Activity-based costing for a non-profit organisation

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DECLARATION

I, **Mr MD Gaula**, hereby declare that the analysis on which this study is based is original, except where acknowledgements indicate otherwise.

This dissertation is submitted for the degree Master of Business Administration at the North-West University, Potchefstroom Campus. Neither the whole work nor any part of it has been submitted before for any degree or examination at this or any other university.

Signed  on the 30th day of June 2011.

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ABSTRACT

The business environment of today has become more dynamic and unpredictable, where managers are being asked to cut costs while maintaining or even increasing the service quality in a very short period. If management wants accurate costs of services, a more sophisticated understanding of activities and their cost drivers is required due to the high proportion of overhead costs. Overhead costs are inevitable especially in a predominantly service-oriented organisation. In this modern age, ABC appears to be the contemporary costing system that could provide possible solutions in dealing with these escalating overhead costs. The primary objective of this analysis was to develop and implement an activity-based costing model for the South African Pharmacy Council. The secondary objectives of this analysis were to investigate the optimal costing and pricing of the services produced; provide a service-costing framework through an ABC system; analyse the service and customer profitability; and to make recommendations about potential overhead costs reduction points within the department based on the results of the ABC analysis. Data required to conduct the analysis was obtained from the organisation's Quality Management System, dashboard processes document, financial records and the procurement records. The minimum amount of times required to complete activities were estimated based on the experience, direct observation, and informal interviewing of the personnel involved with the activity. The internship programme consumed the most financial resources (70.6%) allocated to the department. Negative contribution margins were experienced with respect to the provision of the internship programme. The activities associated with portfolio assessment and the conducting of internship workshops are consuming a considerable amount of resources allocated to the provision of the internship. These activities are the major cost drivers in the provision of the internship programme.

ACRONYMS

Act- means the Pharmacy Act 53 of 1974

ABC - Activity-based Costing

ABM - Activity Based Management

AHP - Analytic Hierarchy Process

BPharm - Bachelor of Pharmacy

CEO - Chief Executive Officer

CPD - Continuing Professional Development

Council/SAPC - South African Pharmacy Council

CCO - Customer Care Officer

DOH - Department of Health

EP - Education Practitioner

ETQA - Education and Training Quality Assuring

IT - Information Technology

JSE - Johannesburg Stock Exchange

MBA - Master of Business Administration

NLRD - National Learner Record Database

QMS - Quality Management System

RPL - Recognition of prior learning

SA - South Africa

SAPC/Council - South African Pharmacy Council

SAQA - South African Qualifications Authority

SEO - Senior Education Officer

TCA - Traditional Cost Accounting

TCM - Traditional Costing Management

UK - United Kingdom

UNISA - University of South Africa

USA - United States of America

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CHAPTER ONE

NATURE AND SCOPE OF THE STUDY

1.1 INTRODUCTION

The activity-based costing (ABC) system can be used to provide a more accurate estimation of the overhead costs of services for many organisations. If management wants accurate costs of services, a more sophisticated understanding of activities and their cost drivers is required due to the high proportion of overhead costs. A wide range of service firms in South Africa (SA) are introducing activity-based costing model (Correia *et al.*, 2008:462). Service firms are an ideal environment for the implementation of activity-based costing.

The South African Pharmacy Council (SAPC) is a statutory body that was established in terms of the Pharmacy Act 53 of 1974. There are 25 Council members with the administrative office accounting to the Registrar/Chief Executive Officer (CEO) who is appointed by Council.

The administrative office of the SAPC consists of the Education and Training, Pharmacy Practice, Legal, Information Technology (IT), Finance, Continuing Professional Development (CPD) and Registrations, and Public Relations and Communications Departments. Every department has its unique processes designed to create value and to meet the needs of the individual stakeholders.

The SAPC is a statutory council and is thus an autonomous body, which receives no grants or subsidies from Government or any other source. The SAPC is predominantly a service organisation. The majority of the value that it provides to its clients is intangible rather than in any physical products.

It provides professional services mostly to its stakeholders and to the subscribed members of the profession. The organisation uses the revenue generated from its activities and member subscription fees to promote its main objectives as prescribed in terms of the Act.

Summarised here, the objectives of the Council in terms of the Act are-

(a) to assist in the promotion of the health of the population of the Republic;

(b) to advise the Minister or any other person on any matter relating to pharmacy;

(c) to promote the provision of pharmaceutical care which complies with universal norms and values, in both the public and the private sector, with the goal of achieving definite therapeutic outcomes for the health and quality of life of a patient;

(d) to uphold and safeguard the rights of the general public to universally acceptable standards of pharmacy practice in both the public and the private sector;

(e) to establish, develop, maintain and control universally acceptable standards-

(i) in pharmaceutical education and training;

(ii) for the registration of a person who provides one or more or all of the services which form part of the scope of practice of the category in which such person is registered;

(iii) of the practice of the various categories of persons required to be registered in terms of the Act;

(iv) of professional conduct required of persons to be registered in terms of the Act; and

(v) of control over persons registered in terms of the Act by investigating in accordance with the Act, complaints or accusations relating to the conduct of registered persons;

(f) to be transparent to the profession and the general public in achieving its objects and in performing its functions and executing its powers; and

(g) to maintain and enhance the dignity of the pharmacy profession and the integrity of persons practising the profession.

Although stated in its objectives, the main consumer of its services, namely the public, does not and is not expected to contribute financially to the functioning of Council. Apart from the annual payments made by the members to the organisation for membership (annual subscription fee), there are other income-producing activities that need to be managed with care to maintain the viability of the organisation. A sound and elaborate management practice of these micro- and macro-operational processes within the organisation is crucial for the economic viability of this non-profit organisation.

To ensure this, there is a need for good management accounting principles such as cost behaviour analysis, process costing and operation costing, service costing, management of overhead costs and implementation of activity-based costing systems.

The increased customer demands for improved service and quality have resulted in increased overhead costs in the Department of Education and Training of the SAPC. These costs include travelling, accommodation, workshop material, telephone bill, catering, and other administrative costs.

