reality through the selected disclosure and aggregation of financial events' (Coy & Pratt 1998:543); the self-regulation of the accounting profession and its monopoly on the provision of auditing services and the various consulting roles it plays in the private and public sector (Baker 2005:695); the dominant role of the profession in the standard setting process for financial reporting (Baker 2005:697); the notion that accounting statements reflect a position of 'truth' when it merely provides one interpretation of the performance and financial position of an entity (Coy & Pratt 1998:548).

In the South African HE context, the DoE has prescribed the financial statement and data to be furnished as part of the accountability process. These statements were 'designed primarily to provide the means of assessment of financial stability and performance.' (DoE 2003:19). Steyn & de Villiers (2006: 83-118) analysed the trends in the HEI sector for the period 1986 to 2003 using the prescribed formatted financial statements to show, inter alia;

- The increasing percentage of tuition income to total income
- The decreasing percentage of state income to total income
- The increasing trends in recurrent expenditure in the face of decreasing state appropriations

- Real increases in per capita remuneration of all personnel at historically advantaged universities (HAUs) was 50%, with average annual (nominal) remuneration per FTE being R82850; at historically disadvantaged universities (HDUs) the increase was 76%, with average annual (nominal) remuneration per FTE being R74488 ; historically advantaged technikons (HATs) showed a 33% average annual (nominal) increase, with remuneration per FTE being R98575. The increase at historically disadvantaged technikons (HDTs) was 60%, with average annual (nominal) remuneration per FTE being R103107. The salaries of vice-Chancellors (VCs) showed large increases in recent years. Steyn & de Villiers' c(2006:113) comments are noteworthy;

“Most of the VCs appointed at HE institutions are academics and do not come from big business. They have chosen an academic career (with a moderate salary) and not a business career with the prospects of a very high income. Although a VC, as the CEO of the HE institution, should therefore earn a salary that is related to the responsibilities of the position, the VCs responsibilities are shared by many other competent supporting managers. The remuneration of some of the VCs could therefore be regarded as unrealistically high.

- Some HEI showed deficits for the years 2000-2003 ranging from 11 institutions in 2000 to 12 in 2002, with total deficits amounting to almost R600 million in 2003.

Doost (1998: 484) argues that university financial statements are of limited use because they lack better performance measures particularly in portraying the main mission of a university viz. teaching, research and public service. He calls for better visibility of direct costs (faculty costs directly attributable to teaching research and service) and indirect costs (overhead costs associated with the VCs office, the deans' offices, financial affairs, student affairs, personnel management, maintenance etc.). He further calls, inter alia, for analysis of faculty time and resources spent on teaching research and service. Disaggregation of financial reports would be aimed at demarcating responsibility for the internal operations of an HEI. Responsibility accounting is used as a decentralised accounting process for the tracing of costs (and revenues) to the managers responsible for incurring or earning them (Drury 2004:41). The objective of responsibility accounting is to accumulate costs and revenue for each responsibility centre in order to compare it

with the performance targets set and to obtain performance reports that explains deviations (positive and negative ) from it (Drury 2004:655-656).

With personnel cost of the case study university making up more than 50% of the total recurrent expenditure, it would be essential to gain an insight into the knowledge production process, the teaching/research relationship and the role of workloads in the cost of 'knowledge production'.

### **Summary and financial reporting implications**

Considerable public interest may be generated in the financial operations of HEIs if the financial reports clearly portray the nature of those operations. Students may have a basis to argue for lower fees, academics may challenge cross-subsidisation amongst faculties and departments and employees (academic and non-academic) may use the financial reports in their negotiation for salary increases.

The DoE prescribed financial reports provide an aggregated view of the operations of the HEI and collectively provide a macro-level view of the HEI sector allowing for - analysis of the funding sources of HEIs (state vs. tuition and private funding); trends in expenditures; surpluses/deficits sustained by HEIs etc. These aggregated financial reports do not portray the performance of the HEI in respect of its main mission of teaching research and community service, nor does it provide for an assessment of performance within the HEI in terms of assigned responsibility (e.g. deans of faculty for faculty operations, heads of departments for academic departments etc.). In assessing responsibility, there is a need for better visibility of direct and indirect costs in order to make them more useful. Financial reports that show the cost of faculty time (workload) and other resources spent on teaching and research may be reported within a framework of responsible centres (e.g. faculties and/or departments).

### 3.1.4 Accountability and responsibility for knowledge-production in HEIs – the role of the faculty workload.

Fuller (2005:27) uses the slogan “Universities manufacture knowledge as a public good through the creative destruction of social capital”, and puts forward *research* as the creator of social capital - through the production of knowledge that becomes a source of market advantage; that research takes further effort to make it more generally available; and research reduces the research investors’ market advantage. He then depicts *teaching* as the destroyer of social capital – through removing the original advantage by allowing others to use their knowledge, eliminating ignorance through empowerment, and creates an incentive to create new knowledge through research. The mode of production of knowledge has experienced a shift from the Mode 1 (internally-driven by the knowledge-producers themselves) to Mode 2 (externally-driven by consumers of knowledge products). This Mode 2 type knowledge-production sees learners as economic entities who may serve the goals of business and industry to be competitive in the global economy and sees the curriculum as being restructured to enable business and industry to respond to the dynamics of the market; it thus displaces the community and faculty by business and industry representatives as educational planners (Ayers 2005:539 and 545). The distinction between knowledge-production Mode 1 and Mode 2 is demonstrated by the distinction between *basic research* (with its object being ‘discovery’ with its priority being ‘the issue’, seeking to create new knowledge in the context of current advances in the world, that may lead to long-term human benefit, rather than ownership of intellectual property), and *project/applied research* (with its object of problem-solving, seeking to train learners of the new knowledge to put it to productive use, resulting in direct economic value that may be capitalised through ownership of intellectual property).

The underlying philosophy and composition of the New Funding Formula (NFF) in South Africa fits into Mode 2 knowledge production - where funding through block grants are linked to *teaching and research-related services* and funding through earmarked grants are designated for specific purposes; and where the Ministry determines national policy goals and objectives and institutions are expected to address those (externally defined) goals. The DoE separates the educational subjects into different teaching funding groups with differing financial implications and through this clearly steering the

educational process into a particular, market-oriented, output-linked route (Steyn & de Villiers 2006: 48-55).

Using the ‘factory’ metaphor for the higher education context - whatever the philosophy, context and composition of the funding may be for HEIs anywhere in the world - there is still a ‘production-process’ that has to transform inputs to outputs in the form of products and services (Dundar & Lewis 1999 :49). The transformation process involves resources that have to be efficiently, effectively and economically applied to achieve the ‘product or service’ goals. The main tangible *inputs* (from the side of the HEI) are faculty time and effort; other staff time and effort, buildings/space and equipment, library holdings, endowments, subsidies and tuition fees and other income; and the main *outputs* are degrees awarded, research awards, articles, citations and services to the general public (Dundar & Lewis 1999 :51). The production process of HE is considered to be a “black-box” because of the difficulty in knowing the explicit types of inputs necessary to produce optimum outputs (Dundar & Lewis 1999:72). The primary ‘production unit’ of any HEI is the academic department because it is the basic decision-making unit that ‘produces’ teaching and research services.

Faculty time and effort as the main input in the production process is spent on teaching, research and even extends to services and management, with the relationship between the main activities of teaching and research being contentious. A question is raised about whether the relationship between research productivity and teaching effectiveness are “complementary, antagonistic or independent constructs?” (Marsh & Hattie 2002:603). Research conducted by Marsh & Hattie (2002) in Australia amongst 182 academics from 20 academic departments resulted in the following conclusion:

There are roughly equal numbers of academics who – relative to other academics – are; (a) good at both teaching and research, (b) poor at both teaching and research (c) good at teaching but poor at research; and (d) poor at teaching but good at research. (Marsh & Hattie 2002: 618)

Whatever the strengths and/or weaknesses of faculty may be in respect of teaching, they are part and parcel of the ‘production-process’ that carries a time-related cost. Hence, the measurement of efficiency, effectiveness and economy in relation to these separately funded activities, requires an analysis of faculty time invested in producing the teaching and research-related services. Work allocation models (WAM) (also called ‘workload’

planning systems (WPS)) are used to categorise academic work into discrete activities, particularly teaching activities (Hull 2006:42) for example delivering a lecture, preparing for a lecture, tutorials, consultations, exam setting and marking etc. WAMs have two rationales – resource planning (thereby making academic work more measurable) and ensuring equality of workload (Hull 2006:47). Workload planning models are not homogeneous amongst HEIs, or even across departments within the same university (Burgess et al 2003:223). Annual capacity of a full-time member is expressed as the annual number of accountable hours (e.g. at Leeds University it is 1800 hours comprising 48 weeks @37.5 hours per week (Hull 2003:231; McChlery & Rolfe 2004:7) put forward two models – one that is based on 1300 hours (32.5 hours per week x 40 weeks)) and the other based on the actual total hours to be worked by the staff member). The resulting hourly rate (the cost of staff member divided by the annual hours or hours worked e.g. \$40 000 /1300 hours = \$ 30.77 per hour is then applied to the various academic activities of the faculty member required to service the various academic modules.

The use of the workload models enables the input costs of faculty to be allocated to the various academic tasks. However, a substantial amount of financial resources are spent on centrally controlled costs (library, information technology, central administration etc.). Should these (indirect) costs be allocated to the teaching and research function? The next section reviews the literature in this regard.

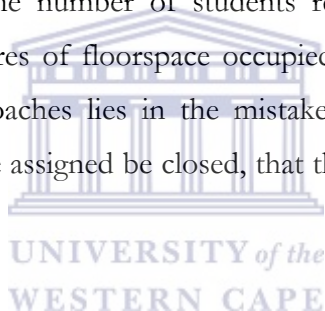
### **Summary and financial reporting implications**

Faculty-related costs constitute more than half of the total recurrent expenditure of an HEI. Faculty is expected to produce teaching and research-related services. Financial reports would need to provide accountability for the knowledge-production process. This would require a costing of the workload of each faculty member associated with academic modules or programmes and research activities. In analysing workload, cognisance should be taken of the relationship between teaching and research to avoid undervaluing or overvaluing teaching and research effort.

### 3.1.5 Accountability and responsibility for centrally managed costs

Doost (1998:6) identifies various types of overheads in terms of proximity to faculty – travel, supplies, equipment and miscellaneous charges; departmental administration; library, computers, and deans offices; operation and maintenance, president’s office, provost’s office, finance, personnel, students’ services; scholarship and fellowships; bonded debt and mandatory transfers. Calling for the separation of costs of teaching, research and public services, Doost (1998:6) contends that the usefulness in the value of current financial reports are distorted by allocations and reallocations of costs.

There are proponents for the charging out of indirect central costs to academic groups. The rationale for the allocation of indirect costs in this manner is to indicate to the academic units that the central services are not free goods, and to measure the full cost of service provision (Bourn 1994:327). Bourn suggests three drivers to be used for allocating central costs viz. the number of students registered, the number of staff employed and the square metres of floorspace occupied by the academic groups. The criticism of full costing approaches lies in the mistaken assumption that should any program to which the costs are assigned be closed, that the full cost of that program will be eliminated.



The proponents of Activity-Based Costing (ABC) approaches for cost management, which rely on cause-and-effect cost allocations, argue that it would facilitate forecasting, performance measurement and decision-making. This approach involves six key stages in the costing process. The first three stages call for the identification of resources (staff, consumables, equipment etc.); products (courses, research papers, consultancy, etc.); activities (course delivery, research, admissions, library services etc.). The next stage involves assigning resource costs to activities, then to link the activities to products using cost drivers (staff workload activities, student registrations for modules, space utilisation for lectures) and finally to analyse and report the results (Cropper & Cook (2000); Mitchell (1996); De Hayes & Lovrinic (1994); Acton & Cotton (1997)). The findings of Cropper & Crook (2000) showed very little progress in the application of ABC approaches in the HEI context. The distance-learning University of South Africa (Buys & Griesel (2005)) developed and implemented a computer-based ABC Model that provides financial reports showing module costs and income by college, school, funding



group, and DoE defined statistical categories. It also shows research output cost and income by college, school and research category (Buys & Griesel (2005)). The concern that one may raise regarding this model is that it includes 6270 objects of work and has 256 activity drivers. These large numbers of variables may threaten the sustainability of the model.

While there certainly are merits in ABC approaches as well as the argument of Doost to separate the costs of the core functions of teaching, research and community service, the ABC approach would complicate the assigning of responsibility for the incurrence of costs of education. The answer may lie in using the ABC approach to establish the three basic steps of ABC (see Cropper & Cook (2000)) as described above, but not to allocate centrally managed costs to products, but to reflect those costs in relation to its proximity to the teaching, research and community service function. The format of reporting, and the analysis of results of the operations will then have to be considered in relation to the manner in which the efficiency, effectiveness and economy in resource use may be portrayed.

### **Summary and financial reporting implications**

The assignment of centrally managed costs to academic units in an attempt to provide full-cost management information is a contestable issue, with some researchers contending that it distorts the usefulness of financial reports in that when a module/activity is discontinued, the overhead costs are not eliminated. Activity-Based Costing methods use a system of assigning direct and indirect costs to activities on the basis of cost drivers. The problem of the assignment of responsibility for the incurrence of costs of educational activities will still be problematic in that ABC merely represents an improved way of identifying indirect costs through activity drivers, but it still shifts responsibility for those costs from the area where it is incurred.

This study proposes that only directly related costs be assigned to responsibility centres and that centrally managed cost be reflected in relation to its proximity to the teaching research and community service functions. In doing so the responsibility for the incurrence of the costs is visible and does not distort costs for which the cost centres are held accountable.



### 3.1.6 Accountability reporting for 'Value-for-money' performance.

HEIs are not-for-profit organisations that provide services and are considered to be public goods. Students as the direct beneficiaries, even though they pay tuition fees, do not pay the full cost of the service; the state (through subsidies) and society (through endowments) and business (through research contracts and bursaries) subsidise the operations of HEIs in return for the continued provision of service at below cost (Mensah & Werner 2003:297). HEIs are accountable to all these stakeholders for the use of the resources provided (collectively known as a 'value-for-money' evaluation). Efficiency is concerned with achieving the desired output (products and services) with the minimum use of resources available (DoE 2003:17; Drury 2004:707). Effectiveness focuses on the achieving policy objectives and operational and other goals (DoE 2003:17; Drury 2004:708). Economy means to provide resources of the right quality and quantity at the right price (DoE 2003:17). Value-for-money (VFM) assessments can only be made if there are standards against which to assess efficiency, effectiveness and economy.

In management accounting approaches the key to decision-making and VFM assessments would be related to the market value orientation for the selling price of a product or the fee-chargeable potential of a service (e.g. audit fees), resulting in cost-volume-profit relationships (CVP) (Drury 2004:264). CVP relationship would facilitate product/service decisions in respect of selling price, make-or-buy, product mix, output-level, cost reduction, product design, new product processes and market selection (Brierly 2001:202-206). Tuition fees cannot serve as the measure of the 'market value' of the educational service provided because it is subsidised. Tuition fees together with state subsidies (for teaching, research and other considerations e.g. the institutional factor) do not represent the market value for educational services either because state subsidies are based on past student numbers, number of graduates and research outputs, tempered by 'development grants' for teaching and research shortfalls in performance, as well as funding factors to reduce the overall 'entitlements' of HEIs. So, at best, it must be seen as serving a financing goal. Hence, judging expenditure efficiencies, effectiveness and economy as a percentage relationship to total income (tuition fees, state subsidies and contract income) for any particular year, as prescribed by the DoE in its requirements for additional statistical data (DoE 2003) suggests that expenditure incurred during any financial year under review has been incurred *in order to* earn the total income reflected in

the income statement, as a representation of the results of operations of the HEI. However, as the total ‘income’ merely represents the extent to which the operation of the HEI is being *financed*, the overall results of operations of an HEI may be better evaluated by determining the extent to which each type of direct income is expressed as a percentage the corresponding type of *direct expenditure* spent on the core activities of the HEI to arrive at a contribution for the core activities, before deducting the indirect expenditure to determine net results from operations in the form of a financing surplus or deficit. This assumes, particularly, that the cost of teaching and research may be split whilst faculty may be involved in both activities simultaneously. Where the split of the costs of teaching and research become problematic, then the two core activities may at least be combined in an expenditure/financing relationship to evaluate the extent to which these two core activities are being jointly financed by the financing streams of tuition, state subsidies etc.

Aggregation of the core activities, even using the above approach of reflecting surpluses and shortfalls in financing the operations of a HEI, whilst it provides an overview of operational financing for the financial year, does not show the extent to which ‘production units’ in the form of academic departments are experiencing operational financing surpluses or shortfalls. It would be necessary to obtain disaggregated information at ‘production unit’ level (see earlier discussion under ‘performance reporting’) to see to what extent cross-subsidisation takes place amongst these units, particularly where the HEI experiences a shortfall that may threaten its continued operation as a ‘going-concern’. It is the responsibility of the Finance Committee of the Council of an HEI to ensure the financial health of an HEI as a ‘going concern’; which means that there is no intention to liquidate the HEI or to cease operating or that there is no alternative but to do so (IPSAS 2003 44). The surplus or shortfall in the financing of the overall operations of a HEI is an aggregation of surpluses and shortfalls of academic departments, which means that some departments are cross-subsidising others.

## Summary and financial reporting implications

The efficient, effective and economical utilisation of resources lies at the heart of accountability for HEIs. In the private sector cost-volume-profit (CVP) relationships are used to assess the efficiency, effectiveness and economy of resource allocation decisions. In the private sector costs are incurred to make a profit, so that selling prices (and therefore turnover figures) would be the key data against which to measure value-for-money performance. However, in the HEI sector the aggregation of tuition fees, state subsidies and research income does not constitute the value of services, but rather funding income.

Financial reports may at best accumulate and summarise costs for each activities and then measure the extent to which these costs are being funded by income from tuition fees, state subsidies and research income.