The organisation could benefit from understanding the cost of its services in the following ways:

(a) As a bases for setting fees for its subscribed or affiliated members;

(b) To assess the profitability of each service and customers;

(c) To determine which services to promote, refine or withdraw; and

(d) To control costs.

The ultimate goal of this analysis is to implement a system that will enable effective cost budgeting and minimising operational overhead costs. This study will also seek to utilise the information from ABC analysis exercises performed for the Education and Training

Department of the organisation in order to find ways of breaking even during business operations and cutting costs to sustain profit margins.

1.2 PROBLEM STATEMENT

Overhead costs are inevitable especially in a predominantly service-oriented organisation. To attain customer satisfaction, the organisation has to incur overhead costs to support the services provided to its stakeholders. Since the SAPC is a non-profit organisation, it relies on membership fees to remain sustainable and viable.

It is important to ensure that costing of services is optimal in order to break-even during the entire value chain creation and to avert profit losses during operations. Central to effective enterprise resource management is the effective management and control of the overhead costs throughout the entire value chain creation.

Optimal costing systems of products and services in a non-profit organisation are required to ensure that operational overhead costs are reduced and to ensure that revenue and services are maximised. The ever-escalating overhead costs of producing services to subscribed members and the projects ran by the Department of Education and Training are of momentous concern for the organisation.

1.3 OBJECTIVES OF THE STUDY

1.3.1 Primary objective

The primary objective of this analysis was to develop and implement an activity-based costing model for the Education and Training department of the South African Pharmacy Council.

1.3.2 Secondary objectives

1.3.2.1 To investigate the optimal costing and pricing of the services produced by the Education and Training department of the SAPC;

1.3.2.2 To provide a service-costing framework through an activity-based costing system for the department under study (that is, to establish accurate service costing information for cost control purposes);

1.3.2.3 To analyse the department's service and customer profitability;

1.3.2.4 To make recommendations about potential overhead costs reduction points within the department based on the results of the ABC analysis.

1.4 SCOPE OF THE STUDY

The study was conducted at the SAPC office, which is the national office, located in the Gauteng Province in Pretoria. The focus of this case-based study was on the Education and Training department of the SAPC.

This study endeavours to explore the benefits of implementing an ABC system in a non-profit organisation, the SAPC, which is predominantly a service firm. Although of non-profit in its nature, the SAPC produces a service to its registered members. This administrative office has to manage and control all the internal processes to meet member's needs and other stakeholders.

The main functions performed in the Education and Training department included, the management of all actions aimed at declaring a person competent prior to registration in terms of the Pharmacy Act 53 of 1974. The study also looked at the processes involved in managing the Education and Training related projects. A cost analysis of the activities performed in the Education and Training Department when services are produced was performed.

1.5 RESEARCH METHODOLOGY

1.5.1 Literature study

Most of the literature used in this analysis was obtained from the journal articles on ABC and textbooks. Literature regarding the organisation and its processes and activities was obtained from the organisation's Quality Management System (QMS) and

dashboard processes document. Information regarding the finances was obtained from the company's records kept within the department and from the supply chain department.

Many processes that involve the consumption of financial resources are initiated at the technical departments. It is in these departments that data sources as to the rational for resource consumption was obtained. This information relates to, for example memoranda written to request authorisation for required expenditure. Other sources of information kept in the Education and Training department included copies of the claim forms, quotations, memoranda, and invoices.

1.5.2 The empirical study

This study followed a retrospective analysis of financial and non-financial data of the company. An analysis of historical data of the company to determine cost behaviour was performed. A preliminary study of the department's cost behaviour was conducted by identifying all costs incurred by the department.

Various processes that involve numerous activities carried out by the department under study were identified. The costs of the activities were determined from the invoices, claim forms for external service providers and the traditional ledger system of the organisation. Some costs were determined through extensive unstructured interviews with employees and on-site direct observations to determine how much of a time resource was consumed by an activity.

A process step approach was followed as outlined by Garrison, R.H., Noreen, E and Seal, W (2008:316-327) in implementing the ABC system:

Step 1

In the first step, the activities, activity cost pools and the activity measures were defined. Activities that formed the foundation of the envisaged ABC system were determined.

Step 2

After producing the activity cost pools, costs were then assigned to these cost pools (sometimes referred to as, the first-stage allocation).

Step 3

After allocating overhead costs to activity cost pools, activity rates were then computed.

Step 4

In this step, overhead costs were assigned to cost objects such as services produced in the Education and Training department to stakeholders.

Step 5

Based on the results of the ABC analysis performed, management reports were prepared. Included in the reports were the service and customer profitability reports.

1.6 LIMITATIONS OF THE STUDY

The minimum amount of times required to complete and activity were estimated based on the experience, direct observation, and informal interviewing of the personnel involved with the activity.

The cost of using the register system was not factored into this analysis, including the depreciation cost of the computers, service cost for the maintenance of the system, the help desk services for any technical problems of the system. These are additive overhead costs incurred for conducting the examinations, which could not be traced to the cost objects. This resulted in under applied overhead costs for that particular pre-registration year.

Due to the limitations of capacity to carry out a full-scale analysis of the entire company's activities, only the activities that were found to be the major cost drivers in the Education and Training department were analysed.

1.7 LAYOUT OF THE STUDY

The layout of this dissertation consists of four chapters as outlined below:

Chapter 1: Nature and scope of the study
Chapter 2: The theory on Activity-Based Costing
Chapter 3: The application of an Activity-Based Costing model

Chapter 4: Conclusions and Recommendations

1.8 CHAPTER SUMMARY

Chapter one was an outline of the study and included an introduction, background to the study, the problem statement, research objectives, and the research methods to be used.

Chapter two will explored the literature on activity-based system for service enterprises. An investigation into issues of ABC implementation and the optimal costing and pricing of the services produced using data generated from the ABC analysis, was also conducted in this chapter.

CHAPTER TWO

THE THEORY ON ACTIVITY BASED COSTING

2.1 INTRODUCTION

The business environment of today has become more dynamic and unpredictable, where managers are being asked to cut costs while maintaining or even increasing the service quality in a very short period (Baykasoglu & Kaplanoglu, 2007:621). In order to sustain high levels of competition, companies should seek to provide low costs, high quality services, and products in a very short period.

Accurate cost information is critical for every aspect of a business, and it affects the pricing policies and performance reviews (Baykasoglu and Kaplanoglu, 2007:621). In this modern age, ABC appears to be the contemporary costing system that could provide possible solutions in dealing with these escalating overhead costs. The solution should seek to provide accurate cost information that will be required to make strategic decisions on some of the non-value adding activities in the entire value chain.

This chapter focuses on the literature published on ABC systems. The search is based on the stated objectives in chapter one. The focus is on analysing the existing body of knowledge on ABC implementation with the objective being to gain insight on the ideas on how to proceed in applying the ABC steps to the company's cost data.

The primary objective of this analysis was to implement an ABC system for the SAPC, with more specific focus on implementing an ABC system in order to get an insight about potential overhead costs reduction points within the department. The results of an ABC analysis were used to find the optimal costs and prices of the services produced by the Education and Training department in order to suggest a service-costing framework through an activity-based costing system.

The results were also used to analyse the department's service and customer profitability. There are many activities involved during service provision in the Education and Training Department. Amongst many responsibilities aligned to the department are to manage all the actions aimed at declaring a person competent prior to registration in

terms of the Pharmacy Act. The second responsibility is to manage all the actions aimed at the accreditation and approval of providers and courses in terms of the Pharmacy Act and the South African Qualifications Authority (SAQA) Act and so forth.

The major activities involved prior to declaring a person competent and subsequently allowed to register with Council include amongst others, managing the pharmacy internship programme, recognition of foreign pharmacy qualifications, managing of processes involved with the training of pharmacy support personnel and recognition of prior learning.

Accurate information about indirect costs is required for identifying hidden costs and cost reduction, however cost accounting systems for many companies have been found to be insufficient in this respect (Baykasoglu & Kaplanoglu, 2007:622). It is for that reason that this analysis had been carried out in order to reduce costs of doing business.

2.2 NON-PROFIT ORGANISATIONS

Kew, J., Mettler, C., Walker, T., and Watson, A (2006:697) defined a non-profit organisation as a trust, company or other association usually established for public purpose, the income from which is not distributed to its members. Many non-profit organisations provide services free of charge, so there is no sales budget. According to Correia, C., Langfield-Smith, K., Thorne, H. and Hilton, R.W (2008:423), such organisations begin their budgeting process with a budget that shows the level of service to be provided.

It is for that reason that a well-informed and accurate overhead cost budget is crafted for the SAPC cost centres, given the cost of the average level of service generated annually. ABC can help with the overhead problems in service, non-profit organisations, through a proper analysis of the costs incurred in providing service to customers.

2.3 SERVICE ENTERPRISES

Yereli (2009:573) has defined a service enterprise as an enterprise that carries out or produces a service and that gather production factors. The SAPC can be largely

classified as a service enterprise. Service organisations differ significantly from manufacturing organisations in a sense that an inventory of services is not possible, which means service organisations will have to strive on building quality service capacity to meet the ever increasing demands of services (Jacobs *et al*., 2009:258).

Seal, W., Garrison, R.H., and Noreen, E.W (2009:298), further contrasts service firms from manufacturing firms in respect that service companies appear to have a very large proportion of fixed costs as compared to manufacturing firms, where material costs comprise the bulk of variable costs. According to Kaplan and Cooper (1998) as quoted by Drury (2009:201), service companies are ideal for the implementation of ABC, since most of the costs in service organisations are indirect.

It is easier for manufacturing companies to trace important components of costs to products; hence, their indirect costs are likely to be a much smaller proportion of total costs (Drury, 2009:201). ABC links indirect costs incurred across the organisation in order to supply products and services when resources used often cut across departmental boundaries. ABC provides an end-to-end process analysis. (Seal *et al*. 2009:298).

Although service entities tend to be characterised by high labour costs, many of which can be traced directly to services, all service businesses incur some indirect costs (Correia *et al*., 2008:251). Overhead costs cannot be traced directly to services; instead, they are allocated using cost drivers (Correia *et al*., 2008:251). An ABC model can be used to provide accurate estimates of the overhead costs of products and services (Correia *et al*., 2008:354).

Berts and Kock (1995:57) in their study cited that management accounting systems are needed for professional service firms. Service sectors have not yet thoroughly addressed their costs and managed them with a process-based costing method and this lack of consideration causes distortions of their cost of services (Baykasoglu and Kaplanoglu, 2007:623).

Activity-based costing can play an important role from the point of monitoring all the resource consumption centres and giving an idea for reduction of the costs. This analysis seeks to thoroughly unravel the true costs incurred for providing services to the

SAPC customers (for example, registered interns) and to layout a service costing framework for the rendered services.

Berts and Kock (1995:57) mentioned that, ABC systems had proven to be an effective tool in giving a clear picture of costs for producing goods in manufacturing firms, a similar principle which they applied in service firms to trace costs of services produced.

Berts and Kock (1995:57) believed that ABC would be an effective tool in service firms for tracing costs to services produced. Berts and Kock (1995:59) reported that in service firms, ABC systems divide overhead costs into homogeneous cost pools. They also defined these cost pools as a collection of overhead costs for which a single cost driver can explain cost variation, where the cost per unit (pool rate) of the cost driver is computed for that pool, once a cost pool has been defined.

According to Correia *et al*. (2008:354), there are problems with conventional costing systems in service enterprises. For example in the service sector, customers are demanding a more diverse range of high-quality services. Many businesses do not estimate the costs of individual services, but those that do, have tended to use business-wide and volume-based overhead rates (Correia *et al*., 2008:354).

Many organisations have outsourced services because of the demands to keep pace with technology or to reduce costs. This has lead to the emergence of new service entities, for example, the outsourcing of Information Technology (IT) services to specialist IT firms, and customer inquiry services to call centres (Correia *et al*., 2008:354). This has also been true for the SAPC which outsourced and ultimately absorbed the call centre. This was an effort to improve customer services and to allow capacity for technical departments to produce quality services.