### 3.1.7 Cross-subsidisation – balancing accountability for financial health and responsibility for the core functions of HEIs

Cross-subsidisation has different meanings in the higher education context. In the context of HEIs charging student tuition fees, cross-subsidisation implies the charging of higher tuition fees in order to provide financial aid to needy students (Rose & Sorensen 1992). This study does not focus on the preceding meaning. The study is concerned with the cross-subsidisation by academic departments with surplus operational financing of shortfalls in operational financing experienced by other academic departments.

The goal of measuring the extent of cross-subsidisation amongst academic departments is to facilitate decisions concerning closing down of services, reducing costs or increasing charges, or accepting the need for cross-subsidisation (Lewis & Pendlebury 2002:26) (Morris & Old 1993:26). Some of the difficulties associated with cross-subsidy measurement are the choice of the cost centre (e.g. faculty, subject groupings etc.); the resistance by academics using the ‘finance driving academic values and the need for academics to become managers’ argument (Lewis & Pendlebury 2002:26); and the problem of overhead allocations (Lewis & Pendlebury 2002:26). Measurement of cross-subsidisation requires the use of profit centres and cost centres as measurement units.

Morris & Old (1993:25) suggest that the establishment of profit centres would contribute to organizational efficiency through its impact on resource allocation.

Angluin & Scapens (2000:32) examined the use of financial information for academic management amongst UK universities, and also the transparency of the university planning and resource allocation amongst subject groups. They were motivated by the concern of academics that Accounting & Finance (A&F) (as a subject grouping) was being used to cross-subsidise other academic subjects, on the grounds that the cost per student for A&F may be low because of the high student/staff ratio and the buoyant student recruitment. Their study of 52 universities in the UK focussed on perceptions of transparency of the university's resource allocation system, and found substantial differences in transparency perspectives by academic subject groups in respect of university planning, resource allocation and operations (Angluin & Scapens 2000:31). They conjecture 'that transparency furthers perceived fairness and improves academic staff motivation'.

Morris & Old (1993:26) encourages the use of profit centres to facilitate institutional efficiency, through carrying the least number of 'unproductive' activities. The determination of 'profit' in a HEI-setting usually involves some form of allocation of central costs to operational units based on some expense 'driver' (e.g. student number) basis, or through a process of 'top-slicing' or flat-rate percentage charge (Lewis & Pendlebury 2002:27). An arbitrary allocation of central support costs would render cross-subsidy measurement of limited use (Lewis & Pendlebury 2002:27). In order to counteract this, Morris & Old (1993:26) recommends that central support costs not be allocated at all and to fund it out of the operating profits of the units.

Instead of using academic departments or faculties as their unit of profitability (and hence cross-subsidisation) measurement, Swonger & Mead (1995) studied program-level contribution margins through charging direct costs of programs against revenue generated for that program, and thereby determining the contribution margin. They also use student numbers, square footage occupied etc. as 'drivers' for allocating central support costs to programs. Doost (1998: 479-488) challenges the conclusions of Swonger & Mead on the grounds of their assumptions that overhead is unchangeable, faculty time

as totally variable, and that programs that do not pay for their share of overhead should be eliminated or brought to book.

Lewis & Pendlebury (2002:36) concludes that some form of cross-subsidy is inevitable – between departments, between courses within a department, between under-and post-graduate teaching, between teaching and research etc. Their survey revealed that the strongest justification for tolerating shortfalls would be if it was short-term with an expected eventual profitability. Other reasons for tolerating cross-subsidy of an academic department include – alignment with corporate mission, reputation for excellence in research, providing a broad matrix of subject areas, benefit to the local economy, and a reputation for excellence in teaching.

### **Summary and financial reporting implications**

Cross-subsidisation is the financing of academic departments with operational shortfalls by academic departments with operational surpluses. The extent of cross-subsidisation is not reflected in aggregated financial reports. Some forms of subsidisation are considered to be acceptable when the shortfalls within certain academic departments are short-term only, or where there is an alignment with the HEIs mission. What is important is to provide financial reports that will show the extent of cross-subsidisation in order for debates, discussion and negotiations to take place in a transparent manner that will culminate into decisions for the optimal use of resources to achieve the mission of the HEI.

The foregoing sections have looked at the theoretical underpinnings for accountability for HEIs. The next section will review studies that involved financial reporting formats proposed or used in the measurement of efficiency, effectiveness and economy in the utilisation of resources for knowledge-production purposes.

## **3.2 Financial reporting perspectives**

### **3.2.1 The financial reports as instruments of accountability for knowledge-production**

The DoE adapted the presentation format of the Annual Report that is in general use in the private sector to acknowledge the special purpose for which funds are held and used in HEIs. The prescription of the format of the Annual Report includes the use of generally accepted accounting practice (GAAP) in the preparation of the annual financial statements and reports for HEIs, for external reporting purposes. It prefaces this prescription as - enabling the adoption of the best financial and general management practices with which the HEI may challenge the new and challenging environment; as a means of assessing the financial stability and performance of the HEI; and as complying with the demands for accountability (DoE 2003). The DoE furthermore places the responsibility on the Council and the principal of HEIs for initiating measures for the economic, effective and efficient utilisation of the resources of the HEIs.

This section will discuss some of the general issues raised from an external (financial accounting) reporting perspective in the private, public and HEI sector. This is followed up by some of the issues raised from an internal (management accounting) reporting perspective.

### **3.2.2 An external reporting perspective**

The role of accounting systems for measuring and evaluating financial and service performance and promoting accountability has increased, and annual reports are regarded as being used to discharge accountability to internal and external users (Steccolini 2004: 327-328). A survey of the use of annual reports of Italian Local Government found that the *internal users*, specifically the mayor/president and the executive members together with the CEOs i.e. those that are very involved in strategic decision-making are the most interested users of the annual report (Steccolini 2004: 338). In the private sector, financial accounting information is used by managers and investors for investment decisions, for ensuring the optimal utilisation of resources, and to reduce information asymmetries amongst investors (Bushman & Smith 2003:79), The

World Bank considers a financial accountability framework as consisting of an effective financial management information system; the development of a professional base of accountants and auditors, applying international financial reporting standards and a strong supporting legal framework to support modern accounting practice (Barata & Cain 2001: 251).

The annual report and particularly the financial statements prepared for external reporting purposes are portrayed as faithfully representing the financial performance and position of an entity. This belief is challenged in the research literature. Barton (2004: 281-304) uses the case of the financial reporting of the Defence Force in Australia to demonstrate how the inappropriate application of the business model of accrual accounting to the Public Sector seriously misrepresents its financial performance and position. Skaerback (2005: 385-411) shows how the rhetoric in the annual report of a large Danish business university was used for impression management purposes rather than as an objective theoretical use of information for decision-making purposes. Steccolini (2004:327-350) reported discouraging results on the actual role of the annual report as an accountability medium.

Financial statements prepared under the GAAP regime constitute the aggregation of the results of accounting for operations prepared under various rules and conventions developed by accountants internationally. The volume and complexity of the financial reporting standards have become so complex that even in-house accountants, auditors, investors, creditors, underwriter, boards of directors, audit committees, and regulators are struggling to construct and use them (Schuetze 2004:62). In the HEI environment, the role of the academic middle manager is seriously affected by the complexities surrounding financial reporting as well as the New Public Management demands. Their effective functioning as middle managers:

‘require skills and expertise in financial matters that middle managers in the past were not required to display to anything like the same degree. Even with the assistance of administrative finance officers, much responsibility still has to lie with the middle manager negotiating the contractual terms of new initiatives etc. (Hellawell & Hancock 2001:195).

The primary purpose of external financial reporting under GAAP is to provide information about the financial position, performance and changes in the financial



position of an entity that is useful to a wide range of users in making economic decisions. However, the aggregated formats of financial reports prescribed by the DoE and also GAAP, provide very little useful information that will facilitate decisions on the efficient, effective and economical utilisation of resources for the core purposes for which HEIs exist viz. teaching reserve and community service.

To address this shortcoming of external financial reporting, one has to look for alternative modes of compiling and presenting financial information amongst the management accounting literature.

### **3.2.3 The management accounting perspective.**

Management accounting seeks to provide financial information to people within the organisation to help them make better decisions and improve efficiency and effectiveness of existing operations. (Drury 2004:7). The nature of the operating activities of an entity would thus provide guidance for the development of financial reports useful for decision-making purposes. For the purpose of this study, a broad description of HEI operational costs is provided below, followed by some of the management accounting-related studies done in the HEI sector.

Teaching and research (and to a lesser extent) community service are the primary operating activities of HEIs for which expenditure is incurred and for which revenue is received. The total institutional production costs for these primary operating activities mainly comprise: departmental salaries and fringe benefits of faculty and support staff; departmental expenditure for services and supplies, the depreciation of equipment and computers and other directly related costs (Lewis & Dundar 1999: 64). Added to these directly attributable costs are the costs of central support services – libraries, computing, administration, student registration, finance, marketing and public relations, maintenance, scholarships and fellowships (Pendlebury & Algaber 1997: 282; Doost 1998: 479-488).

Swonger & Mead (1995) developed management accounting related reports that portrayed program level contribution analysis at the University of Rhode Island (URI) to evaluate the cost-effectiveness of university programs, based on the assumption that every program should pay its own full costs. They used the workload reporting system of



URI to divide the work of each faculty member into undergraduate teaching, graduate teaching, released-time research, and released-time service/outreach. The teaching effort was then allocated to programs. Net contribution was measured as the total revenue (direct and indirect) minus total expenses (direct and indirect). Indirect costs were assigned on the basis of sharing of total credit hours or sharing of space. They warn that because of the strength of the program contribution analysis as an analytic tool, financial considerations may skew program and resource allocation decisions without considering non-financial aspects such as the quality of the program. The strength of Swonger & Mead's analysis lies in the costing of workload and its assignment to programs because it would allow for work productivity analysis.

Doost (1998: 479-488) criticises Swonger and Mead's study for considering overhead as fixed and unchangeable, and faculty and staff time as totally variable. His study considers teaching, research and public service as the main mission of a university, and that all other costs are overhead. He proposes that overhead be broken down into various levels in terms of the proximity to the mission of the institution. He further contends that if indirect costs are allocated to the various academic programmes, as proposed by Swonger & Mead, then it would distort faculty effort. Simmons et.al. (2006:29-42) points to the erroneous assumption under "full" costing (direct and indirect costs are included in the cost) of programs, that where a program is closed, the full cost will be eliminated. Common costs (e.g. central buying services) will not be eliminated when a program is discontinued. They share the view of Doost that common costs should be tracked at organisational level only, and not allocated to academic programmes.

Goddard and Ooi (1998) used ABC for disaggregating library costs through analysing the cost of activities of library staff and then allocating these overheads to faculties. The types of activities used for their analysis were – cataloguing, acquisition, periodicals, bindery, data preparation, head of department and URICA support. They found that the use of ABC did improve the efficiency of allocation of overheads relative to the traditional approaches. Cropper and Crook (2000: 61-68) confirm the applicability of ABC to HEIs, but ascribes the reasons for only 9% of HEIs surveyed having introduced ABC to the high level of commitment, training, data collection etc. and resources required for its implementation. Acton and Cotton (1997:32-38) promote the usefulness of ABC as a basis for management control within the support services, in preparing

academic unit financial statements, and providing information for making resource allocations amongst major activities.

McChlery & Rolfe (2004: 68-87) traces through the history of studies of management accounting in HEIs in the UK, and makes reference to the Jarrett Report (1985) that called for greater awareness of direct and indirect costs and devolution of responsibilities to responsibility centres; the Hanham report (1988) recommending full costing; HEFC's seeking sound costing information for decision-making; and the 1998 Comprehensive spending review requiring full costing of research and other public funded activities. They use Value Based Management (VBM) thinking to construct a Value Based Information System. The model involves – defining the main business activities to be measured, collection data relevant to those activities and valuing individual activities. The strength in their model lies in the allocation and control of staff time and costs particularly in using the 1300 Hour Model. The cost of workload attached to each staff member and the associated modules being serviced by each member formed the crux of the model. The model has various benefits – it allows academic managements to know what the total cost is of running their academic department; the surplus/deficit sustained by each department; the extent of cross-subsidisation amongst departments; it may also facilitate the pricing and tendering processes. Contribution portrayed by this model comprises Income less direct expenses (Academic staff costs, Administration staff costs and other direct costs). McChlery & Rolfe warns that using incomes received for service as a proxy for the true worth of education is perilous. The model is aimed at assisting academic managers how best to manage their resources at a macro and micro level.

The shortcoming of all the above financially-based models is that it provides a one dimensional perspective of assessing an institution's performance. The balanced scorecard approach (BSC) uses four measurement perspectives to assess an HEIs performance viz. the financial perspective (growth, profitability and risk), the customer perspective (value creation and differentiation), the internal process perspective (customer satisfaction) and the learning and growth perspective (organisational change, innovation and organisational growth). Chen et al (2006) list the following themes and targets that may be associated with each perspective in the HEI sector;

<b>Financial Perspective</b>	<b>Customer perspective</b>	<b>Internal Process perspective</b>	<b>Learning and growth perspective</b>
<b>Theme:</b> Adequate financial structure	<b>Theme:</b> Accord with customer expectation	<b>Theme:</b> Excellent learning environment	<b>Theme:</b> Organisational learning environment
<b>Strategies</b>	<b>Strategies</b>	<b>Strategies</b>	<b>Strategies</b>
Increase income	Increase customer satisfaction	Establish high quality service process	Promote information technology application
Increase asset usage rate	Promote school image	Complete teaching facilities	Establish performance leading culture
Reduce human resources cost		Provide excellent teaching quality	Enhance staff administrative ability

Dorweiler & Yakhou (2005: 138-144) studied the potential of BSC for administrative performance on campus, and concluded that BSC helps academic administrators to put more focus on internal processes to improve institutional effectiveness and accountability.

The following excerpt captures the essence of what may happen to an HEI if the 'bottom-line' type orientation which has been discussed in this section takes hold:

... at the University of Michigan, we almost went to a thoroughgoing responsibility-centered management system, in which units would get the revenues associated with their activities (teaching hours, indirect research returns) and would be "responsible" for the costs of their activities (for example, number of books in the library). Unfortunately, this system threatened what is at the heart of our institutional identity, precisely because the collective good is slow, expensive, shared, and not profitable in the market place of student credit hours or sponsored research – that is, interdisciplinary or collaborative work is expensive, service learning and community-based research are rarely profitable ... So, we went to a hybrid model of some activity-based flow of revenues and costs and some taxation for the common good, and we watch carefully that non-marketplace-supported programs (such as interdisciplinary and collaborative courses, museums and libraries) are fed. (Cantor & Courant 2003:6)

## **Summary and financial reporting implications**

The management accounting discipline has the tools for measuring efficiency and effectiveness in the performance of HEI operations. Use has been made in past studies of various management accounting techniques to analyse the performance of HEIs at the micro-level. Program-contribution analysis, activity-based management reports, and value-based management techniques were applied in the HEI context in order to facilitate assessments of cross-subsidisation, the cost of teaching and research, the productivity of faculty and to make other strategic decisions. The Balanced Scorecard (BSC) extends the perspective for evaluating HEI performance to include a customer (e.g. student) perspective, an internal processing perspective (e.g. excellent teaching quality), and a learning and growth (e.g. application of ICT in the educational process).

The management accounting techniques discussed under this subsection may be gainfully applied in achieving the main aim of this study to compile a set of reports, computations and analyses that will display financial information about the operational realities of an HEI.



## **B. GUIDELINES FOR FINANCIAL REPORTING DERIVED FROM THE LITERATURE REVIEW**

The first research question that this study sets out to answer, based on the literature review is: “What guidelines for financial reporting may be derived from an understanding of the meaning, nature and inter-relationship of accountability, responsibility and teaching and research in a higher education context?”

The following guidelines for financial reporting are derived from the above literature review:

1. Financial reports ought to be part of a free flow of appropriate information that will facilitate discussion, debate, questioning, assessing and cross-examination

amongst internal and external stakeholders, and are focussed on accountability for the actions taken by the various responsible structures of HEIs. Private sector reporting formats for internal and financial reporting may be used to display the operational realities of HEIs provided that the reports will provide the appropriate information that will facilitate the accountability by the agent (the HEI) to the principal (the State and other stakeholders (i.e. students, academic and other staff, donors, sponsors and the general public)). Refer to section 3.1 above.

2. In order for HEIs to fulfil their responsibility for accountability to internal and external stakeholders, they would have to ensure that the information about their operations will, inter alia, enable students to assess the fairness of tuition charges; enable academics to measure the extent of cross-subsidisation and the fairness of the distribution of the workload; enable all staff to consider their job security; and enable management to make the decisions that will optimise the utilisation of resources towards achieving its mission. The financial reports that are envisaged by this study must be seen as particular interpretations of the performance of the HEI and not as statements reflecting the 'truth'. The interpretation may be at the macro-level of the HEI-sector as a whole, the aggregated position of a particular HEI, or the micro-level of performance in terms of academic modules. Refer to sections 3.1.1 to 3.1.3 above.
3. Knowledge-production is the prime objective of an HEI. The production process involves the use of faculty time and effort, buildings/space and equipment, library holding to produce', through teaching and research, students with degrees, research reports, articles, and citation, and community service. This knowledge-production process needs to be measured. The financial reports need to show the financial impacts of teaching activities, research activities and community service activities. Refer to section 3.1.4 above.
4. The cost of faculty time (workload) and other resources spent on teaching and research constitutes essential information for the preparation of financial reports as envisaged in this study. Financial reports will have to provide an analysis of faculty effort and other direct and indirect costs associated with the operations of the HEI. Refer to section 3.1.4 above.
5. Centrally managed costs are not directly attributable to the teaching and research effort. Activity-Based Costing (ABC) methods are used to identify and allocate costs to programs and modules. This study suggests that centrally managed costs

may be disaggregated through the use of activity-based costing, but that the costs should not be allocated to academic modules/programmes. Financial reports should rather reflect centrally managed costs in its proximity to the teaching, research and community outreach functions. Refer to section 3.1.5 above.