Service organisations have tended to rely on rather crude or underdeveloped cost systems (Seal *et al*. 2009:297). Even though, most of the service enterprises have some form of budgetary control of responsibility centres such as departments or branches, there was evidence of lack of a detailed product costing system. This gap was partly due to lack of a financial reporting imperative to measure stocks (Seal *et al*. 2009:297).

The marginal costs in service organisations is often zero because capacity is provided in advance of demand but costs eventually need to be recovered. There is lack of direct link between decisions by customers that generate revenue and decisions by companies that incur costs. Service companies cannot usually rely on a proprietary technology in order to gain and hold on to customers, but customised service is both important and expensive. ABC offers much detail on customer profitability and much greater understanding on what is driving costs.

According to Correia *et al*. (2008:251), service firms are an ideal environment for the implementation of ABC. Therefore, if management wants accurate costs of services, a more sophisticated understanding of activities and cost drivers is required due to the high proportion of indirect costs. Certainly, a wide range of service organisations in South Africa has adopted ABC (Correia *et al*., 2008:354).

Service sectors including logistics companies have not yet thoroughly addressed their costs and managed them with a process-based costing method and this lack of consideration causes distortions of cost of services (Baykasoglu & Kaplanoglu, 2007:623). The SAPC is not immune to such challenges facing service enterprises, in carrying out its business processes.

Although of non-profit in its nature, Council produces a service to its registered members. According to Yereli (2009:573), rapid developments in information technologies and intense global competition have affected all types of enterprises. In that instance, Yereli (2009:573) further asserts that these emerging developments have revealed the inadequacy of traditional approaches in calculating service costs. ABC costing system has been studied in recent years to find ways to improve management of costs within organisations.

2.4 OVERHEAD COSTS IN SERVICE FIRMS

Correia *et al*. (2008:296), referred to overhead costs as indirect product costs, that is, all costs other than direct costs. They further mentioned, that many businesses also describe the indirect costs of responsibility centres as overheads. The overhead costs are more difficult to control than the direct material and direct labour costs (Garrison *et al*., 2008:475).

The complicating factor with overhead costs is that it can be variable, fixed, or a mixture of variable and fixed (Garrison *et al*., 2008:475). It is therefore important that managers within organisations comprehend the costs of responsibility centres, such as departments, which will then assist in managing resources allocated to their departments (Correia *et al*., 2008:296).

As corporate strategies, change and manufacturing operations become more diverse, overhead costs increase at an alarming rate (Lin, B., Collins, J., & Su, R.K., 2001:704). According to Develin, as quoted by Lin *et al*. (2001:704), research indicates that overhead costs represent around 37 percent and 66 percent of total costs in manufacturing and service firms respectively.

Due in part, to organisations investing in more resources in downstream activities such as customer service, this increased emphasis on customer support will result in heightened overhead costs for providing the service (Correia *et al*., 2008:352). It is clear that there are factors, which could drive costs in the course of providing service to clients. This will then warrant stringent mechanisms for managing and controlling those costs in order for the organisation to remain economically viable.

ABC systems recognize that many types of overhead costs vary proportionally with measures of activity other than volume of product output (Stapleton, D., Pati, S., Beach, E., & Julmanichoti, P., 2004:594). According to Stapleton *et al*. (2004:594), advocates of ABC correctly argue that overhead and operating costs of the firms have to be clearly understood and the non-value added processes should be eliminated.

According to Sartorius, K., Kamala, P. and Eitzen, C (2007:3), it has been hypothesized that an increase in fixed costs due to an investment in capital-intensive technologies (such as investment into the register system by Council), influences the need for a more sophisticated overhead allocation technique. Council invested a fortune in developing the register system in order to improve efficiency and effectiveness.

Streamlining of processes and also investing in the dashboard system to manage workflows, was a good investment. Overhead costs are inevitable in service-oriented organisations. The SAPC is a cost driven enterprise due to its nature of being a non-profit organisation. The SAPC has in the recent past, strived to provide a better service

to its clients by improving its processes through investing in capital-intensive technologies such as IT systems and programmes to which Council expects a good return on these investments.

The need for the provision of quality services has left the Council with no option but to approve and put aside a capital budget of R1 881 510 for the 2011 fiscal year in an effort to meet the required quality service levels for their stakeholders. The ever-increasing overhead costs and the lack of insight into these overheads, will in the near future threaten the organisation's service capacity to meet customer demands, which will also leave clients unsatisfied and frustrated.

2.5 ACTIVITY-BASED COSTING

2.5.1 The genesis of activity-based costing

According to Baykasoglu and Kaplanoglu (2008:310), ABC has been revealed recently during the 1980s' in the studies of Cooper and Kaplan (1988) and Johnson and Kaplan (1987). It was used rarely by service sectors. When it first emerged and applied by organisations, ABC was used as a method for distributing general production costs (Yereli, 2009:575). According to Yereli (2009:575), the ABC system is based on the premise that resources are consumed by activities, and the cost object consumes the activities.

2.5.2 Definition and the components of an ABC system

Garrison et *al*. (2008:310) have defined activity-based costing as a costing method that is designed to provide managers with cost information for strategic and other decisions that potentially affect capacity and therefore fixed as well as variable costs. Central to the ABC system, is an activity, which has been defined by Heisinger (2010:103) as any process, or procedure that consumes overhead resources. Carefully identifying these activities forms the basis of an accurate costing system.

According to Garrison *et al*. (2008:310), numerous overhead cost pools are used in ABC, each of which is allocated to products and other cost objects using its own unique

measure of activity. The ABC system uses different cost drivers of more than one activity determined during the operating process (Yereli, 2009:575).

The most relevant cost-drivers can often be determined by questioning those employees who are most familiar with the activity to indicate which factor causes an increase or decrease in the time and effort they spend on the activity (Lin *et al*., 2001:708). The ABC approach is an information system that establishes proceeds and protects the database on activities and manufactured goods of a company (Yereli, 2009: 575).

Further explained by Yereli (2009:575), ABC also defines the processes in operating and other activities, gathers similar processes in the same activity pool, determines the costs of activities, and uses different cost drivers for the distribution of activity costs into manufactured goods.