6. In the private sector Cost-Volume-Profit (CVP) methods are used to view contribution made by products and services. The prices of the products and services indicate the value against which costs are measured for efficiency, effectiveness and economy. In the HEI context subsidies, tuition costs and grants and donations ought not to be used as a proxy for prices, but should rather be reflected as funding for the costs of teaching, research and community service. Refer to section 3.1.6 above.
7. Financial reports need to will show the extent of cross-subsidisation in order for debates, discussion and negotiations to take place in a transparent manner that will culminate into decisions for the optimal use of resources to achieve the mission of the HEI. Refer to section 3.1.7 above.
8. External financial reporting formats do not facilitate the measurement of efficiency, effectiveness and economy in the use of resources. Management accounting techniques such as contribution analysis, ABC costing and Value-Based Management may be gainfully applied in achieving the main aim of this study to compile a set of reports, computations and analyses that will display financial information about the operational realities of an HEI. For the purposes of this study, the report formats portrayed in the studies of Swonger & Mead, Doost, and McChlery & Rolfe are considered very useful for incorporation into the case study described in the next chapter. Refer to section 3.1.8 above.

## CHAPTER 4: THE CASE STUDY

The second research question of this study is:

*What formats of financial reports may facilitate the promotion of the economical, effective and efficient utilisation of resources towards the primary activities of a HEI?*

This section will *firstly* provide the background and motivation for this case study; *secondly* it will describe the present management information system, *thirdly* it will relate the shortcomings of the current system together with outlining the broad objectives of the proposed system. *Fourthly* it will describe the reports that are proposed; the manner in which they were compiled; the benefit(s) of the report; the decisions that may be facilitated by the information contained in the report; and the inferences that may be drawn from the data presented in the report.

### 4.1 BACKGROUND AND MOTIVATION FOR THE CASE STUDY

As has been mentioned earlier, UWC was selected as a case study because for many years it relied on state funding as its main source of income. The educational landscape changed as the political landscape changed from the Apartheid system. As the formerly 'white' universities opened up their doors to the other population groups, the university experienced a significant drop in student numbers, which caused a decrease in state funding that in turn caused the university to suffer deficits in its financial performance up to the year ended 31 December 2003. However, for the year ended 31 December 2004, the annual audited financial statements showed that UWC had achieved an operating surplus of R20m for 2004 as compared to a deficit of R22m for 2003. A question that may be asked is – Could one determine from the audited income statement why the financial performance of the university has improved? The answer to that question would be (in aggregated terms) – Yes, and the main reason for that is that even though the total recurrent expenditure had increased by 8,4% (i.e. by R39m - from R464 for 2003 to R503 for 2004) this increase was more than set off by the increase in the state subsidy and grants of 36,3% (i.e. by R68m - from R209m for 2003 to R277m for 2004) and the increase in tuition fees of about 15% (i.e. R18m - from R121m for 2003 to R139m). Whilst this aggregated position allows the reader of the income statement to



draw some inferences about the university at the macro-level and to control aggregated spending and deficits (Barata & Cain 2001: 247-258) it does not provide the decision-makers and managers with the necessary information to:

- Achieve efficiency and equity in the allocation of resources through the prioritisation of expenditure across policies, programs and projects (Barata & Cain 2001: 247-258; Zimmerman 2003:6)
- Produce the outputs and outcomes at the lowest cost through better use of budgeted resources (Barata & Cain 2001: 247-258; Zimmerman 2003:6)
- To measure and evaluate performance and partition decision rights in reference to the above (Zimmerman 2003: 169)

#### 4.2 THE CURRENT MANAGEMENT INFORMATION SYSTEM

Currently the management accounting reports of UWC for financial performance (i.e. excluding the budgeted balance sheet and budgeted cash flow) comprises the following:

- Expenditure budgets by each *faculty* (Economics and Management Sciences (EMS), Arts, Science, Education, Community Health Sciences (CHS), Law, Dentistry) by each broad *administrative responsibility* (Rector and Vice-Rectors, Finance and Administration, Financial Services, Human Resources, ICT, Registrar, Academic Affairs, The Office of Development and Public Affairs and Student Affairs), and *residences*. The expenditure budgets comprise staffing costs, and supplies and services (inter alia, Bursaries and prizes, Printing, Travel and Subsistence, Professional Services, Repairs and Maintenance, academic consumables).
- Revenue budgets for aggregated tuition and state subsidies
- An overall budget that aggregates all of the financial data into an income statement format that is identical to that of the annual income statement for external reporting purposes.

The computerised accounting information system records each transaction against an entity and expense category, so that it is possible to disaggregate each expenditure or

income item on the income statement to an entity. However, this information is not gathered or presented into financial reporting formats that provide the information that may assist decision-makers and managers in the utilisation of resources towards core mission of the university.

### **4.3 THE SHORTCOMINGS OF THE CURRENT REPORTING SYSTEMS AND THE OBJECTIVES OF THE PROPOSED SYSTEM**

The current financial reporting system, which uses external financial reporting formats to portray the operations of the university, does not provide the decision-makers and managers with information that facilitates insights into:

- 4.3.1 The overall financial performance of UWC over a 5-year period (refer to Report 1 and Report 2)
- 4.3.2 The direct costs of knowledge-production (staffing and other direct costs) in the form of teaching, research and community outreach, by all the cost centres of the university (faculties and departments), disaggregated to the level of academic modules (refer to Report 4, Report 5 and Report 6)
- 4.3.3 The nature and impact of indirect costs on the overall costs of the university supporting the academic effort (Report 3)
- 4.3.4 The revenues received for the academic effort – tuition fees, state appropriations and other income disaggregated as much as possible to departmental or module level (refer to Report 7 and Report 8)
- 4.3.5 Extent of cross-subsidisation that occurs between over-funded and under-funded modules and/or departments (Report 7)

#### 4.4 A DESCRIPTION OF THE REPORTS, THEIR OBJECTIVES AND ANALYSES.

##### Report 1 – Five-year trends in overall expenditure

- **Purpose, justification and decision-making potential**

- To obtain a macro-level view of the overall trends in financial performance.
- The report is based on the need for the HEI, as agent, to provide an account to the stakeholders, as principal, through a free flow of information to facilitate accountability for the overall financial management and governance of the HEI. (Refer to B1 of the Guidelines - Chapter 2 of this study).
- This allows decision-makers and managers to obtain a snap-shot of the major contributing elements of revenue and expenditure that contributes to the overall surplus or deficit of the HEI. Trend analysis enables stakeholders to plot financial ratios over time, allowing for comparisons of overall performance by the HEI itself as well as comparisons of overall performance with other HEIs.



- **Compilation**

This report used the audited consolidated income statements for the years 2000 to 2004 (UWC 2000 -2004) to reflect the proportion of the broad categories of expenditure to total recurrent expenditures. It then determines the overall cost per headcount student as well as per full-time-equivalent (FTE) student by these broad categories of expenditure. The headcount and FTE student numbers were taken from Steyn & de Villiers (2006).

- **Observations and inferences**

This report reflects how much was spent on the various categories of costs over the five-year period 2000 to 2004. While the expenditure has increased in rand value over the five years, the *percentage increase* in the rand value of expenditure from 2001 to 2004 declined from 17.5% to 8.5%. This is largely attributable to a containment of employment costs.

The composition of the expenditure over the five-years has been fairly steady with personnel costs comprising about 55% of total expenditure. The reason for the personnel costs comprising 59% of total expenditure in 2001 was ascribed to the change in the provision for leave pay for employees over 55 years of age, as required by Generally Accepted Accounting Practice. As the primary operations of HEIs are teaching and research, the overall expenditure would need to be looked at against the number of students being serviced. Cost per headcount student showed a steady increase over the five years with the highest increase of 11.6% in expenditure recorded from 2003 to 2004 the cost per FTE student for those same years showed an increase of 6.8%

In terms of this report the overall costs of the university have been well managed particularly from the 2003 to 2004 with the rand value % increase having been 8.4%, and the FTE cost per student having been 7% for the same period. This is to be seen against the backdrop of a 5.9% headline CPI inflation rate for 2003 (Steyn & de Villiers 2006:153). It may be concluded from this report that the university has *economically* managed its financial operating resources over the last five years.

- **Findings**

The difference between this report and the annual audited income statement lies in the computation of the costs per headcount student and full-time equivalent student. This report shows the impact of each category of cost on the cost per student. Decision-makings would have to consider whether the improved spending on academic costs per headcount and FTE from 2003 to 2004 had improved the quality of service delivery. From a reporting point of view, the cost per student by expenditure category enables a better view of where there has been in imbalance in the spending per student. For instance from 2002 to 2003 the ‘other personnel’ costs showed highest increase in personnel costs, whilst the cost per student of academic personnel showed a decline. Decision-makers may consider whether the administrative service to students justified this cost increase. This report may further enhance accountability if the number of staff members is used to assess the average cost per staff member. This report will increase the accountability to the students (to assess tuition fee increases); the state may get a better view of cost per student for funding purposes; academics may debate the merits or demerits of increasing spending on ‘other personnel’ as apposed to academics.

## Report 2 – Sources of funding of expenditure and financial performance

- **Purpose, justification and decision-making potential.**
  - To facilitate the assessment of the risks to operations that a decrease/increase in any category of income may have on the overall funding of operating.
  - Management and governance structures should ensure the sustainability of the HEI. This is only possible when the sources of recurring revenues are adequate to support the operations of the HEI. This report provides an account by Council to the stakeholders of the efforts made to secure the appropriate recurring funding for HEI operations. This report is an extension of Report 1 that provides a macro-level view of the operations of the HEI. (Refer to B1, B2 and B6 of the Guidelines - Chapter 2 of this study).
  - Decisions about tuition fee increases, developing entrepreneurial activities for additional earnings (research contracts, partnerships with business and industry, developing products, educational programmes and materials with a sales value (Grantham 1999:2), approaches to alumni and philanthropists for endowments may be embarked upon.
- **Compilation**

This report used the audited consolidated income statements for the years 2000 to 2004 (UWC 2000 -2004) to reflect the proportionate funding of total recurrent expenditure through state appropriations, tuition fees and other income.

- **Observations and inferences**

State subsidies provide the main source of funding for HEI operations and in the case of UWC in 2004 it funded 55% of total recurrent costs. This funding matched the human resource cost of 55% for 2004, even though it is not the specific intent of the state to fund the cost of personnel of an HEI. This is evident in previous years (2000 to 2003) where the funding constituted around the mid 40%'s of recurrent expenditure. The state funding of 55% for 2004 compared to 45% of recurrent expenditure was primarily

responsible for the operating surplus. This increase may primarily be ascribed to the change in the state subsidy formula:

The State subsidy formula has changed and is no longer based on student numbers, but students are now funded on a differential base in accordance with their area of study; institutions are further subsidised in accordance with their size as well as the equity profile of their student body; and institutions receive an output development grant to financially assist those who are not performing in accordance with the DoE benchmarks. (UWC 2004:38)

Thus an increase in the state subsidies for 2004 demonstrated the impact of the state steering strategy to address the historical imbalances in institutional funding that have occurred in the past (through the institutional factor – more than 80% of the student body are African and Coloured students); and through institutional restructuring and student enrolment shifts (Dentistry and Nursing faculties of Stellenbosch University transferred to UWC). This increase in subsidy ultimately ensured a recurrent ‘operating surplus’ of R25m. The state subsidy, is not really ‘recurrent’ income in that the expected 2005 normal subsidy would be R228m excluding the development grants which is expected to amount to about R41m (UWC 2004b). This means that ‘productivity’ in the form of teaching and research outputs would have to be improved substantially. This in turn would require closer monitoring of the financial (efficiency) impacts of operational performance in the core functions of the university.


The state funding per headcount student as well as per FTE student shows a significant year-on-year increase from 2003 to 2004 (from R14,896 to R20,304 and from R19,206 to R25,054 respectively) as compared to all previous years. In fact, for the years 2000 to 2001, even though the headcount numbers increased by 11%, the state subsidy per student had actually decreased per headcount student (-12.2%) and per FTE student (-8.5%).

Even though the increase in fees was only 8%, the shift of student enrolment into more expensive course mixes with more compulsory modules (e.g. accountancy, dentistry) resulted in an overall increase of 14% in income from tuition fees from 2003 to 2004 (UWC 2004a: 38). This is further demonstrated by the increase in tuition fees per headcount student of 17.6% and per FTE student of 12.5%. The recurrent operating

surplus of R25m in 2004 from a deficit of R22m in 2003 reflects a turnaround situation from a 'loss-making' institution with a qualified audit report, to a 'going-concern'.

- **Findings**

What may be concluded from this report is that in an accounting sense the financial performance may reflect an *efficient* application of the financial resources of the institution, the reality is, however, that the turnaround of UWC may be ascribed to a more realistic funding of the institution. This is demonstrated when comparing the state funding per student (Report 2) to the cost per student (Report 1). The state funding per headcount student in 2004 was R20,304 compared to a cost of R36,872 – this represented a 55% funding per student compared to a 47% funding. The risk that the development grant holds for the sustainability of the institution requires an even greater urgency for a closer review of the financial impacts of the institution's operations



**Report 3 – Functional analysis of expenses for the year 2004 and the constitution of costs per student by nature of costs**

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- **Purpose, justification and decision-making potential.**
  - This report disaggregates expenditure into those directly relating to faculty academic effort; and those that are indirectly related to faculties in respect of the costs of providing support services for the academic effort; this is followed by central administration support services for student, staff and institutional development.
  - The report finds its justification in the need to provide more visibility of the direct costs associated with teaching, research and service efforts, and the indirect costs incurred in respect of financial management, personnel management, repairs and maintenance, the offices of the rectors and registrars. Students, academics and the state may be able to gain an overall financial insight into the cost structure of an HEI contributing to costs per student. (Refer to B2 and B5 of the Guidelines - Chapter 2 of this study).



- This report allows decision makers to judge the reasonability of costs per student across faculties, and in relation to centrally-managed service costs and central services. The report enables decision makers to call for further analysis of indirect costs to be done through the use of activity-based costing through identification of activity drivers. Strategies for cost-reduction may be developed by decision makers as a risk-prevention strategy in the event of a decrease in state funding.

- **Compilation**

This report used the UWC trial balances to ascertain the amounts expended on the various main functions of the university viz. Faculties, Centrally-Managed Costs, Central Administration Services, Student Development, Residences and Research and Community Projects. The UWC Institutional Operation Plan (IOP) 2004 provided the numbers of headcount students per faculty. The various functional categories of expenditure were expressed in a percentage relationship to the total recurrent expenditure. While this analysis was only done for the 2004 year, similar analyses of previous year expenses would enable trends to be ascertained in the composition of the overall cost of per student (headcount/full-time-equivalent) associated with various categories of costs over a period of years to see the trends.

- **Observations and inferences**

The following observations and inferences may be drawn from this report:

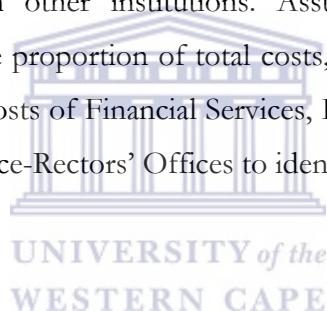
Of the overall recurrent cost of R503m, 47.3% (R238m) is ascribable to direct faculty and faculty related costs with the balance of 52.7% comprising mainly central administration services (23.3%=R117m) and research and community projects (23.5%=R118m). So, the costs directly attributable to the core functions of the university constitute 75% of total costs (Faculties 37.4%; Faculty-related centrally managed costs 9.9% and Research and Community Projects 23.5% and residences 4.6%). This may be considered an *effective* application of funds in that it is substantially spent on the core mission of the university viz. teaching, research and community outreach.

A closer look at the cost of headcount student per faculty shows quite a disparity amongst faculties. Understandably the Dentistry and Science, because of the expensive nature of 'knowledge-production' in those field, would show the highest cost per student of R31,446 and R23,253 respectively. However, the cost per student of R12,777 for Arts and R23,253 for Education compared to EMS and Law of R7,552 and R9,519 may require closer scrutiny. The Community Health Sciences faculty's cost per student of R12,487 matches the cost for Arts, even though the mode of knowledge-production would be expected to cost less for Arts. The cost per student is a function of cost and the number of students, and hence, EMS with 26% (3,592) of the student headcount is showing a lower cost per student. There is therefore a suggestion of cross-subsidisation of students across faculties.

Whether Central Administration services ought to constitute 23.3% of total costs would require some discussion, debate and comparison to other HEIs. This would require some benchmark information from other institutions. Assuming 20% of total costs is considered to be an acceptable proportion of total costs, then further analysis would be required of, particularly, the costs of Financial Services, Estates and Equipment Support Services and the Rector and Vice-Rectors' Offices to identify any potential cost savings.

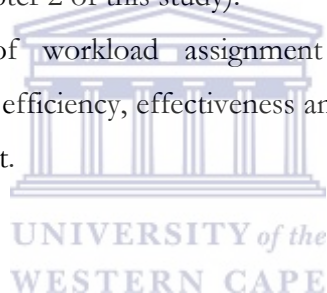
- **Findings**

The report shows that the HEI has demonstrated an *effective* application of the financial resources of the institution in that the spending on teaching, research and community outreach constitutes 75% of the total recurrent expenditure. The report may be enhanced through the alignment of current expenditure with previous years to establish trends in spending. Because this report is unfettered by the relationship of costs to total income, it provides a better focus on the *cost* implications for servicing students, thus enabling a base for improved budgeting and financial effectiveness evaluations. This report will also provide important information for any cost-reduction strategy.



## Report 4 – Allocation of academic remuneration to the various ‘workload’ activities

- **Purpose, justification and decision-making potential.**
  - To review the cost impact per student of the various activities undertaken by faculty employed by the HEI in respect of the teaching, research, administrative and other activities.
  - This report is an aggregation of the academic personnel costs attributable to the knowledge-production efforts of each faculty member in respect of each academic module as portrayed in Report 6 (see later). The justification for the report lies in the need for an analysis of the costs of faculty time and effort in producing the teaching, research and service outputs for the students that are enrolled at the HEI during a particular academic year. (Refer to B3 and B4 of the Guidelines - Chapter 2 of this study).
  - Cost information of workload assignment will facilitate decisions for improvements in the efficiency, effectiveness and economy of the management of the academic effort.