An activity is any event that causes the consumption of overhead resources (Garrison *et al*, 2008:312). An activity measure also referred to as the cost driver is an allocation base in an ABC system (Garrison *et al*, 2008:312). There are two types of drivers or measures, that is, the transaction drivers and duration drivers.

Transaction drivers are simple counts of the number of times an activity occurs and the duration drivers measure the amount of time required to perform an activity (Garrison *et al*, 2008:312). Activity-based costing defines five levels of activity as explained by Garrison *et al* (2008:312) that is the unit-level, batch level, product-level, and organisation sustaining-level.

Careful selection of activities and cost drivers in an ABC system is the key to achieving the benefits of this costing system (Baykasoglu & Kaplanoglu, 2008:314). Resource consumption rate of some activities cannot be easily estimated; therefore an analytic hierarchy process (AHP) is employed as a method to allocate overhead costs to activities (Baykasoglu & Kaplanoglu, 2008:314).

According to Kaplan (1999), as quoted in Baykasoglu and Kaplanoglu (2007:623), ABC has been developed to provide more accurate ways of assigning the costs of indirect and support resources to activities, business processes, products, services and

customers. Further than that, Baykasoglu and Kaplanoglu (2007:623) found the ABC to be useful for the organisations where the indirect cost proportion is more than the direct costs.

In order to retain the competitive status, a company should be able to provide high-quality services/products in a short period with lowest possible cost. Quoted by Baykasoglu and Kaplanoglu (2007:621), Gupta and Galloway (2003) asserts that in order to be able to provide lower costs, accurate cost information is critical for every aspect of business, and it affects the pricing policies and performance reviews.

From the work of Qiah and Ben-Alrieh (2008) as quoted by Baykasoglu and Kaplanoglu (2008:308), it has been mentioned that the Traditional Cost Accounting (TCA) systems are known to distort the cost information by using traditional overhead allocation methods. The ABC technique and other cost management techniques are being used for the sake of process improvement and for increasing the competitiveness of the organisations (Baykasoglu and Kaplanoglu, 2008:309).

Raz and Elnathan (1999) as quoted by Baykasoglu and Kaplanoglu (2008:310) summarised the main premise behind ABC, as classifying overheads or indirect costs and allocating them to the products or services based upon the activities required to produce these products.

From the preceding premise, it has also been mentioned that activities create the need for the resources and these resources include indirect costs of the organisation. These resources are allocated to the activity centres. After finding the costs of the activities (cost pools), ABC distributes the activity costs to cost objects (that is, products, product lines, processes, customers, channels, markets etc). The unit cost of each cost object is then determined by dividing the total allocated cost per pool by the product amount (Baykasoglu and Kaplanoglu, 2008:310).

According to a quotation made from the study of Hicks by Delpachitra (2008:137), ABC models require a properly identified business process, with each activity in the process defined and measured using an appropriate measurement (in terms of costs or time), and a clearly identified relationship between the product or services to the activities and costs.

Stapleton *et al*. (2004:593) mentioned in their study that for one to understand the ABC system, it would be of benefit to such entities to view the business firm as an entity that is engaged in performing a series of activities for the purpose of providing products (goods or services) to customers. The products and or services will then consume the resources allocated to this series of activities, which cause costs to be incurred (Stapleton *et al*., 2004:593).

A series of activities consumed by the services provided in the Education and Training department of the SAPC included conducting of examinations, workshops, assessments, quality assuring of providers of pharmacy education, recognition of qualifications, and so forth. In conducting these activities, Council incurred costs, as cited in the preceding quotation from Stapleton *et al*. (2004:593).

In a report of Stapleton *et al*. (2004:594) regarding the implementation of ABC, they mentioned that if firms want to accurately attribute these costs to products and services, it will be necessary for these firms to determine the level of consumption of these activities by individual products and services and finally link financial resources (that is, costs) to these activities.

In that regard, as further reported by Stapleton *et al*. (2004:594), ABC will assist in identifying significant activities within the firm, by linking costs to these activities, and measuring the consumption of the activities by the various products.

2.5.3 The implementation of Activity-Based Costing

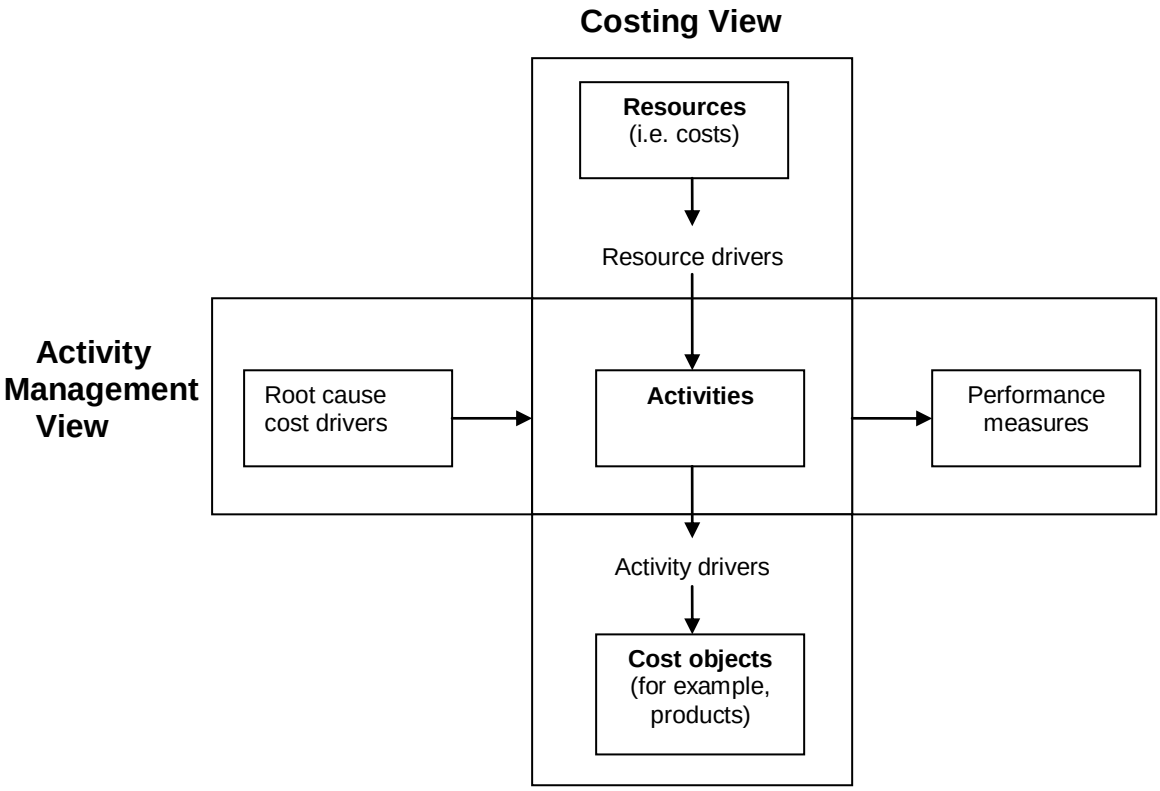
Many sources in the literature have proposed a conceptual framework that underpins the philosophy behind ABC. According to the framework as depicted in Figure 2.1, it shows that ABC can be used for the purpose of costing and activity management (Correia *et al*., 2008:359).