- **Compilation**

Academics participate in teaching, research, community service, administration, and other activities. Cost per student (headcount as well as FTE) assumes that all faculty time is spent on servicing enrolled students. However, the time spent by academics on teaching, research etc. depends on the rank which they hold. This means that the higher the academic rank held by the academic the less time is spent on teaching and the more time is spent on research. Using the survey conducted by the US Department of Education, National Center for Education Statistics (1992), the expenditure on academic remuneration was split into the categories of activities which this survey tested. Assistant professors were assumed be at the same level of senior lecturers in South Africa and those percentages were applied to determine the workload position of senior lecturers. Using the headcount number of students a cost per headcount student was calculated by faculty for each type of activity. While this exercise is based on approximations, when the university decides on a benchmark allocation for each faculty the determination of a cost

per faculty would be enhanced allowing for more sound accountability discussions and debates to improve efficiency, effectiveness and economy in the use of resources.

- **Observations and inferences**

This report is tempered by the fact that it merely serves to demonstrate a position if accurate data were available for UWC.

Only about 54% of faculty time would be spent on teaching, and about 17% would be spent on research. Referring to the discussions in Chapter 2 above on the low correlation between teaching and research, it may be assumed that the assigned cost of R22m for research would need to be measured against the research outputs produced by academics, and that the cost per student ought to be viewed against the actual (or purported in this analysis) teaching costs only. A review of the costs per headcount student across the faculties again point to the lowest cost per student being generated by the Economic and Management Sciences faculty at R3,024 per student. Further analysis would be required to determine whether the cost per student (for teaching) in the Arts faculty of R5,664 is too high, or whether the spending on EMS is too low. The allocation of 30% of academics time to administration, service, personal growth and even outside consulting would have to be considered against the needs for academics to participate in committees (for research & study leave, higher degrees, academic planning etc.) to ensure an equitable distribution of work.

- **Findings**

This type of report may be used as basis for budgeting faculty workload to academics and for accountability by academics for their productivity. In this way efficiency, effectiveness and economy in the use of the resource of faculty time would be improved.

The cost per headcount student for teaching, research, professional growth, administration, outside consulting, and other services allows the decision-makers to compare the costs across faculties. When annual statistics of costs are compiled, then it will allow trends to be observed. The rising or falling costs per student for each type of

activity would then form the basis for further investigation, debate, or corrective action as appropriate.

<b>Report 5 – Accountability for faculty expenses by academic department – The case of EMS</b>
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- **Purpose, justification and decision-making potential**
  - The distribution of faculty costs amongst departments to ascertain the extent of cross-subsidisation amongst departments within the same faculty.
  - The report requires an analysis of the costs per student incurred by each academic department for each academic faculty. This report adds to the usefulness of the previous report which concentrates on personnel costs, in that it extends the cost analysis by major expense category across departments within each faculty. When this report is completed for each faculty, the extent of cross-subsidisation would be more visible.( Refer The justification for the report lies in the need for an analysis of the costs of faculty time and effort in producing the teaching, research and service outputs for the students that are enrolled at the HEI during a particular academic year. (Refer to B7 of the Guidelines - Chapter 2 of this study).
  - This would assist decisions regarding the reorganisation and restructuring of departments within a faculty with the aim of cost reduction and improvements in productivity. The report would also assist the budgetary process for resource allocation.
  
- **Compilation**

Faculties comprise various departments, each with its own type of ‘knowledge-production’ process, its own market-related student demand, its own difficulties in securing specialist staff, its own student/lecturer ratio etc.

This report examines the EMS faculty at UWC. The information for this report was obtained from the accounting records of UWC for the year ended 31 December 2004. It

uses the UWC-IOP information of FTE's per academic department for computing the cost per FTE student. It reflects the split between academic salaries and departmental support staff salaries using the information from the UWC salary system for 2004. The report re-allocates the expenditure associated with the Dean's Office to the departments by using the FTE per department to total FTEs for the faculty as a whole.

- **Observations and inferences**

The report provides insights into the cost management by each department within the Economic and Management Sciences Faculty of UWC. This type of report may be compiled for each faculty and their constituent departments. It shows the costs per FTE student for each academic department. Once all the faculties are analysed along the lines of this report, inferences may be drawn about the manner in which each department manages its cost. One would expect that the cost per student of the departments within the Science Faculty would be more than that of EMS because the nature of the knowledge-production process.

This report, which analyses the EMS faculty only, shows the substantial costs per FTE student associated with the low FTE departments viz. SOG – MPA R25,053; Public Administration R21,914 and Political Studies R16,334. (Note: during 2005 Public Administration was incorporated into the School of Government (SOG), whereas Political Science remained as an independent department within the EMS faculty.

The decision-makers may decide to restructure the faculty and incorporate Public Administration and Political Science into the SOG. Further investigation may be initiated to break down the staffing costs in terms of workload in order to match the teaching effort with that of the productive capacity of staff. The type of analysis portrayed in Report 4 would provide more insight into the nature of the high cost per student for the School of Government in order to decide on the appropriate action.

- **Findings**

This report enables a view of the extent of cross-subsidisation that takes place amongst departments, and provides a basis for cost containment planning, student enrolment

planning, and a review of workload within low FTE departments for possible reorganisation and restructuring purposes. The report may be more useful when reviewed against an analysis of the costs of servicing academic modules managed by the various academic departments. Budgetary processes for resource allocation amongst departments would be facilitated by this report.

**Report 6 – Departmental cost analysis by teaching module – Case of the Department of Accounting at UWC.**

- **Purpose, justification and decision-making potential**
  - To ascertain the extent of intra-departmental cross-subsidisation in terms of academic modules.
  - Students are registered by academic module in order to complete their academic studies. In an HEI where the main academic output is concentrated in the teaching function, the direct costs attributable to each module may be directly connected to the number of students registered for those modules. This report therefore provides a more focussed cost analysis within an academic department and thereby makes the extent of inter-departmental cross-subsidisation more discernable. (Refer B7 of the Guidelines - Chapter 2 of this study).
  - This would expedite decisions regarding the elimination of programmes; developing strategies for improving student intake within particular modules; providing more financial support for ‘under-funded’ modules
  
- **Compilation**

This report has been based on the departmentally agreed requirements to service the modules conducted and controlled by the Department of Accounting. The total direct teaching costs (column H) consist of:



- Academic contact hours for lecturing and tutoring (see Report 6(a) – based on the number of student groups to be serviced; the direct lecture/tutorial contact hours; the hours required to prepare the lecture/tutorial (based on a multiplier); the number of weeks for the module; the hours of student consultation. These hours are then costed out at a standard rate of R250 per hour, after considering the average cost to company of a senior lecturer.
- Costs for setting and marking examination and test papers (see Report 6(b)) were based on the number of examinations/tests per module for its duration, the number of students enrolled for the module and the estimated time it would take to service these tests and examinations. Half of the standard hourly rate charged for lectures has been used to determine this cost on the grounds that the marking of tests are outsourced to less expensive staff.
- The direct supplies and services costs per module have been determined by taking the total departmental costs and splitting it amongst the modules on the basis of student enrolments.

The student numbers used were obtained from student enrolment numbers and pass rates provided by the central administration of the university. The direct cost per enrolled student; the direct cost per successful student and the direct cost per FTE student were computed by using the various student numbers indicated in columns A, C and I of Report No.6.

- **Observations and inferences**

The report shows the composition of direct costs of servicing the academic modules within the Department of Accounting at UWC. This process may be applied to all academic modules throughout any HEI, but the costs of academic contact, assessment, supplies and services and the use of venues would depend on the knowledge-production process, the number of groups that have to be created for enrolled students, and the number of enrolled students. By computing the direct costs per student for each module, the high cost modules become very apparent. The report is extended to show the pass-rates for each academic module. These pass-rates are used to show the impact of low pass rates on the cost of producing successful students.

The following observation and inferences may be drawn from this report in respect of the Department of Accounting at UWC.

There are large numbers of students enrolled for Accounting for Management, a service module for the Management and other departments. These large numbers of students result in the lowest cost per student for the modules within the Department of Accounting; R498 per enrolled student; and R5,319 per FTE student. The direct cost per successful student is R1,309 because of the low pass rates for the first year (about 32%).

The most expensive modules to service in the department are all the honours modules in Financial Accounting, Auditing, Management Accounting and Taxation. This is primarily due to the low enrolment numbers of 14 students. The low pass rates place the cost per successful honours student in the R40,000 to R64,000 range.

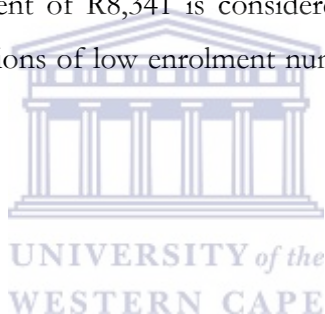
If average cost per FTE student of R8,341 is considered without reference to all the modules, the financial implications of low enrolment numbers and low pass rates would go unnoticed.

- **Findings**

The honours programme modules are the most expensive to service. The department would have to consider ways of ensuring that the number of honours students increase and that the pass rates improve substantially without sacrificing the quality of output; and that the pass rates for the Accounting for Management modules are increased.

What is clear from this report is that the large numbers of enrolments in the service courses (ACM) as well as the first and second year student enrolments cross-subsidises the rest of the modules. But a discussion is required about whether the large class sizes result in lower standards of service delivery.

When each department analyses their teaching effort in the way demonstrated, the costs per enrolled student, costs per successful student and the cost per FTE student, would provide valuable information that may be used as a means to hold each department accountable for cost management of each module.



<b>Report 7 – Contribution analysis by modules – the case of the Department of Accounting.</b>
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- **Purpose, justification and decision-making potential**
  - The financial contributions from the academic modules towards the central costs of the HEI are determined by matching direct costs against teaching and research income. The main goal of this report is to determine the sensitivity of the Department of Accounting modules to sustain its basic direct costs to service the modules through tuition fees charged. The benefits of this report lies in its potential to highlight the extent to which modules cross-subsidise each other; the impact that low enrolled student numbers have on the ‘contribution’ to direct costs; the impact of increased fees charged for certain modules on the overall contribution to the department.
  - Tuition fees place a price on the teaching services, even though the cost of teaching is subsidised by the state. If a policy is adopted by the decision-makers to at least break-even in terms of direct costs of teaching, then this report is justified as a means of testing the viability of academic modules, and also as a means of knowing the extent of cross-subsidisation amongst modules. Refer to B6, B7 and B8 of the Guidelines – Chapter 2 of this study.
  - This may help in determining which modules contribute the largest amounts towards the overall income of the academic department as well as HEI. Tuition fee increase decisions, alternate income stream decisions; cost containment decisions; cross-subsidy toleration decisions etc., may be facilitated
  
- **Compilation**

This report is an extension of Report 6. Total fees (see column E) is the product of enrolled students and the fees per module. The ‘contribution’ (see column G) is determined by deducting the direct costs from the fees chargeable to students. Columns I and J merely separates the total positive and total negative contributions of these modules.

- **Observations and inferences**

This report may be replicated for each academic department, in order to see the extent of cross-subsidisation amongst academic modules. Positive and negative contributions of departmental modules are highlighted, allowing decision-makers to consider the impact of possible discontinuation of modules with negative contributions or capitalising on enhancement of modules with positive contributions.

The overall net contribution of the Department of Accounting of was a surplus R568,668. This may create an impression of the economic, efficient and effective application of resources by the department towards servicing these modules. However, further analysis shows that the substantial positive contributions are mainly attributable to the Accounting for Management (ACM) group of modules (R501,149) and the Financial Accounting undergraduate group of modules (R739,540). The positive contributions of ACM and undergraduate Financial Accounting are dissipated by the shortfalls collectively experienced by the honours modules of about R800,000 .

- **Findings**

The positive contribution achieved by Financial Accounting is attributable to the ‘double’ fee charged because double value in terms of FTEs for these modules. Does this mean that the fees should be reduced for these modules? Does it mean that more of the departmental resources ought to be put towards these modules in order to improve on the low pass rates? These are discussions and debates that may form part of the ‘accountability’ interactions.

The honours programme is the most cost inefficient and uneconomical project of the department. This raises many questions. Should the honours programme be terminated; if so, what will be the impact on undergraduate enrolments? What strategies may be implemented to increase enrolments? Should the fees for the honours programme be increased? Should the already limited skilled resources rather be fully concentrated on a solid undergraduate programme that will enable the graduates to pursue their honours degree at any other university? These are more issues that may be debated by the department, the faculties and management.

This report may be extended by incorporating the input and output teaching subsidy impacts on these modules to arrive at the 'contribution' of the department towards the central costs of the university.

### **Report 8 – Contribution analysis by faculty.**

- **Purpose, justification and decision-making potential**

- To ascertain the overall impact of cross-subsidisation amongst faculties.
- Departmental contribution analyses are aggregated to compile a faculty contribution analysis. The faculty contribution analysis is required to present a picture of the extent to which the costs of the faculties are covered by the funding from student fees, subsidies, and research subsidies and contracts. (Refer to B1, B2, B3, B4, B6, and B7 of the Guidelines – Chapter 2 of this study).
- This would guide faculties, inter alia, to review its staffing strategies, modes of service delivery, tuition fee decisions, and marketing strategies for contract research services.

- **Compilation**

This report has been compiled for demonstration purposes only. The salary and supplies and services expenditure comprises the 2004 financial year figures, but excluding any rentals of external buildings (e.g. Dentistry). The cost of lecture halls, laboratories and tutorial rooms were roughly based on student numbers and applying a figure of R1,000 per student, with the exception of science which was charged out at R2,000 per student and dentistry at R4,000 per student. The cost of offices, computer use etc. was roughly based on the number of staff.

The total faculty expense consists of the cost of salaries, supplies and services, and teaching and office space. Total income consists of tuition fees, state teaching and

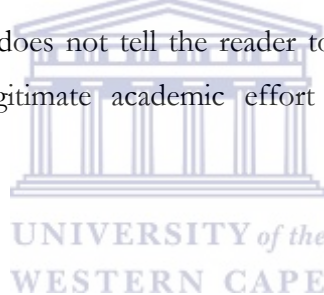
research subsidies and other contract income. Faculty 'contribution' is the difference between total income and total expend, and is expressed as a percentage of total income.

- **Observations and inferences**

This report is a demonstration model:

Economic and Management Sciences faculty would be the most 'profitable' due to its low expense to income relationship. The 'knowledge-production' in Dentistry is an expensive process. However, the Provincial Government does contribute towards the salaries of the Dentistry faculty. The 'contribution' would thus be more for Dentistry than demonstrated here. The contribution of the Education faculty may have to be closely monitored to assess its financial viability.

The report does provide insights into the cost structures as well as the funding of the various faculties. However, it does not tell the reader to what extent the staffing costs were actually assigned to legitimate academic effort and not, perhaps, to private consulting.



- **Findings**

Faculty contribution analysis provides a picture of an operating surplus or deficit for each faculty. Where the contribution percentage to total funding is low, then it means that the other faculties are bearing the highest impact of the indirect costs of the HEI. Deficits at faculty level place the HEI at risk of deficits that may threaten its ongoing sustainability.

Taking the example of UWC, the decision-makers may for instance decide that every faculty would need to achieve a standard direct 'contribution' margin percentage of say 50%. It would then be able to direct its cost reduction strategies and/or income increasing strategies in order to be able to sustain a positive 'bottom-line' towards being a sustainable 'going-concern'. The faculty level information may be disaggregated into departmental and module level contributions, thus contributing to more transparency about its academic operations.

The reports proposed that may be used by any HEI is summarised in the following matrix





Reports	Purpose	Decision-making potential	Compilation	Drawing inferences
No.1 5-Year trends in overall expenditure	Portraying a macro-level view of trends in financial performance	Overall budgetary control of expenditure.	From aggregated income statements of HEI and student numbers	<ul style="list-style-type: none"> <li>• Overall composition of expenditure over major cost categories</li> <li>• Costs per headcount student by cost categories</li> </ul>
No.2 Sources of funding and Financial performance	Assessing the potential risks of decreases in sources of funding to the continuation of the operations of an HEI	<ul style="list-style-type: none"> <li>• Tuition fee increases</li> <li>• Entrepreneurship with educational services for generation of funds</li> <li>• Approaches to alumni for bequests and donations</li> </ul>	From aggregated income statements of HEI and student numbers	<ul style="list-style-type: none"> <li>• Extent of funding of expenditure from tuition fees, subsidies and other income</li> <li>• Extent of income per student from tuition fees, subsidies and other income</li> </ul>
No.3 Functional analysis of expenses for the year and costs per student by nature of costs	Demarcating expenditure into direct and indirect expenditure in respect of academic effort	<ul style="list-style-type: none"> <li>• Resource allocation amongst faculties and administration</li> <li>• Cost reduction strategies</li> <li>• Identification of activity cost drivers for central costs for programme strategies</li> </ul>	From general ledger expense account categories	<ul style="list-style-type: none"> <li>• Comparison of costs per student amongst faculties</li> <li>• The contribution of indirect costs towards the overall cost per student.</li> <li>• The contribution of the cost of student residences towards the overall costs</li> </ul>
No.4 Allocation of academic remuneration to 'workload' activities	Analysis of academic costs of service provision for teaching research and community outreach	<ul style="list-style-type: none"> <li>• Assessing extent of utilisation of production capacity of academic staffing</li> <li>• Devising employment policies regarding workload requirements and allocation of staffing resources</li> </ul>	From workload allocation models and salary records	<ul style="list-style-type: none"> <li>• Correlation between teaching and research effort</li> <li>• The agency-problem of goal incongruence in respect of utilisation of time</li> <li>• Equitability of work distribution</li> </ul>
No.5 Faculty expenses by academic department	Assessing the extent of cross-subsidisation amongst departments and the costs per student at departmental level	<ul style="list-style-type: none"> <li>• Reorganisation of departments</li> <li>• Restructuring of programmes within departments</li> <li>• Budgetary allocation of funds</li> </ul>	From general ledger expense account categories	<ul style="list-style-type: none"> <li>• Costs per student incurred by each department</li> <li>• Average cost reduction potential through merging departments</li> <li>• Impact of policy changes regarding programme restructuring</li> </ul>

Reports	Purpose	Decision-making potential	Compilation	Drawing inferences
No.6 Departmental cost by teaching module	Determination of the costs per academic programme	<ul style="list-style-type: none"> <li>• Elimination of high cost academic modules</li> <li>• Outsourcing of activities e.g. marking of tests</li> <li>• Continuation of part-time programmes</li> </ul>	From workload models, enrolment statistics, costs per general ledger and standard costs per lecture/activity hour	<ul style="list-style-type: none"> <li>• Cost comparison amongst modules</li> <li>• Costs per successful student</li> <li>• Potential cost saving through elimination of deficit programmes</li> <li>• Composition of teaching and related costs of each module</li> </ul>
No.7 Contribution analysis by modules within an academic department	Ascertaining the extent of intra-departmental cross-subsidisation of academic modules	<ul style="list-style-type: none"> <li>• Elimination of deficit contribution modules</li> <li>• Assessing the level of cost tolerance for loss-making but necessary modules</li> </ul>	From workload models, enrolment statistics, costs per general ledger and standard costs per lecture/activity hour and tuition fee income based on student numbers	<ul style="list-style-type: none"> <li>• Overall contribution for the academic department</li> <li>• Modules contributing positive contributions</li> <li>• Modules contributing negative contributions</li> <li>• Subject groups that are profitable or not</li> <li>• Potential savings from the elimination of loss-making modules</li> </ul>
No.8 Contribution analysis by faculty	Ascertaining the extent of cross-subsidisation amongst faculties	<ul style="list-style-type: none"> <li>• Cost control of faculties</li> <li>• Staffing strategies</li> <li>• The nature of funding support per faculty</li> <li>• Composition of expenses for each faculty</li> </ul>	The aggregation of academic departmental contribution analysis per Reports 6 and 7	<ul style="list-style-type: none"> <li>• Overall contributions by faculties</li> <li>• Faculty contribution to overall surplus/deficit of HEI</li> <li>• Extent of self-support of faculties</li> <li>• Expense comparison amongst faculties</li> </ul>

## CHAPTER 5: CONCLUSIONS, FINDINGS AND FUTURE RESEARCH

### 5.1 Conclusions

This study set out to do two things:

- To derive guidelines for financial reporting of the primary activities of a higher education institutions through an understanding of the meaning, nature and inter-relationship of ‘accountability’, ‘responsibility’ and teaching (rather than ‘education’) and research in a higher education context.
- To develop formats of financial reports that may facilitate the promotion of the economical, effective and efficient utilisation of resources towards the primary activities of a HEI.

The guidelines derived from the literature review base the responsibility by the governance and management structures of an HEI on the foundations of the theory of agency and the containment of the agency problem of goal incongruence between the principal and agent. The common goal of the governance and management structures of the HEI (as the agent) and the state and other stakeholders (as the principal) ought to be to utilise its resources for achieving its core mission of knowledge-production through teaching, research and community outreach. Goal incongruence may be contained through the process of accountability that requires a free flow of appropriate information between the “accountor” (HEI) and the “accountee” (the stakeholders), through various communications that facilitate discussion, debate, questioning, assessing, and cross-examination concerning the resources for which the agent has delegated power and decision rights.

Financial reports constitute the major medium of financial accountability through which the agent renders an account of his performance in the fulfilment of his responsibilities. The performance of an HEI that is required to be assessed and evaluated involves the management of knowledge production through the process of transforming of *inputs* (in the form of the human, physical, and financial resources) into the *outputs* (in the form of

degrees, graduation rates, and sponsored research funding) and *outcomes* (in terms of the quality of programmes, job placements, and employer satisfaction with graduate performance. Faculty time and effort comprise the main inputs in the knowledge-production process.

Academic departments lie at the very core of the knowledge production system and therefore of the performance measurement system in that they constitute the fundamental producing units of an HEI where the primary responsibilities for decisions regarding curriculum, academic standards, the recruitment of faculty, the allocation of workload, and the use of space and other resources are located. The academic departments are in essence the foundations of higher education institutions.

The major stakeholders are the primary “accountees” in the cycle of accountability. The state would need to know how the subsidies and grants transferred to HEIs have been effectively, efficiently and economically used in teaching-related and research-related activities; the students would want to assess the fairness of tuition charges in relation to operating costs; academics would want to establish the extent of inter- and intra-departmental cross-subsidisation; staff generally would want to view the potential for their job security. The financial reporting system should therefore produce information that is relevant, reliable, understandable and within the HEI, comparable amongst the various academic and administrative units in order to facilitate the accountability process between the HEI and its stakeholders.

The studies of Swonger & Mead (1995) on program-level contribution analysis; Doost (1998) on the identification of indirect costs in relation to the teaching and research effort; Cropper & Crook (2000), Goddard & Ooi (1998), and Acton & Cotton (1997) on the use of ABC; and McChlery & Rolfe (2004) on Value-based Management formed the basis for framing the financial reports proposed by this study. This study merely describes the Balanced-scorecard (BSC) approach to recognise that an institution’s performance goes beyond the financial perspective, and ought to include the customer perspective, the internal process perspective and the learning and growth perspective.

The financial reports proposed in this study uses student numbers registered with the university; within faculties; and registered for modules within academic departments as

well as the number of students that successfully completed the modules for which they were registered, as the primary denominators for assessing efficiency and effectiveness in the use of resources towards the teaching and research goals (note: for the purposes of this study the emphasis was placed on the evaluation of teaching).

A proper assessment of the economical use of resources (i.e. obtaining the resources of the right quantity and quality at the right price), particularly in the context of the academic department would require further analysis of the actual cost of staffing to service the modules as against the standard costs used in the departmental model; and an assessment of the appropriate level (lecturer, senior lecturer, associate professor, professor) of staffing to service the modules.

## **5.2 Findings and implications of this study**

This study questioned the appropriateness of the DoE-prescribed general purpose financial reports as a *medium of accountability* for performance to counteract the agency problem and as a *decision making tool* for resource allocation to maximise performance of higher education institutions. The DoE-prescribed financial reports are grounded in the generally accepted accounting practice (GAAP) framework used for for-profit entities that argues that users (internal and external) require general-purpose financial information for decision-making purposes.

The study explored the theoretical underpinnings and core concepts of the responsibility for accountability by governance and management structures of HEIs to the stakeholders by using Llewellyn's five levels of theorisation. This it does in order to assess the appropriateness of the GAAP compliant financial reports to collectively serve as a medium of accountability.

Using the factory as a metaphor (level 1 theorisation) for knowledge production, the study found that an appraisal of the operating performance by HEIs requires the disaggregation of information to the academic department and module level for teaching services, and disaggregation to contract/project level for research and community outreach services. Aggregated general-purpose financial reports therefore inhibit the financial portrayal of the core functions of HEI. The DoE-prescribed financial reports

are therefore inappropriate both as a medium of accountability and as a decision making tool when applying Llewellyn's Level 1 theory.

The study differentiates (level 2 theorisation) between the approaches to performance assessment by private and public sectors. For-profit, private entities assess entity performance in terms of the aggregated surplus/deficit that results from the setting off of operating expenditure incurred in the production of its products and services against the total revenue of the entity. The study found that it would be incorrect to assess the performance of HEIs by setting off operating expenditure against the aggregate of tuition fees, subsidies, donations and other income because they represent *sources of funds* and do not constitute *revenue* in the sense of the representing the value for the knowledge production services produced by the HEI. The private sector approach of assessing profitability through a percentage relationship to total income is therefore inappropriate for HEIs. This study proposes an aggregated approach of expressing the extent to which operating expenditure is funded by tuition fees, subsidies, donations and other income.

The study perused the literature to gain an understanding of the concepts (level 3 theorisation) of 'accountability', 'responsibility' and 'performance' in a HEI environment. It found that the responsibility and accountability for performance lies primarily with the balancing of the capacity of academic faculty against the actual workload for teaching, research and community outreach service delivery to ensure equitability amongst staff. Workload planning systems (WPS) to plan and control the utilisation of the faculty resource forms the bedrock of performance analysis of HEIs, in that it addresses the need for 'accountability' for the academic resource, assigns 'responsibility' for the application of the academic resource to the core mission of the HEI, and provides the platform for assessing 'performance' of the HEI in respect of its core strategic function. DoE-prescribed financial reports do not require any analysis of workloads as a basis for performance assessment. This fails to address the agency problem of goal incongruence between the personal (self-) interest of academics and the interest of the HEI. The financial reports may only be meaningfully used as decision making tools if the workload planning system is incorporated into its financial reporting frameworks.

In the post-apartheid South African socio-economic environment (level 4 theorisation), the state-policies regarding subsidies are aimed at steering HEIs to address the

imbalances that prevailed during the apartheid era allocation of state resources. The socio-economic conditions of students and their guardians impact on the ability of the HEI to recover tuition fees charged over the academic study period of students and also on the extent to which HEIs may charge 'market-related' fees. The financial support for an HEI by its alumni is directly related to the socio-economic conditions and size of its graduate population. Support of an HEI through bequests and donations, is not a measure of performance of the HEI but rather a reflection of relationship of the institution within a socio-economic context. DoE-prescribed financial reports, through measuring performance as the difference between operating expenditure and the sum total of funds, which includes income from bequests and donations, creates a false premise for assessing performance.

The growth of Neo-liberalism (New Managerialism and Market Governance) (level 5 theorisation) has shifted state policies from its position of regarding higher education as a public good. Globalisation is pressuring the HE sector for the commodification of higher education through the WTO. The DoE-prescribed financial reports and the performance indicators developed from these reports, exacerbates the shift to Neo-liberalism. While there is a need for performance measurement in respect of the utilisation of faculty capacity, this approach to performance measurement creates its own 'reality' through financial reporting.

Taking the above findings into account, the financial reporting formats proposed in this study provide insights into:

- The overall financial performance of an HEI over a 5-year period to view expenditure and income trends (Report 1 and Report 2)
- The direct costs of knowledge-production (staffing and other direct costs) in the form of teaching, research and community outreach, by all the cost centres of the university (faculties and departments), disaggregated to the level of academic modules (refer to Report 4, Report 5 and Report 6)
- The nature and impact of indirect costs on the overall costs of the university supporting the academic effort (Report 3)
- The revenues received for the academic effort – tuition fees, state appropriations and other income disaggregated as much as possible to departmental or module level (refer to Report 7 and Report 8)



- Extent of cross-subsidisation that occurs between over-funded and under-funded modules and/or departments (Report 7)

The proposed financial reports facilitate decision-making with regard to tuition fee increases, approaches to obtaining additional earnings, cost-reduction strategies, the improvement of productivity through workload management, the restructuring departments for financial recovery, the elimination or containment of modules and programmes causing deficits.

### 5.3 Future research

This study pointed to different levels of information requirements for decision-making viz. the aggregated level, the faculty level, the departmental, and the programme level. The levels of analysis suggest the application of hierarchical forecasting, which is a centralised forecast approach aimed at providing forecast information for numerous users (Fliedner 2001: 5-12), in decision-making for HEIs.

The current approach used by the DoE of assessing financial operational performance using income as the denominator is flawed in that it uses the aggregate of tuition fees, state subsidies and other income as a proxy for the value of educational services produced by HEIs. Benchmarks may be developed for the educational sector through a proper 'bottom-up' approach at module-level to determine the costs that ought to be incurred in servicing particular type of subjects/modules, and then matching that cost against the sources of income

Further investigation is required in establishing standardised hourly requirements for teaching, tutorial and other teaching-related activities. This would provide a standardised basis for assessing effectiveness, efficiency and economy in using HEI resources in the knowledge production process. The development of standardised workload models for application to academic effort would help as a control mechanism for monitoring the productivity of faculty.



The assignment of standardised costs of staffing to academic modules requires a further reconciliation of faculty time at individual level to assess whether the staffing resource is underutilised.

The DoE's adoption of the private-sector GAAP model for the presentation of financial reports is deficient because it does not portray the core functions of an HEI. This study has shown the shortcomings of that approach. The findings of this study would need to be tested against the data of more universities, and surveys would need to be conducted of methodologies used throughout the HEI sector to render an account of the use of resources to fulfil the mission of an HEI.



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FIVE-YEAR REVIEW OF OVERALL EXPENDITURE PER STUDENT - 2000 TO 2004

For the year ended 31 December	2004 UWC Rm	% of Exp.	2003 UWC Rm	% of Exp.	2002 UWC Rm	% of Exp.	2001 UWC Rm	% of Exp.	2000 UWC Rm	% of Exp.
Personnel	275	55%	240	52%	215	54%	201	59%	184	55%
<i>Academic professional</i>	142	28%	116	25%	111	28%	102	30%	107	32%
<i>Other personnel</i>	133	26%	125	27%	104	26%	99	29%	78	23%
Other operating expenses	203	40%	197	42%	162	40%	121	35%	128	39%
Depreciation	19	4%	19	4%	18	4%	16	5%	15	4%
Sub-total	496	99%	456	98%	395	99%	338	99%	327	98%
Finance costs	7	1%	8	2%	6	1%	3	1%	5	2%
<b>Recurrent expenditure</b>	<b>503</b>	<b>100%</b>	<b>464</b>	<b>100%</b>	<b>401</b>	<b>100%</b>	<b>341</b>	<b>100%</b>	<b>332</b>	<b>100%</b>
% Increase year-on-year		8.5%		15.8%		17.5%		2.6%		

No. of Students	13651	-2.8%	14040	8.7%	12916	20.4%	10731	10.9%	9675	
Weighted FTE Students	11063	1.6%	10889	7.5%	10,128	20.4%	8413	6.4%	7905	
% WTFE / No. of Students	81.0%		77.6%		78.4%		78.4%		81.7%	

	2004 UWC R	Incr. 2004/ 2003	2003 UWC R	Incr. 2003/ 2002	2002 UWC R	Incr. 2002/ 2001	2001 UWC R	Incr. 2001/ 2000	2000 UWC R
Personnel	20115	17%	17125	3%	16642	-11%	18725	-2%	19052
<i>Academic professional</i>	10383	26%	8231	-4%	8576	-10%	9507	-14%	11008
<i>Other personnel</i>	9732	9%	8894	10%	8066	-12%	9218	15%	8044
Other operating expenses	14859	6%	14011	12%	12561	12%	11261	-15%	13232
Depreciation	1374	2%	1344	-1%	1361	-11%	1532	0%	1527
Sub-total	36349	12%	32480	6%	30565	-3%	31517	-7%	33811
Finance costs	523	-7%	562	22%	459	78%	258	-52%	541
<b>Cost per (Headcount) student</b>	<b>R 36,872</b>	<b>11.6%</b>	<b>R 33,042</b>	<b>6.5%</b>	<b>R 31,024</b>	<b>-2.4%</b>	<b>R 31,775</b>	<b>-7.5%</b>	<b>R 34,352</b>

	2004 UWC R	Incr. 2004/ 2003	2003 UWC R	Incr. 2003/ 2002	2002 UWC R	Incr. 2002/ 2001	2001 UWC R	Incr. 2001/ 2000	2000 UWC R
Personnel	24821	12%	22080	4%	21224	-11%	23884	2%	23318
<i>Academic professional</i>	12812	21%	10612	-3%	10937	-10%	12126	-10%	13473
<i>Other personnel</i>	12009	5%	11468	11%	10287	-13%	11758	19%	9845
Other operating expenses	18335	1%	18065	13%	16019	12%	14363	-11%	16194
Depreciation	1696	-2%	1733	0%	1736	-11%	1954	5%	1869
Sub-total	44852	7%	41879	7%	38979	-3%	40201	-3%	41382
Finance costs	646	-11%	724	24%	585	78%	329	-50%	662
<b>Cost per (FTE) student</b>	<b>R 45,497</b>	<b>6.8%</b>	<b>R 42,603</b>	<b>7.7%</b>	<b>R 39,564</b>	<b>-2.4%</b>	<b>R 40,530</b>	<b>-3.6%</b>	<b>R 42,043</b>



UNIVERSITY OF THE WESTERN CAPE  
SOURCES OF FUNDING OF EXPENDITURE PER STUDENT 2000 TO 2004

REPORT NO.2

For the year ended 31 December (Income expressed as a % of Expenditure)	2004		2003		2002		2001		2000	
	UWC Rm	% of Exp.	UWC Rm	% of Exp.	UWC Rm	% of Exp.	UWC Rm	% of Exp.	UWC Rm	% of Exp.
Personnel	275	55%	240	52%	215	54%	201	59%	184	55%
Academic professional	142	28%	116	25%	111	28%	102	30%	107	32%
Other personnel	133	26%	125	27%	104	26%	99	29%	78	23%
Other operating expenses	203	40%	197	42%	162	40%	121	35%	128	39%
Depreciation	19	4%	19	4%	18	4%	16	5%	15	4%
<b>Sub-total</b>	<b>496</b>	<b>99%</b>	<b>456</b>	<b>98%</b>	<b>395</b>	<b>99%</b>	<b>338</b>	<b>99%</b>	<b>327</b>	<b>98%</b>
Finance costs	7	1%	8	2%	6	1%	3	1%	5	2%
<b>Total Recurrent Expenditure</b>	<b>503</b>	<b>100%</b>	<b>464</b>	<b>100%</b>	<b>401</b>	<b>100%</b>	<b>341</b>	<b>100%</b>	<b>332</b>	<b>100%</b>
State subsidies and grants	277	55%	209	45%	168	42%	151	44%	155	47%
Tuition and other fee income	139	28%	121	26%	104	26%	81	24%	70	21%
<b>Income from contracts</b>	<b>22</b>	<b>4%</b>	<b>21</b>	<b>4%</b>	<b>17</b>	<b>4%</b>	<b>17</b>	<b>5%</b>	<b>15</b>	<b>5%</b>
For research	6	1%	2	0%	13	3%	13	4%	12	4%
For other activities	16	3%	19	4%	4	1%	4	1%	3	1%
Sales of goods and services	2	0%	2	1%	2	1%	3	1%	3	1%
Other recurrent income	10	2%	14	3%	11	3%	8	2%		0%
Private gifts and grants	75	15%	69	15%	84	21%	67	20%	43	13%
<b>Sub Total</b>	<b>526</b>	<b>104%</b>	<b>437</b>	<b>94%</b>	<b>386</b>	<b>96%</b>	<b>327</b>	<b>96%</b>	<b>287</b>	<b>86%</b>
Interest and dividends*	3	1%	5	1%	3	1%	3	1%	5	1%
<b>Total Recurrent income</b>	<b>529</b>	<b>105%</b>	<b>442</b>	<b>95%</b>	<b>389</b>	<b>97%</b>	<b>330</b>	<b>97%</b>	<b>292</b>	<b>88%</b>
<b>OPERATING SURPLUS</b>	<b>25</b>	<b>5%</b>	<b>-22</b>	<b>-5%</b>	<b>-12</b>	<b>-3%</b>	<b>-11</b>	<b>-3%</b>	<b>-41</b>	<b>-12%</b>