A cost object is any item such as a product, department, project, and so on, for which costs are measured and assigned (Lee and Kao, 2001:71). The basic premise behind the model is that, cost objects causes activities to be performed and such activities consume the resources which in turn causes costs to be incurred (Correia *et al*., 2008:359).

Gupta and Galloway (2003:131) adapted a similar model from Turney (1999), as shown in Figure 2.1 and made it easier to understand by explaining its features in the following manner:

Cost objects: The answer to this question, to what or for who is work done, will provide clarity as to who consumes our services/products (Gupta and Galloway, 2003:131);
Activities: To gain insight of what activities are, an answer to the question what is the type of work, is sought. The answer to the question helps in identifying those activities required to deliver the service/products to our clients;
Resources: In order to perform work, resources are required. Answering the question, what is used to do work, will help in identifying those items used or inputs (factors of production) use for performing the identified activities;
Cost drivers: Understanding what causes work, will help in identifying how different levels of activity will cause resource consumption when performing the work required for producing products/services;
Performance measures: Knowledge of how well work is done, will provide necessary insight of what quality of services/products offered to our clients is required and help identify those activities that do not add value either to the organisation or to our clients.

Figure 2.1: An activity-based costing model



Source: Turney (1991) quoted by Correia *et al*. (2008:359)

The resource and activity drivers are cost drivers used to estimate the cost of resources and activities consumed by resources and cost objects respectively (Correia *et al*., 2008:359). According to Correia *et al*. (2008:360), the vertical view of the model shows how ABC can be used to estimate the cost of products and the horizontal view provides information about the root cause of activities, their value to customers, and various measures of their performance.

When designing a good ABC system, Garrison *et al*. (2008:314) maintains that it requires an intimate knowledge of many parts of the organisation's overall operations. In carefully planning how to go about in implementing the ABC system, Garrison *et al*. (2008:316) broke down the implementation process into the following five steps, that is,

Step 1: Defining the activities, activity cost pools, and activity measures.
Step 2: Assigning overhead costs to activity cost pools/centres.
Step 3: Calculating activity rates.
Step 4: Assigning overhead costs to cost objects using activity rates and activity measures, and finally;

Step 5: Preparing management reports.

The following section is a detailed description of these steps as explained in the literature:

Step 1: Identify and define activities, activity cost pools, and activity measures

Garrison *et al*. (2008:312) have defined activities as any event that causes the consumption of overhead resources. Although used commonly in our day-to-day vocabulary, the word activity, as cautioned by Michalska and Szewieczek (2007:91), should be understood as repeatable, homogeneous, or similar event and executed with the aim of realising definite economic function and causing a rise in costs.

These activities if performed in a sequence constitute what Michalska and Szewieczek (2007:93) term as a process. The basic reason for realising these activities is the customers of the organisation, and these activities are undertaken with the aim of satisfying customer needs (Michalska & Szewieczek, 2007:92).

In simplistic terms, what resonates from the arguments of the preceding authors regarding the activities is that activities drive processes and processes drive the service delivery as required. Central to this chain of events, is that resources in one way or the other, will be consumed.

For better analysis of the cost of these processes, it will be important as proposed by Lin *et al*. (2001:707) to breakdown each process into as many as possible well-defined activities. A further breakdown of activities might be necessary until no significant additional cost information could be obtained or until the cost of the activity is irrelevant.

This step involves the creation of a list of activities that will form the foundation for the ABC system. This step could result in a very long list of activities which could be a problem whereas on the other hand, Garrison *et al*., (2008:316) maintains that the greater the number of activities the more the cost information is likely to be accurate.

It involves a great deal of judgement and involves interviewing people who work in the overhead department by asking them to describe their major activities. According to

Garrison *et al*. (2008:317), those activities that are highly correlated with each other are grouped together at the appropriate level (that is, unit-, product-, or batch- levels etc).

In an ABC system, activities are grouped in terms of activity cost pools, which are defined by Garrison *et al*. (2008:312) as the bucket in which costs are accumulated that, relate to a single activity measure. Further explained by Yereli (2009:582), similar activities performed in accordance with the main services are collected in the same activity pool.

After activities and cost pools have been identified, an activity measure or an allocation base, which has been described by Correia *et al*. (2008:312), as a factor or variable that allows for costs in a cost pool to be allocated to cost objects. Garrison *et al*. (2008:312) distinguishes between two most common types of activity measures or cost drivers that is, transaction drivers and duration drivers. They explain transaction drivers as simple counts of the number of times an activity occurs and duration drivers as the amount of time required to perform an activity.

According to Gunasekaran and Singh (1999) as quoted by Baykasoglu and Kaplanoglu (2008:312), the identification of activities and the level of details of activities is a critical step in the design of an ABC system because the cost of the system and the accuracy of the product cost depend upon this step.