No. of Students	13651	-2.8%	14040	8.7%	12916	20.4%	10731	10.9%	9675	
Weighted FTE Students	11063	1.6%	10889	7.5%	10,128	20.4%	8413	6.4%	7905	
% WTFE / No. of Students	81.0%		77.6%		78.4%		78.4%		81.7%	

Funding per headcount student    2004    Incr.    2003    Incr.    2002    Incr.    2001    Incr.    2000

State subsidies and grants	R 20,304	36.3%	R 14,896	14.2%	R 13,041	-7.5%	R 14,092	-12.2%	R 16,048	
Tuition and other fee income	R 10,174	17.6%	R 8,654	8.0%	R 8,016	6.7%	R 7,515	3.5%	R 7,260	

Funding per FTE student    2004    Incr.    2003    Incr.    2002    Incr.    2001    Incr.    2000

State subsidies and grants	R 25,054	30.4%	R 19,206	15.5%	R 16,630	-7.5%	R 17,974	-8.5%	R 19,641	
Tuition and other fee income	R 12,554	12.5%	R 11,158	9.2%	R 10,222	6.6%	R 9,586	7.9%	R 8,885	

	ACADEMIC SALARIES	ADMIN & SUPPORT SALARIES	SUPPLIES & SERVICES	TOTAL EXPENSES	% of Exp.	No. of Headcount Students	Cost per Headcount student	Cost per FTE student
	R000	R000	R000	R000	%			
<b>FACULTIES</b>	<b>131,147</b>	<b>35,805</b>	<b>21,575</b>	<b>188,527</b>	<b>37.4%</b>	<b>13651</b>	<b>R 13,810</b>	<b>R 17,041</b>
EMS	19,801	5,466	1,860	27,127	5.4%	3592	R 7,552	
ARTS	24,321	4,287	1,585	30,193	6.0%	2363	R 12,777	
SCIENCE	29,103	11,344	4,595	45,042	8.9%	1937	R 23,253	
EDUCATION	8,838	2,809	4,111	15,758	3.1%	1040	R 15,152	
DENTISTRY	16,750	3,868	6,080	26,698	5.3%	849	R 31,446	
LAW	11,502	2,397	903	14,802	2.9%	1555	R 9,519	
CHS	20,832	5,634	2,441	28,907	5.7%	2315	R 12,487	
<b>FACULTY- CENTRALLY MANAGED SERVICES</b>	<b>-</b>	<b>23,068</b>	<b>26,771</b>	<b>49,839</b>	<b>9.9%</b>		<b>R 3,651</b>	<b>R 4,505</b>
Library		8,724	12,003	20,727	4.1%		R 1,518	R 1,874
Information and communication		1,821	9,038	10,859	2.2%		R 795	R 982
Student administration, registration and records		1,671	1,789	3,460	0.7%		R 253	R 313
Research and Development		2,019	2,518	4,537	0.9%		R 332	R 410
Sports administration		1,910	322	2,232	0.4%		R 164	R 202
TLTU		1,328	397	1,725	0.3%		R 126	R 156
Examinations		1,644	4	1,648	0.3%		R 121	R 149
Other		3,951	700	4,651	0.9%		R 341	R 420
<b>CENTRAL ADMINISTRATION SERVICES</b>	<b>-</b>	<b>38,301</b>	<b>78,899</b>	<b>117,200</b>	<b>23.3%</b>		<b>R 8,585</b>	<b>R 10,594</b>
Financial services		6,843	32,039	38,882	7.7%		R 2,848	R 3,515
Estates and equipment support services		11,049	27,272	38,321	7.6%		R 2,807	R 3,464
Rector's and Vice-Rectors' Offices		4,069	11,674	15,743	3.1%		R 1,153	R 1,423
Information management (Computer & Secr.)		7,214	1,402	8,616	1.7%		R 631	R 779
Staffing support services		4,756	3,316	8,072	1.6%		R 591	R 730
Public relations services		1,308	2,370	3,678	0.7%		R 269	R 332
Registrar's and Deputy Registrar's offices		1,650	437	2,087	0.4%		R 153	R 189
Stores, purchasing services, transport and other		1,412	389	1,801	0.4%		R 132	R 163
<b>STUDENT DEVELOPMENT AND SUPPORT</b>	<b>-</b>	<b>2,596</b>	<b>3,548</b>	<b>6,144</b>	<b>1.2%</b>		<b>R 450</b>	<b>R 555</b>
<b>RESIDENCES</b>	<b>-</b>	<b>7,095</b>	<b>16,236</b>	<b>23,331</b>	<b>4.6%</b>		<b>R 1,709</b>	<b>R 2,109</b>
Residence administration		1,427	8,850	10,277	2.0%		R 753	R 929
Hostels		5,668	7,386	13,054	2.6%		R 956	R 1,180
<b>EXPENDITURE BEFORE:</b>	<b>131,147</b>	<b>106,865</b>	<b>147,029</b>	<b>385,041</b>	<b>76.5%</b>		<b>R 28,206</b>	<b>R 34,804</b>
<b>RESEARCH AND COMMUNITY PROJ.</b>	<b>16,014</b>	<b>20,563</b>	<b>81,831</b>	<b>118,408</b>	<b>23.5%</b>		<b>R 8,674</b>	<b>R 10,703</b>
<b>TOTAL EXPENDITURE</b>	<b>147,161</b>	<b>127,428</b>	<b>228,860</b>	<b>503,449</b>	<b>100.0%</b>		<b>R 36,880</b>	<b>R 45,507</b>
% of EXPENDITURE	29%	25%	45%	100%				
NO. OF HEADCOUNT STUDENTS	13,651	13,651	13,651	13,651				
<b>COST PER HEADCOUNT STUDENT</b>	<b>R 10,780</b>	<b>R 9,335</b>	<b>R 16,765</b>	<b>R 36,880</b>				
NO. OF FTE STUDENTS	11,063	11,063	11,063	11,063				
<b>COST PER FTE STUDENT</b>	<b>R 13,302</b>	<b>R 11,518</b>	<b>R 20,687</b>	<b>R 45,507</b>				



**ACADEMIC REMUNERATION ALLOCATED TO TEACHING, RESEARCH, ADMINISTRATION & OTHER**

For the year ended 31 December 2004

**Analysis of academic salaries by rank based on salary records (R000s)**

Total academic costs	EMS	ARTS	SCIEN.	EDUC	DENT	LAW	CHS	TOTAL
Deans	R 543	R 499	R 501	R 494	R 500	R 497	R 494	R 3,528
Professors	R 4,169	R 3,110	R 8,979	R 2,146	R 1,797	R 3,825	R 2,050	R 26,076
Associate Professors	R 1,945	R 5,104	R 4,663	R 1,517	R 4,117	R 792	R 2,514	R 20,652
Senior Lecturers	R 4,341	R 4,683	R 5,131	R 2,259	R 5,447	R 3,310	R 6,635	R 31,806
Lecturers	R 8,759	R 10,741	R 9,598	R 2,154	R 4,889	R 2,769	R 8,839	R 47,749
Co-ordinators /Tutors / Researchers	R 44	R 184	R 231	R 268	R 0	R 309	R 300	R 1,336
ACADEMIC	<b>R 19,801</b>	<b>R 24,321</b>	<b>R 29,103</b>	<b>R 8,838</b>	<b>R 16,750</b>	<b>R 11,502</b>	<b>R 20,832</b>	<b>R 131,147</b>

**Analysis of faculty time based on US Department of Education, National Center for Education Statistics 1992**

(The allocation for the Deans and other are based on assumption)

	Deans	Prof.	Aspro.	S.Lect.	Lecturer	Other
Teaching		50.2%	52.3%	55.3%	61.1%	
Research/Scholarship	10.0%	21.5%	19.4%	19.7%	10.2%	50%
Professional growth		4.1%	4.4%	4.5%	5.5%	
Administration	65.0%	15.1%	13.6%	9.3%	12.8%	15%
Outside consulting		3.0%	2.9%	2.1%	2.3%	
Service and other	25.0%	6.1%	7.4%	9.1%	8.1%	35%
	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Total cost per rank	Dean	Prof.	Aspro.	S.Lect.	Lecturer	Other	Total	%
Teaching	R 0	R 13,090	R 10,801	R 17,589	R 29,175	R 0	R 70,655	53.9%
Research/Scholarship	R 353	R 5,606	R 4,006	R 6,266	R 4,870	R 668	R 21,770	16.6%
Professional growth	R 0	R 1,069	R 909	R 1,431	R 2,626	R 0	R 6,035	4.6%
Administration	R 2,293	R 3,937	R 2,809	R 2,958	R 6,112	R 200	R 18,310	14.0%
Outside consulting	R 0	R 782	R 599	R 668	R 1,098	R 0	R 3,147	2.4%
Service and other	R 882	R 1,591	R 1,528	R 2,894	R 3,868	R 468	R 11,230	8.6%
	<b>R 3,528</b>	<b>R 26,076</b>	<b>R 20,652</b>	<b>R 31,806</b>	<b>R 47,749</b>	<b>R 1,336</b>	<b>R 131,147</b>	<b>100.0%</b>

Total cost per activity type	EMS	ARTS	SCIEN.	EDUC	DENT	LAW	CHS	TOTAL
Teaching	R 10,862	R 13,383	R 15,648	R 4,436	R 9,055	R 5,857	R 11,414	R 70,655
Research/Scholarship	R 3,099	R 3,819	R 4,991	R 1,604	R 2,807	R 2,115	R 3,337	R 21,770
Professional growth	R 934	R 1,154	R 1,332	R 375	R 769	R 493	R 979	R 6,035
Administration	R 2,778	R 3,326	R 4,056	R 1,377	R 2,289	R 1,717	R 2,766	R 18,310
Outside consulting	R 474	R 587	R 733	R 205	R 400	R 271	R 477	R 3,147
Service and other	R 1,654	R 2,053	R 2,343	R 841	R 1,431	R 1,050	R 1,859	R 11,230
	<b>R 19,801</b>	<b>R 24,321</b>	<b>R 29,103</b>	<b>R 8,838</b>	<b>R 16,750</b>	<b>R 11,502</b>	<b>R 20,832</b>	<b>R 131,147</b>

No. of headcount students	EMS	ARTS	SCIEN.	EDUC	DENT	LAW	CHS	TOTAL
	<b>3592</b>	<b>2363</b>	<b>1937</b>	<b>1040</b>	<b>849</b>	<b>1555</b>	<b>2315</b>	<b>13651</b>

Cost per headcount student	EMS	ARTS	SCIEN.	EDUC	DENT	LAW	CHS	TOTAL
Teaching	R 3,024	R 5,664	R 8,078	R 4,265	R 10,665	R 3,766	R 4,930	R 5,176
Research/Scholarship	R 863	R 1,616	R 2,576	R 1,542	R 3,306	R 1,360	R 1,441	R 1,595
Professional growth	R 260	R 488	R 688	R 360	R 906	R 317	R 423	R 442
Administration	R 774	R 1,408	R 2,094	R 1,324	R 2,696	R 1,104	R 1,195	R 1,341
Outside consulting	R 132	R 248	R 378	R 197	R 471	R 174	R 206	R 231
Service and other	R 460	R 869	R 1,210	R 808	R 1,685	R 675	R 803	R 823
	<b>R 5,513</b>	<b>R 10,292</b>	<b>R 15,025</b>	<b>R 8,498</b>	<b>R 19,729</b>	<b>R 7,397</b>	<b>R 8,999</b>	<b>R 9,607</b>

**FACULTY ACADEMIC REMUNERATION ALLOCATED TO TEACHING, RESEARCH, ADMIN etc**

<b>EMS</b>	<b>Dean</b>	<b>Prof.</b>	<b>Aspro.</b>	<b>S.Lect.</b>	<b>Lecturer</b>	<b>Other</b>	<b>Total</b>
Teaching	R 0	R 2,093	R 1,017	R 2,401	R 5,352	R 0	R 10,862
Research/Scholarship	R 54	R 896	R 377	R 855	R 893	R 22	R 3,099
Professional growth	R 0	R 171	R 86	R 195	R 482	R 0	R 934
Administration	R 353	R 630	R 265	R 404	R 1,121	R 7	R 2,778
Outside consulting	R 0	R 125	R 56	R 91	R 201	R 0	R 474
Service and other	R 136	R 254	R 144	R 395	R 709	R 15	R 1,654
	<b>R 543</b>	<b>R 4,169</b>	<b>R 1,945</b>	<b>R 4,341</b>	<b>R 8,759</b>	<b>R 44</b>	<b>R 19,801</b>

<b>ARTS</b>	<b>Dean</b>	<b>Prof.</b>	<b>Aspro.</b>	<b>S.Lect.</b>	<b>Lecturer</b>	<b>Other</b>	<b>Total</b>
Teaching	R 0	R 1,561	R 2,669	R 2,590	R 6,563	R 0	R 13,383
Research/Scholarship	R 50	R 669	R 990	R 923	R 1,096	R 92	R 3,819
Professional growth	R 0	R 128	R 225	R 211	R 591	R 0	R 1,154
Administration	R 324	R 470	R 694	R 436	R 1,375	R 28	R 3,326
Outside consulting	R 0	R 93	R 148	R 98	R 247	R 0	R 587
Service and other	R 125	R 190	R 378	R 426	R 870	R 64	R 2,053
	<b>R 499</b>	<b>R 3,110</b>	<b>R 5,104</b>	<b>R 4,683</b>	<b>R 10,741</b>	<b>R 184</b>	<b>R 24,321</b>

<b>SCIEN.</b>	<b>Dean</b>	<b>Prof.</b>	<b>Aspro.</b>	<b>S.Lect.</b>	<b>Lecturer</b>	<b>Other</b>	<b>Total</b>
Teaching	R 0	R 4,507	R 2,439	R 2,837	R 5,864	R 0	R 15,648
Research/Scholarship	R 50	R 1,930	R 905	R 1,011	R 979	R 116	R 4,991
Professional growth	R 0	R 368	R 205	R 231	R 528	R 0	R 1,332
Administration	R 326	R 1,356	R 634	R 477	R 1,229	R 35	R 4,056
Outside consulting	R 0	R 269	R 135	R 108	R 221	R 0	R 733
Service and other	R 125	R 548	R 345	R 467	R 777	R 81	R 2,343
	<b>R 501</b>	<b>R 8,979</b>	<b>R 4,663</b>	<b>R 5,131</b>	<b>R 9,598</b>	<b>R 231</b>	<b>R 29,103</b>

<b>EDUC</b>	<b>Dean</b>	<b>Prof.</b>	<b>Aspro.</b>	<b>S.Lect.</b>	<b>Lecturer</b>	<b>Other</b>	<b>Total</b>
Teaching	R 0	R 1,077	R 793	R 1,249	R 1,316	R 0	R 4,436
Research/Scholarship	R 49	R 461	R 294	R 445	R 220	R 134	R 1,604
Professional growth	R 0	R 88	R 67	R 102	R 118	R 0	R 375
Administration	R 321	R 324	R 206	R 210	R 276	R 40	R 1,377
Outside consulting	R 0	R 64	R 44	R 47	R 50	R 0	R 205
Service and other	R 124	R 131	R 112	R 206	R 174	R 94	R 841
	<b>R 494</b>	<b>R 2,146</b>	<b>R 1,517</b>	<b>R 2,259</b>	<b>R 2,154</b>	<b>R 268</b>	<b>R 8,838</b>

<b>DENT</b>	<b>Dean</b>	<b>Prof.</b>	<b>Aspro.</b>	<b>S.Lect.</b>	<b>Lecturer</b>	<b>Other</b>	<b>Total</b>
Teaching	R 0	R 902	R 2,153	R 3,012	R 2,987		R 9,055
Research/Scholarship	R 50	R 386	R 799	R 1,073	R 499		R 2,807
Professional growth	R 0	R 74	R 181	R 245	R 269		R 769
Administration	R 325	R 271	R 560	R 507	R 626		R 2,289
Outside consulting	R 0	R 54	R 119	R 114	R 112		R 400
Service and other	R 125	R 110	R 305	R 496	R 396		R 1,431
	<b>R 500</b>	<b>R 1,797</b>	<b>R 4,117</b>	<b>R 5,447</b>	<b>R 4,889</b>	<b>R 0</b>	<b>R 16,750</b>

<b>LAW</b>	<b>Dean</b>	<b>Prof.</b>	<b>Aspro.</b>	<b>S.Lect.</b>	<b>Lecturer</b>	<b>Other</b>	<b>Total</b>
Teaching	R 0	R 1,920	R 414	R 1,830	R 1,692	R 0	R 5,857
Research/Scholarship	R 50	R 822	R 154	R 652	R 282	R 155	R 2,115
Professional growth	R 0	R 157	R 35	R 149	R 152	R 0	R 493
Administration	R 323	R 578	R 108	R 308	R 354	R 46	R 1,717
Outside consulting	R 0	R 115	R 23	R 70	R 64	R 0	R 271
Service and other	R 124	R 233	R 59	R 301	R 224	R 108	R 1,050
	<b>R 497</b>	<b>R 3,825</b>	<b>R 792</b>	<b>R 3,310</b>	<b>R 2,769</b>	<b>R 309</b>	<b>R 11,502</b>

<b>CHS</b>	<b>Dean</b>	<b>Prof.</b>	<b>Aspro.</b>	<b>S.Lect.</b>	<b>Lecturer</b>	<b>Other</b>	<b>Total</b>
Teaching	R 0	R 1,029	R 1,315	R 3,669	R 5,401	R 0	R 11,414
Research/Scholarship	R 49	R 441	R 488	R 1,307	R 902	R 150	R 3,337
Professional growth	R 0	R 84	R 111	R 299	R 486	R 0	R 979
Administration	R 321	R 310	R 342	R 617	R 1,131	R 45	R 2,766
Outside consulting	R 0	R 62	R 73	R 139	R 203	R 0	R 477
Service and other	R 124	R 125	R 186	R 604	R 716	R 105	R 1,859
	<b>R 494</b>	<b>R 2,050</b>	<b>R 2,514</b>	<b>R 6,635</b>	<b>R 8,839</b>	<b>R 300</b>	<b>R 20,832</b>

**EMS Faculty expenditure by Department**

Year ended 31 December 2004

Faculties & Constituent Departments	Cost per FTE Student	FTE by Department (Total FTE's used for Dean's Office)	Total Expenses	Re-allocation of Dean's expenses	Total Expenses (before re-allocation of Deans Expenses)	% of Faculty Exp.	Total Salaries	% of Faculty Exp.	Salaries - Academic based on Salary Records	% of Faculty Exp.	Salaries- Other based on Salary Records	% of Faculty Exp.	Total Supplies & Services	% of Faculty Exp.
Deans Office			R 0	-R 3,914	3914	14.4%	3334	13.2%	546	2.8%	2788	51.0%	580	31.2%
Management	R 10,159	629.31	R 6,393	R 944	5449	20.1%	5208	20.6%	4453	22.5%	755	13.8%	241	13.0%
Accounting	R 9,303	559.39	R 5,204	R 839	4365	16.1%	4154	16.4%	3902	19.7%	252	4.6%	211	11.3%
Industrial Psychology	R 8,719	304.22	R 2,652	R 456	2196	8.1%	2090	8.3%	1825	9.2%	265	4.8%	106	5.7%
Information Systems	R 8,273	424.19	R 3,509	R 636	2873	10.6%	2670	10.6%	2262	11.4%	408	7.5%	203	10.9%
Economics	R 8,153	353.69	R 2,884	R 531	2353	8.7%	2233	8.8%	2007	10.1%	226	4.1%	120	6.5%
Academic Literacy for Com.	R 6,724	84.04	R 565	R 126	439	1.6%	439	1.7%	439	2.2%				
Public Administration	R 21,914	75.83	R 1,662	R 114	1548	5.7%	1488	5.9%	1357	6.9%	131	2.4%	60	3.2%
Political Studies	R 16,334	77.86	R 1,272	R 117	1155	4.3%	1104	4.4%	985	5.0%	119	2.2%	51	2.7%
SOG-MPA	R 25,053	100.71	R 2,523	R 151	2372	8.7%	2128	8.4%	1627	8.2%	501	9.2%	244	13.1%
SOG - PLAAS (Non-teaching)			R 463		463	1.7%	419	1.7%	399	2.0%	20	0.4%	44	2.4%
<b>Economic &amp; Management Science</b>	<b>R 10,397</b>	<b>2609.24</b>	<b>R 27,127</b>	<b>R 0</b>	<b>27127</b>	<b>100%</b>	<b>25267</b>	<b>100%</b>	<b>19802</b>	<b>100%</b>	<b>5465</b>	<b>100%</b>	<b>1860</b>	<b>100%</b>
% of total faculty expenses					<u>100.0%</u>		<u>93.1%</u>		73.0%		20.1%		<u>6.9%</u>	

(Note: The salaries allocated to the various academic departments are based on the salary records for 2004)

The University of the Western Cape

**DEPARTMENTAL COST ANALYSIS - DEPARTMENT OF ACCOUNTING (TEACHING ONLY)**

**REPORT 6**

(Demonstration model only)

		A	B	C	D	E	F	G	H	I	J	K	L	M
		AxB		Table 1	Table 2	Student No. based	Venue Charge	Columns D to G	I/A		H/A	J/L	H/C	
Department of Accounting	2004 No. of Enrolled	Total	Cost of Academic	Test/Exam Related	Supplies & Services	based on Price of Venue	Total Direct Teaching Costs	2004 No. of Students Passed	% of Students Passed	Direct Cost per Enrolled Student	Direct Cost per Successful Student	Direct Cost per FTE Student		
Course	Yr	FTE	Contact	Costs	Services	Venue		Passed	Passed	Enrolled Student	Student	Student		
ACM 112	1	797	67	86,100	115,763	47,481	15,720	253	31.7%	R 333	R 1,048	R 3,959		
ACM 123	1	336	28	86,100	52,933	20,017	11,360	109	32.4%	R 507	R 1,563	R 6,038		
ACM 255/256	2	71	12	65,100	20,345	4,230	3,000	49	69.0%	R 1,305	R 1,891	R 7,770		
ACM 257/258	2	76	13	80,850	21,070	4,528	3,000	76	100.0%	R 1,440	R 1,440	R 8,572		
<b>Acc for Management</b>		<b>1,280</b>	<b>120</b>	<b>318,150</b>	<b>210,111</b>	<b>76,256</b>	<b>33,080</b>	<b>487</b>	<b>Av. Cost -&gt;</b>	<b>R 498</b>	<b>R 1,309</b>	<b>R 5,319</b>		
AIA 237/238 & Law Stud.	2	224	37	157,850	94,254	13,345	6,600	139	62.1%	R 1,215	R 1,957	R 7,316		
<b>AIA 237/238 &amp; Law Stud.</b>		<b>224</b>	<b>37</b>	<b>157,850</b>	<b>94,254</b>	<b>13,345</b>	<b>6,600</b>	<b>139</b>	<b>Av. Cost -&gt;</b>	<b>R 1,215</b>	<b>R 1,957</b>	<b>R 7,316</b>		
AUD 236	2	169	17	70,350	40,780	10,068	3,600	76	45.0%	R 738	R 1,642	R 7,385		
AUD 326	3	102	41	158,200	49,547	6,077	4,200	35	34.3%	R 2,137	R 6,229	R 5,344		
AUDIT 741	4	14	3	152,000	46,904	834	2,160	4	28.6%	R 14,421	R 50,475	R 72,107		
<b>Auditing</b>		<b>285</b>	<b>61</b>	<b>380,550</b>	<b>137,231</b>	<b>16,979</b>	<b>9,960</b>	<b>115</b>	<b>Av. Cost -&gt;</b>	<b>R 1,911</b>	<b>R 4,737</b>	<b>R 9,004</b>		
FIA 111	1	282	24	75,600	45,325	16,800	7,560	155	55.0%	R 515	R 937	R 6,133		
FIA 121	1	227	19	75,600	38,679	13,524	6,760	126	55.5%	R 593	R 1,068	R 7,057		
FIA 212/213	2	160	27	70,350	32,200	9,532	4,800	91	56.9%	R 731	R 1,284	R 4,348		
FIA 222/223	2	124	21	70,350	26,980	7,387	4,560	99	79.8%	R 881	R 1,104	R 5,246		
FIA 312/313;	3	134	23	79,100	36,518	7,983	3,600	59	44.0%	R 949	R 2,156	R 5,650		
FIA 322/323	3	134	23	79,100	36,535	7,983	3,600	59	44.0%	R 949	R 2,156	R 5,651		
FIN ACC 721	4	14	3	208,000	46,904	834	2,160	4	28.6%	R 18,421	R 64,475	R 92,107		
<b>Financial Accounting</b>		<b>1,075</b>	<b>138</b>	<b>658,100</b>	<b>263,141</b>	<b>64,043</b>	<b>33,040</b>	<b>593</b>	<b>Av. Cost -&gt;</b>	<b>R 947</b>	<b>R 1,717</b>	<b>R 7,364</b>		
MAF 234	2	159	13	73,850	34,005	9,472	3,600	61	38.4%	R 761	R 1,982	R 9,163		
MAF 332/333	3	125	21	158,200	70,025	7,447	3,600	61	48.8%	R 1,914	R 3,922	R 11,394		
MAN ACC 751	4	14	3	152,000	46,904	7,447	2,160	4	28.6%	R 14,894	R 52,128	R 74,468		
<b>Man. Acc &amp; Finance</b>		<b>298</b>	<b>37</b>	<b>384,050</b>	<b>150,934</b>	<b>24,366</b>	<b>9,360</b>	<b>126</b>	<b>Av. Cost -&gt;</b>	<b>R 1,908</b>	<b>R 4,514</b>	<b>R 15,372</b>		
RES. 711	4	14	1					5	35.7%	R 0	R 0	R 0		
<b>Research Project</b>		<b>14</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>Av. Cost -&gt;</b>	<b>R 0</b>	<b>R 0</b>	<b>R 0</b>		
TAX 228	2	101	10	70,350	28,620	6,017	3,600	94	93.1%	R 1,075	R 1,155	R 10,751		
TAX 318/328	3	130	22	158,200	57,550	7,745	2,800	47	36.2%	R 1,741	R 4,815	R 10,361		
TAX 706	3	14	3	152,000	46,904	834	2,160	5	35.7%	R 14,421	R 40,380	R 72,107		
<b>Taxation</b>		<b>245</b>	<b>35</b>	<b>380,550</b>	<b>133,074</b>	<b>14,596</b>	<b>8,560</b>	<b>146</b>	<b>Av. Cost -&gt;</b>	<b>R 2,191</b>	<b>R 3,677</b>	<b>R 15,451</b>		
<b>Grand Total</b>		<b>3435</b>	<b>429</b>	<b>2,279,250</b>	<b>988,745</b>	<b>209,585</b>	<b>100,600</b>	<b>1611</b>	<b>Av. Cost -&gt;</b>	<b>R 1,042</b>	<b>R 2,221</b>	<b>R 8,341</b>		

Average Cost per ('headcount') student

R 664    R 288    R 61    R 29    R 1,042

Cost per ('headcount') successful student

R 1,415    R 614    R 130    R 62    R 2,221

Cost per (FTE) student

R 5,313    R 2,305    R 489    R 235    R 8,341

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**TEACHING HOUR REQUIREMENTS PER MODULE**

**REPORT NO. 6 (a)**

DEPARTMENT OF ACCOUNTING										REPORT NO. 6 (a)										
Module Description	Module Number	Academic Year	Semester	Group	No. of Lectures per Week	Hours			Total for Lecturing	Tutorials per Week	Hours						Number of Weeks	Total for the Year	Course Subtotal - by Academic Year	Total Cost of Teaching @ R250p.h.
						Lecture Presentation	Preparation Multiplier	Lecture Preparation			Tutorial Presentation	Tutorial Preparation	Marking Tutorials	Total for Tutorials	Consultations	Total per Week				
ACM	112	1st	1st	1	3	3.0	1.5	4.5	7.5	1	1.0	0.5	2.0	3.5	4.0	15.0	14.0	210.0		
ACM	112	1st	1st	2	3	3.0			3.0					0.0		3.0	14.0	42.0		
ACM	112	1st	1st	3	3	3.0			3.0					0.0		3.0	14.0	42.0		
ACM	112	1st	1st	PT	3	3.6			3.6					0.0		3.6	14.0	50.4	344.4	R 86,100
ACM	123	1st	2nd	1	3	3.0	1.5	4.5	7.5	1	1.0	0.5	2.0	3.5	4.0	15.0	14.0	210.0		
ACM	123	1st	2nd	2	3	3.0			3.0					0.0		3.0	14.0	42.0		
ACM	123	1st	2nd	3	3	3.0			3.0					0.0		3.0	14.0	42.0		
ACM	123	1st	2nd	PT	3	3.6			3.6					0.0		3.6	14.0	50.4	344.4	R 86,100
ACM	255/256	2nd	1st	1	3	3.0	2.0	6.0	9.0				2.0	2.0	4.0	15.0	14.0	210.0		
ACM	255/256	2nd	1st	PT	3	3.6			3.6					0.0		3.6	14.0	50.4	260.4	R 65,100
ACM	257/258	2nd	2nd	1	3	3.0	2.0	6.0	9.0	2	2.0	1.0	2.0	5.0	4.0	18.0	14.0	252.0		
ACM	257/258	2nd	2nd	PT	3	3.6			3.6	1	1.0	0.5		1.5		5.1	14.0	71.4	323.4	R 80,850
<b>Accounting for Management (Total Hours)</b>									<b>59.4</b>				<b>15.5</b>	<b>16.0</b>	<b>90.9</b>	<b>14.0</b>	<b>1272.6</b>	<b>1272.6</b>	<b>R 318,150</b>	
FIA	111	1st		1	3	3.0	1.5	4.5	7.5	1	1.0	0.5	2.0	3.5	4.0	15.0	14.0	210.0		
FIA	111	1st		2	3	3.0			3.0					0.0		3.0	14.0	42.0		
FIA	111	1st		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	302.4	R 75,600
FIA	121	1st		1	3	3.0	1.5	4.5	7.5	1	1.0	0.5	2.0	3.5	4.0	15.0	14.0	210.0		
FIA	121	1st		2	3	3.0			3.0					0.0		3.0	14.0	42.0		
FIA	121	1st		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	302.4	R 75,600
FIA	212/213	2nd		1	3	3.0	2.0	6.0	9.0	1	1.0	0.5	2.0	3.5	4.0	16.5	14.0	231.0		
FIA	212/213	2nd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	281.4	R 70,350
FIA	222/223	2nd		1	3	3.0	2.0	6.0	9.0	1	1.0	0.5	2.0	3.5	4.0	16.5	14.0	231.0		
FIA	222/223	2nd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	281.4	R 70,350
FIA	312/313	3rd		1	3	3.0	2.5	7.5	10.5	1	1.0	0.5	3.0	4.5	4.0	19.0	14.0	266.0		
FIA	312/313	3rd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	316.4	R 79,100
FIA	322/323	3rd		1	3	3.0	2.5	7.5	10.5	1	1.0	0.5	3.0	4.5	4.0	19.0	14.0	266.0		
FIA	322/323	3rd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	316.4	R 79,100
<b>Financial Accounting (Total Hours)</b>									<b>81.6</b>				<b>23.0</b>	<b>24.0</b>	<b>128.6</b>	<b>14.0</b>	<b>1800.4</b>	<b>1800.4</b>	<b>R 450,100</b>	
AUD	236	2nd		1	3	3.0	2.0	6.0	9.0	1	1.0	0.5	2.0	3.5	4.0	16.5	14.0	231.0		
AUD	236	2nd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	281.4	R 70,350
AUD	316	3rd		1	3	3.0	2.5	7.5	10.5	1	1.0	0.5	3.0	4.5	4.0	19.0	14.0	266.0		
AUD	316	3rd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	316.4	R 79,100
AUD	326	3rd		1	3	3.0	2.5	7.5	10.5	1	1.0	0.5	3.0	4.5	4.0	19.0	14.0	266.0		
AUD	326	3rd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	316.4	R 79,100
<b>Auditing (Total Hours)</b>									<b>40.8</b>				<b>12.5</b>	<b>12.0</b>	<b>65.3</b>	<b>14.0</b>	<b>914.2</b>	<b>914.2</b>	<b>R 228,550</b>	
MAF	234	2nd		1	3	3.0	2.0	6.0	9.0	1	1.0	0.5	3.0	4.5	4.0	17.5	14.0	245.0		
MAF	234	2nd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	295.4	R 73,850
MAF	314	3rd		1	3	3.0	2.5	7.5	10.5	1	1.0	0.5	3.0	4.5	4.0	19.0	14.0	266.0		
MAF	314	3rd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	316.4	R 79,100
MAF	324	3rd		1	3	3.0	2.5	7.5	10.5	1	1.0	0.5	3.0	4.5	4.0	19.0	14.0	266.0		
MAF	324	3rd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	316.4	R 79,100
<b>Management Accounting and Finance (Total Hours)</b>									<b>40.8</b>				<b>13.5</b>	<b>12.0</b>	<b>66.3</b>	<b>14.0</b>	<b>928.2</b>	<b>928.2</b>	<b>R 232,050</b>	
TAX	228	2nd		1	3	3.0	2.0	6.0	9.0	1	1.0	0.5	2.0	3.5	4.0	16.5	14.0	231.0		
TAX	228	2nd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	281.4	R 70,350
TAX	318	3rd		1	3	3.0	2.5	7.5	10.5	1	1.0	0.5	3.0	4.5	4.0	19.0	14.0	266.0		
TAX	318	3rd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	316.4	R 79,100
TAX	328	3rd		1	3	3.0	2.5	7.5	10.5	1	1.0	0.5	3.0	4.5	4.0	19.0	14.0	266.0		
TAX	328	3rd		PT	3	3.6			3.6					0.0		3.6	14.0	50.4	316.4	R 79,100
<b>Taxation (Total Hours)</b>									<b>40.8</b>				<b>12.5</b>	<b>12.0</b>	<b>65.3</b>	<b>14.0</b>	<b>914.2</b>	<b>914.2</b>	<b>R 228,550</b>	
AIA				1	2	3.0	1.5	4.5	7.5	1	1.0	0.5	3.0	4.5	4.0	16.0	14.0	224.0	224.0	R 56,000
AIA				1	2	3.0	1.5	4.5	7.5	1	1.0	0.5	3.0	4.5	4.0	16.0	14.0	224.0	224.0	R 56,000
Law Students				1	3	3.0	1.5	4.5	7.5					0.0	2.0	9.5	14.0	133.0		
Law Students				PT	3	3.6			3.6					0.0		3.6	14.0	50.4	183.4	R 45,850
<b>OTHER</b>									<b>26.1</b>				<b>9.0</b>	<b>10.0</b>	<b>45.1</b>	<b>14.0</b>	<b>631.4</b>	<b>631.4</b>	<b>R 157,850</b>	
<b>UNDERGRADUATE TEACHING HOUR REQUIREMENTS )</b>									<b>289.5</b>				<b>86.0</b>	<b>86.0</b>	<b>461.5</b>	<b>14.0</b>	<b>6461.0</b>	<b>6461.0</b>	<b>R 1,615,250</b>	
FIA		Hon		1	3.5	3.5	5.0	17.5	21.0				2.5	2.5	2.5	26.0	32.0	832.0	832.0	R 208,000
AUD		Hon		1	3.5	3.5	3.0	10.5	14.0				2.5	2.5	2.5	19.0	32.0	608.0	608.0	R 152,000
MAF		Hon		1	3.5	3.5	3.0	10.5	14.0				2.5	2.5	2.5	19.0	32.0	608.0	608.0	R 152,000
TAX		Hon		1	3.5	3.5	3.0	10.5	14.0				2.5	2.5	2.5	19.0	32.0	608.0	608.0	R 152,000
<b>Honours (Total Hours)</b>									<b>63.0</b>				<b>10.0</b>	<b>10.0</b>	<b>83.0</b>	<b>32.0</b>	<b>2656.0</b>	<b>2656.0</b>	<b>R 664,000</b>	
<b>TOTAL TEACHING HOUR REQUIREMENTS</b>									<b>352.5</b>				<b>96.0</b>	<b>96.0</b>	<b>544.5</b>	<b>14.0</b>	<b>9117.0</b>	<b>9117.0</b>	<b>R 2,279,250</b>	