The goal of an ABC system is to uncover the costs of the relevant activities and according to Lin *et al.* (2001:707), to accomplish this, the resources that each activity consumed must be identified. These resources in many companies are divided into labour, materials, equipment, facilities, and capital.

The costs of the activities can be determined from the traditional ledger system, where the costs of resources consumed by an activity can be abstracted. The costs data from the ledger must be allocated to specific activities for example, to allocate the cost of labour to an activity. Each employee's time and pay rate must be determined and traced to that activity (Lin *et al*., 2001:708). Some costs require extensive interviews with employees and on-site observations to determine how much of a resource is consumed in the activity.

Step 2: Assign overhead costs to activity cost pools

After identifying the activities, activity cost pools, and activity measures, resource costs must be allocated to each respective activity cost pool (Lee & Kao, 2001:74). Lee and Kao (2001:74) identified three ways with which resource costs could be allocated to activities that is, through direct charging, which allocates resource costs directly into the activities; estimation, which allocates resource costs by using resource drivers; and arbitrary allocation, which arbitrarily allocates resources into the activities.

The data on the total overhead costs consumed by the identified cost pools can be extracted from the company's general ledger. According to Garrison *et al*. (2008:318), general ledgers usually classify costs within the departments where the costs are incurred for example, salaries, supplies, rent and so forth. Garrison *et al*., (2008:318) refer to allocation of costs at this stage of an ABC system as the first stage allocation, where functionally organised overhead costs derived from a company's general ledger are assigned to the activity cost pools.

Normally, the departmental managers are interviewed to determine how the non-personnel costs should be distributed across the activity cost pools (Garrison *et al*., 2008:318). ABC calculations can be done manually, nevertheless, Garrison *et al*. (2008:318) suggests setting up an ABC system on a spreadsheet or using special ABC software to save time.

Prior to performing ABC calculations, it will be important to determine the percentage of distribution of resource consumption across activity cost pools where these percentage distributions will then be multiplied by the total cost allocated to the activity cost pool (Garrison *et al*., 2008:318).

A further assertion by Lin *et al*. (2001:708) regarding the total inclusion of costs in the activity is that it matters not as to how great or small the resource is consumed, it should be included in order to capture the true cost of the business.

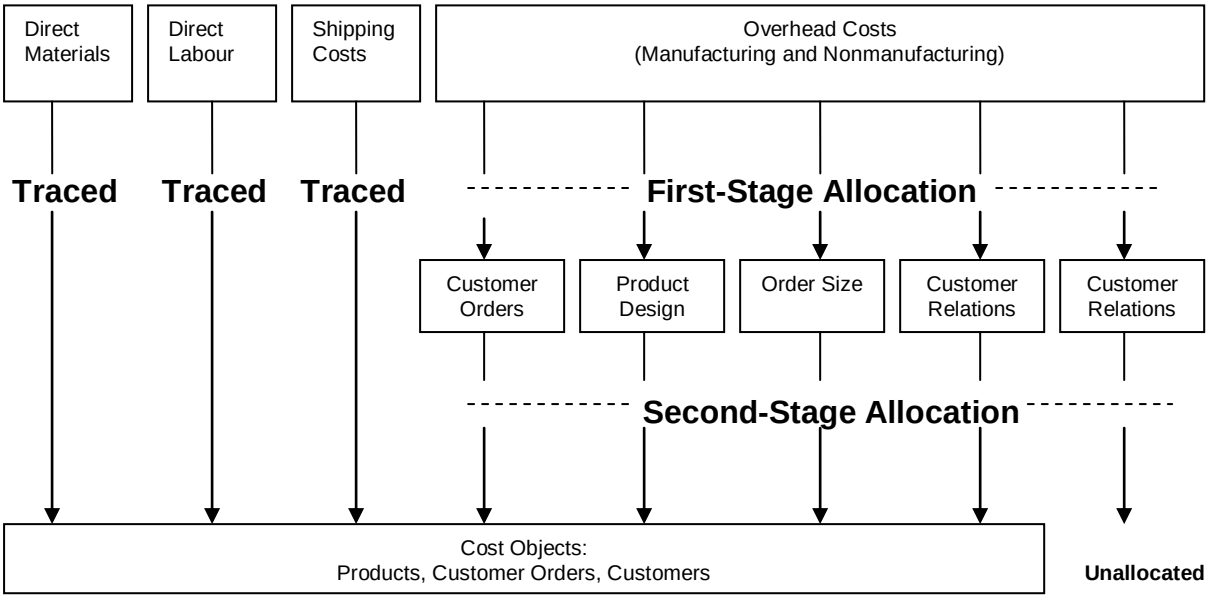
Step 3: Calculate activity rates

The activity rates are used for assigning overhead costs to products and customers (Garrison *et al*., 2008:321). Firstly, the total level of activity for each cost pool that would be required to produce the company's products to serve its customers must be determined (Garrison *et al*., 2008:321).

The activity rates, which represent average costs, are computed by dividing the estimated/historical total cost for each activity by its estimated/historical total level of activity (Garrison *et al*., 2008:321).

Garrison *et al*. (2008:322), suggests that, before proceeding further, a better idea of the overall process of assigning costs to products and other cost objects in an ABC system, be acquired. In acquiring such a better understanding, Garrison *et al*. (2008:322) uses a visual perspective of the ABC system at Classic Brass as an example, which is depicted in Figure 2.2.

Figure 2.2: An example of the activity-based costing model (Classic Brass)



Source, Garrison *et al*. 2008:322.

Step 4: Assign overhead costs to cost objects using activity rates and activity measures

The fourth step of the ABC model is the allocation of overhead costs to products and or services (cost objects) after determining the first stage cost driver coefficients that is, activity rates (Baykasoglu and Kaplanoglu, 2008:316). An understanding of what cost object are, has been established by Michalska and Szewieczek (2007:93) in their analysis of the ABC model, as something why costs are accumulated and measured and of which it could also refer to any customer, product, service, contract, undertaking or other individual work, which costs are aimed to be measured.