**MARKING HOUR REQUIREMENTS PER MODULE (PER 25 MARK QUESTION) - 2004**

**REPORT 6 (b)**

DEPARTMENT OF ACCOUNTING													No. of 25 mark Questions					Number of Students					Hours							R 125
Module Description	Module Number	Academic Year	Semester	Group	No. of Formal Tests	No. of Examinations	Medical Test	Re-evaluation	Special Examination	Total No. of 25 Mark Questions	Multiplier for Setting Questions (Hours)	Hours for Setting Questions	Multiplier for Marking (Minutes)	No. of Students Formal Tests	No. of Students Examinations	No. of Students Medical Test	No. of Students Reevaluation	No. of Students Special Exams	Marking of Formal Tests (Hours)	Marking of Examinations (Hours)	Marking of Medical Test (Hours)	Marking of Reevaluation (Hours)	Marking of Special Exams (Hours)	Total Marking Hours	Grand Total (Hours)	Total Cost Question-setting and marking @ R125p.h.				
					A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V				
ACM	112	1st	1st	All	8	4	4	4	4	24	3	72	5.0	797	717	71	171	9	531	239	24	57	3	854	926	R 115,763				
ACM	123	1st	2nd	All	8	4	4	4	4	24	3	72	5.0	336	302	23	54	3	224	101	8	18	1	351	423	R 52,933				
ACM	255/256	2nd	1st	All	8	4	4	4	4	24	3	72	6.0	71	64	6	14	1	57	26	2	6	0	91	163	R 20,345				
ACM	257/258	2nd	2nd	All	8	4	4	4	4	24	3	72	6.0	76	68	6	14	1	61	27	2	6	0	97	169	R 21,070				
<b>Accounting for Management (Total Hours)</b>												<b>288</b>								<b>873</b>	<b>393</b>	<b>36</b>	<b>86</b>	<b>5</b>	<b>1393</b>	<b>1681</b>	<b>R 210,111</b>			
FIA	111	1st	1st	All	8	4	4	4	2	22	3	66	5.0	282	254	21	50	2	188	85	7	17	0	297	363	R 45,325				
FIA	121	1st	2nd	All	8	4	4	4	2	22	3	66	5.0	227	204	21	50	2	151	68	7	17	0	243	309	R 38,679				
FIA	212/213	2nd	1st	All	8	4	4	2	2	20	3	60	6.0	160	144	13	32	2	128	58	5	6	0	198	258	R 32,200				
FIA	222/223	2nd	2nd	All	8	4	4	2	2	20	3	60	6.0	124	112	13	32	2	99	45	5	6	0	156	216	R 26,980				
FIA	312/313	3rd	1st	All	8	4	4	4	4	24	4	96	7.0	134	121	9	22	1	125	56	4	10	1	196	292	R 36,518				
FIA	322/323	3rd	2nd	All	8	4	4	4	4	24	4	96	7.0	134	121	9	22	1	125	56	4	10	0	196	292	R 36,535				
<b>Financial Accounting (Total Hours)</b>												<b>444</b>								<b>817</b>	<b>368</b>	<b>33</b>	<b>66</b>	<b>2</b>	<b>1286</b>	<b>1730</b>	<b>R 216,237</b>			
AUD	236	2nd	2nd	All	10	4	4	4	4	26	3	78	6.0	169	152	13	31	2	169	61	5	12	1	248	326	R 40,780				
AUD	316	3rd	1st	All	8	2	4	2	2	18	4	72	7.0	102	92	9	22	1	95	21	4	5	0	126	198	R 24,773				
AUD	326	3rd	2nd	All	8	2	4	2	2	18	4	72	7.0	102	92	9	22	1	95	21	4	5	0	126	198	R 24,773				
<b>Auditing (Total Hours)</b>												<b>222</b>								<b>359</b>	<b>104</b>	<b>14</b>	<b>23</b>	<b>1</b>	<b>501</b>	<b>723</b>	<b>R 90,327</b>			
MAF	234	2nd	2nd	All	8	4	4	4	4	24	3	72	6.0	159	143	11	27	1	127	57	4	11	0	200	272	R 34,005				
MAF	314	3rd	1st	All	8	4	4	4	4	24	4	96	7.0	125	113	9	22	1	117	53	4	10	0	184	280	R 35,013				
MAF	324	3rd	2nd	All	8	4	4	4	4	24	4	96	7.0	125	113	9	22	1	117	53	4	10	0	184	280	R 35,013				
<b>Management Acc and Finance (Total Hours)</b>												<b>264</b>								<b>361</b>	<b>162</b>	<b>13</b>	<b>31</b>	<b>1</b>	<b>568</b>	<b>832</b>	<b>R 104,030</b>			
TAX	228	2nd	2nd	All	10	4	4	4	4	26	3	78	6.0	101	91	10	23	1	101	36	4	9	0	151	229	R 28,620				
TAX	318	3rd	1st	All	8	2	4	2	2	18	4	72	7.0	130	117	9	22	1	121	27	4	5	0	158	230	R 28,775				
TAX	328	3rd	2nd	All	8	2	4	2	2	18	4	72	7.0	130	117	9	22	1	121	27	4	5	0	158	230	R 28,775				
<b>Taxation (Total Hours)</b>												<b>222</b>								<b>344</b>	<b>91</b>	<b>12</b>	<b>19</b>	<b>1</b>	<b>467</b>	<b>689</b>	<b>R 86,170</b>			
FIA		Hon	Yr	All	33	7	0	7	7	54	5	270	11.0	14	14	1	2	0	85	18	0	3	0	105	375	R 46,904				
AUD		Hon	Yr	All	33	7	0	7	7	54	5	270	11.0	14	14	1	2	0	85	18	0	3	0	105	375	R 46,904				
MAF		Hon	Yr	All	33	7	0	7	7	54	5	270	11.0	14	14	1	2	0	85	18	0	3	0	105	375	R 46,904				
TAX		Hon	Yr	All	33	7	0	7	7	54	5	270	11.0	14	14	1	2	0	85	18	0	3	0	105	375	R 46,904				
<b>Honours (Total Hours)</b>												<b>1080</b>								<b>339</b>	<b>72</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>421</b>	<b>1501</b>	<b>R 187,617</b>			
AIA		237		All	8	4	4	4	4	24	3	72	5.0	183	165	11	27	1	122	55	4	9	0	190	262	R 32,738				
AIA		238		All	8	4	4	4	4	24	3	72	5.0	183	165	11	27	1	122	55	4	9	0	190	262	R 32,738				
Law Students				All	8	4	4	4	4	24	3	72	5.0	150	135	11	27	1	100	45	4	9	0	158	230	R 28,779				
<b>OTHER</b>												<b>216</b>								<b>344</b>	<b>155</b>	<b>11</b>	<b>27</b>	<b>1</b>	<b>538</b>	<b>754</b>	<b>R 94,254</b>			
<b>TOTAL MARKING HOUR REQUIREMENTS (ALL MODULES)</b>												<b>2736</b>								<b>3436</b>	<b>1344</b>	<b>119</b>	<b>263</b>	<b>12</b>	<b>5174</b>	<b>7910</b>	<b>R 988,745</b>			

**DEPARTMENTAL CONTRIBUTION ANALYSIS - TEACHING ONLY BEFORE SUBSIDIES**

(Demonstration model only)

(Excluding Subsidies)

		A	B	C	D	E	F	G	H	I
		AxB			AxD		E-F			
Department of Accounting	2004		Total	2004	Total	Total		Net	Positive	Negative
Course	No. Stud.	FTE	FTE	Fees	Fees	Direct Costs	Contrib.	Contrib.	Contrib.	
ACM 112	1	797	0.084	67	798.0	R 636,006	R 265,064	R 370,942	370,942	0
ACM 123	1	336	0.084	28	798.0	R 268,128	R 170,411	R 97,717	97,717	0
ACM 255/256	2	71	0.168	12	1596.0	R 113,316	R 92,675	R 20,641	20,641	0
ACM 257/258	2	76	0.168	13	1596.0	R 121,296	R 109,448	R 11,848	11,848	0
<b>Acc for Management</b>		<b>1,280</b>		<b>120</b>		<b>R 1,138,746</b>	<b>R 637,597</b>	<b>R 501,149</b>	<b>501,149</b>	<b>0</b>
AIA 237/238 & Law Stud.	2	224	0.166	37	798.0	R 178,752	R 272,049	-R 93,297	0	-93,297
<b>AIA 237/238 &amp; Law Stud</b>		<b>224</b>		<b>37</b>		<b>R 178,752</b>	<b>R 272,049</b>	<b>-R 93,297</b>	<b>0</b>	<b>-93,297</b>
AUD 236	2	169	0.100	17	798.0	R 134,862	R 124,798	R 10,064	10,064	0
AUD 326	3	102	0.400	41	2390.0	R 243,780	R 218,023	R 25,757	25,757	0
AUDIT 741	4	14	0.200	3	1592.0	R 22,288	R 201,898	-R 179,610	0	-179,610
<b>Auditing</b>		<b>285</b>		<b>61</b>		<b>R 400,930</b>	<b>R 544,720</b>	<b>-R 143,790</b>	<b>35,820</b>	<b>-179,610</b>
FIA 111	1	282	0.084	24	798.0	R 225,036	R 145,285	R 79,751	79,751	0
FIA 121	1	227	0.084	19	798.0	R 181,146	R 134,563	R 46,583	46,583	0
FIA 212/213	2	160	0.168	27	1596.0	R 255,360	R 116,882	R 138,478	138,478	0
FIA 222/223	2	124	0.168	21	1596.0	R 197,904	R 109,277	R 88,627	88,627	0
FIA 312/313;	3	134	0.168	23	2390.0	R 320,260	R 127,201	R 193,059	193,059	0
FIA 322/323	3	134	0.168	23	2390.0	R 320,260	R 127,218	R 193,042	193,042	0
FIN ACC 721	4	14	0.200	3	3474.0	R 48,636	R 257,898	-R 209,262	0	-209,262
<b>Financial Accounting</b>		<b>1,075</b>		<b>138</b>		<b>R 1,548,602</b>	<b>R 1,018,324</b>	<b>R 530,278</b>	<b>739,540</b>	<b>-209,262</b>
MAF 234	2	159	0.083	13	798.0	R 126,882	R 120,927	R 5,955	5,955	0
MAF 332/333	3	125	0.168	21	2390.0	R 298,750	R 239,272	R 59,478	59,478	0
MAN ACC 751	4	14	0.200	3	1592.0	R 22,288	R 208,511	-R 186,223	0	-186,223
<b>Man. Acc &amp; Finance</b>		<b>298</b>		<b>37</b>		<b>R 447,920</b>	<b>R 568,710</b>	<b>-R 120,790</b>	<b>65,433</b>	<b>-186,223</b>
RES. 711	4	14	0.100	1	1308.0	R 18,312		R 18,312	18,312	0
<b>Research Project</b>		<b>14</b>		<b>1</b>		<b>R 18,312</b>	<b>R 0</b>	<b>R 18,312</b>	<b>18,312</b>	<b>0</b>
TAX 228	2	101	0.100	10	798.0	R 80,598	R 108,587	-R 27,989	0	-27,989
TAX 318/328	3	130	0.168	22	2390.0	R 310,700	R 226,295	R 84,405	84,405	0
TAX 706	3	14	0.200	3	1592.0	R 22,288	R 201,898	-R 179,610	0	-179,610
<b>Taxation</b>		<b>245</b>		<b>35</b>		<b>R 413,586</b>	<b>R 536,780</b>	<b>-R 123,194</b>	<b>84,405</b>	<b>-207,599</b>
<b>Grand Total</b>		<b>3435</b>		<b>429</b>		<b>R 4,146,848</b>	<b>R 3,578,180</b>	<b>R 568,668</b>	<b>R 1,444,659</b>	<b>-R 875,992</b>
								<b>R 1,444,659</b>		
								<b>-R 875,992</b>		

UNIVERSITY OF THE WESTERN CAPE  
 FACULTY CONTRIBUTION ANALYSIS FOR THE YEAR  
 (For demonstration purposes only)

**REPORT NO. 8**

EXPENSE (R000s)	EMS	ARTS	SCIENCE	EDUC.	DENT.	LAW	CHS	FACULTY - TOTAL	% OF EXPEND.
Printing and stationery	959	899	926	500	194	420	613	4,511	2.2%
Rent of buildings (central costs)	-	-	-			-	-	-	0.0%
Travel and subsistence	166	239	513	636	669	109	984	3,316	1.6%
Bursaries and prizes	3	4	261	2,097	-	20	11	2,396	1.2%
Academic consumables	61	47	1,675	37	122	31	122	2,094	1.0%
Post and telephone	361	304	314	220	16	146	274	1,636	0.8%
Advertising	173	23	284	436	11	63	157	1,147	0.6%
Professional services	-5	7	262	9	538	26	104	941	0.5%
Repairs and maintenance	33	101	155	30	500	31	31	881	0.4%
Staff meals: Food services	63	28	7	96	24	22	7	247	0.1%
Sundries	37	22	163	36	34	28	68	388	0.2%
Entertainment	9	22	37	11	5	7	70	161	0.1%
<b>TOTAL SUPPLIES AND SERVICES</b>	<b>1,860</b>	<b>1,696</b>	<b>4,596</b>	<b>4,106</b>	<b>2,114</b>	<b>903</b>	<b>2,441</b>	<b>17,716</b>	<b>8.6%</b>
<b>TOTAL SALARIES</b>	<b>25,267</b>	<b>28,596</b>	<b>39,622</b>	<b>12,482</b>	<b>20,618</b>	<b>13,899</b>	<b>26,466</b>	<b>166,952</b>	<b>80.7%</b>
Salaries - Academic	19,192	21,074	28,601	8,195	17,257	10,645	19,605	124,568	60.2%
Salaries - Other	6,075	7,523	11,022	4,287	3,361	3,255	6,861	42,384	20.5%
<b>TOTAL EXPENDITURE EXCL SPACE</b>	<b>27,127</b>	<b>30,292</b>	<b>44,219</b>	<b>16,589</b>	<b>22,732</b>	<b>14,803</b>	<b>28,907</b>	<b>184,669</b>	<b>89.3%</b>
<b>TOTAL TEACHING AND OFFICE SPACE</b>	<b>4,420</b>	<b>2,988</b>	<b>4,588</b>	<b>1,494</b>	<b>3,966</b>	<b>1,818</b>	<b>2,951</b>	<b>22,225</b>	<b>10.7%</b>
Lecture halls, labs and tut. rooms (est)*	4,084	2,508	4,036	1,344	3,466	1,590	2,441	19,469	9.4%
Office, comp. & audio-visual rental (est)	336	480	552	150	500	228	510	2,756	1.3%
<b>TOTAL EXPENDITURE</b>	<b>31,547</b>	<b>33,280</b>	<b>48,807</b>	<b>18,083</b>	<b>26,698</b>	<b>16,621</b>	<b>31,858</b>	<b>206,894</b>	<b>100.0%</b>
<b>TOTAL INCOME</b>	<b>80,531</b>	<b>63,540</b>	<b>82,435</b>	<b>24,154</b>	<b>27,011</b>	<b>35,929</b>	<b>70,404</b>	<b>384,004</b>	<b>185.6%</b>
Student fees	31,644	20,908	16,951	5,995	10,675	13,483	20,764	120,420	58.2%
Teaching subsidies	46,802	36,428	63,351	16,442	9,273	20,453	45,378	238,127	115.1%
<b>TOTAL TEACHING INCOME</b>	<b>78,446</b>	<b>57,336</b>	<b>80,302</b>	<b>22,437</b>	<b>19,948</b>	<b>33,936</b>	<b>66,142</b>	<b>358,547</b>	<b>173.3%</b>
<b>RESEARCH SUBSIDIES AND CONTRACTS</b>	<b>2,085</b>	<b>6,204</b>	<b>2,133</b>	<b>1,717</b>	<b>7,063</b>	<b>1,993</b>	<b>4,262</b>	<b>25,457</b>	<b>12.3%</b>
<b>CONTRIBUTION BEFORE INDIRECT COSTS</b>	<b>48,984</b>	<b>30,260</b>	<b>33,628</b>	<b>6,071</b>	<b>313</b>	<b>19,308</b>	<b>38,546</b>	<b>177,110</b>	<b>85.6%</b>
<b>% Contribution to Total Income</b>	<b>60.8%</b>	<b>47.6%</b>	<b>40.8%</b>	<b>25.1%</b>	<b>1.2%</b>	<b>53.7%</b>	<b>54.7%</b>	<b>46.1%</b>	