Garrison *et al*. (2008:322) has also referred to this step as the second stage-allocation (Figure 2.2) where activity rates are used to assign costs to cost objects. The cost pools are allocated to cost objects according to their activity cost pool usage or level of activity (Baykasoglu and Kaplanoglu, 2008:318).

Step 5: Prepare management reports

After accumulation of the ABC data, from steps one to step four, the basic common management reports can be prepared in order to assess both product and customer profitability (Garrison *et al*., 2008:324). The purpose of these reports according to Garrison *et al*. (2008:342) is to assist managers in redirecting their resources to the most profitable growth opportunities while at the same time highlighting products and customers that fritter away the company's bottom line.

To compute the company's product profit margin, it is required to gather each product's sales and direct costs in addition to the overhead costs computed from step one to four (Garrison *et al*., 2008:325)

2.5.4 Advantages of an Activity-Based Costing system

ABC is a method that is designed to provide managers with more accurate product/service costs, clearer insights into what causes costs to exist and what drives costs and relevant information for strategic decision-making (Beaujon & Singhal, 1990) as quoted by Ismail (2010:42).

Ismail, (2010:42) described Activity Based Management (ABM) as a strategic tool that allows managers to quantify the value of products and services, use a common language for benchmarking, look at activities with a process view and choose courses of action based upon ABC information. In a survey by Yereli (2009:579), the following were found to be the advantages of implementing an ABC system:

(a) with ABC, costs can be assessed thoroughly and correctly,
(b) it provides significant profit centre and profitability of finished goods,
(c) it produces simpler and clearer calculations,
(d) it helps managers make accurate decisions by providing them with information for better responsibility and control in management,
(e) it helps reduce activity costs irrelevant to the assessment of service costs that have low added value or that can be directly observed and detected by certain costs objects,
(f) two additional major advantages of implementing ABC cited from the survey by Stapleton *et al*. (2004:590) were accurate product pricing and performance. According to Stapleton *et al*. (2004;590), this would be helpful in the budgeting and strategic planning process of the firm, since the application could be used for predicting changes in the activity costs as well as pinpointing areas for process re-engineering and strategic positioning.

In a case study analysis by Liu and Pan (2007: 249-264), they found that the erroneous costing information upon which their performances were judged and thus demanded for a better costing system frustrated managers. The main objective of the ABC project carried by Liu and Pan (2007: 249-264) was to establish accurate product costing information for the cost control purposes. Service performance and capacity would be crucial for service organisations, such as the SAPC. It is therefore important as alluded by Liu and Pan (2007: 249-264) that the SAPC be able to gauge its performance based on the established accurate cost data.

ABC is a costing method that is designed to provide managers with cost information for strategic and other decisions that potentially affect capacity and therefore fixed as well as variable costs (Garrison *et al*., 2008:310). Baykasoglu and Kaplanoglu (2008:311) in their study discovered that ABC provides a clear picture of where resources are being

spent, customer value is being created, and money is being made or lost and it offered a better alternative to labour-cost-based product costing.

ABC and other techniques can also be applied to accomplish a wide variety of other purposes, including budgeting, the reduction of costs and the improvement of processes and activities. ABC enables management to determine how activities consume resources, even beyond a single period, and then to study ways to reduce costs in the development of processes (Stapleton *et al*., 2004:594).

According to Correia *et al*. (2008:358), the main benefits of ABC for the Post Offices in SA, related to a better allocation of overhead costs, the breakdown in barriers between functional areas, an improvement in cost control, a better design of services, products, and services mix as well as improving the budgeting process. If benefits of implementing ABC are to be realised for service organisations like the SA Post Office, it will be worth an attempt to apply the same principle to the SAPC, which is also largely a service organisation.

2.5.5 Disadvantages and challenges of implementing an ABC system

Implementing an ABC system can be expensive and that has been observed with Insteel's ABC system, which revealed that its 20 most expensive activities consumed 87% of the plant's $21.4 million in costs (Garrison *et al*, 2008:309). Almost 4.9 million was being consumed by non-value-added activities (Garrison *et al*, 2008:309).

Although there were some benefits associated with the adoption and use of ABC by contemporary enterprises, in contrary, the following obstacles were reported as encountered during the implementation of the ABC system by Ismail (2010:49):

(a) obtaining financial data from relevant departments. The main obstacle mentioned was that authorization to use the financial data was an issue, where much of the data required for performing the analysis were either unavailable or confidential;

(b) to accurately determine the percentage of effort contributed to each activity by each category of staff;

(c) to determine the appropriate resource driver quantity for the operating expenses;

(d) to acquire the necessary operational data;

(e) to obtain necessary data to measure activity performance.

Correia *et al*. (2008:358) in their survey on the implementation of ABC in the South African Post Office discovered a number of significant negative effects. These negative effects included the high cost of implementing ABC, a lack of software packages, lack of knowledge of data requirements, resistance to change, difficulty in gathering data on cost drivers and the lack of top management support.

Several significant factors concerning the drawbacks of ABC are the lack of perfect cost data, loss of customer focus, and the potentially negative effect of internal politics (Lin *et al*., 2001:710). It will be important that in this case-analysis of the SAPC, necessary steps be taken to avert any possible challenges in the exploration of the workings of ABC.

In a survey conducted by Stapleton *et al*. (2004:590) in the implementation of ABC, many of the responses for not implementing ABC, was due to higher priorities other than ABC, too complicated, not cost justified, unsure how to proceed and more practical alternatives available.

2.5.6 Success factors in the implementation of an ABC system

From a study by Liu and Pan (2007:249), it has been mentioned that little has been learnt as to whether ABC techniques can be implemented successfully in organisations in developing counties. Having studied and successfully implemented an ABC system in Chinese organisations, Liu and Pan (2007:249) in their findings, discovered that top management support, which has been identified as an important success factor in ABC literature, was evidently the predominant success factor in these organisations.

Although Liu and Pan (2007:250) could not state with certainty that ABC can be implemented successfully in developing countries, they said that it is fair to state that the contribution of ABC method in Chinese practise is at best at a theoretical level. A

longitudinal study conducted by Innes and Mitchel (1991) as quoted in the study of Liu and Pan (2007:250), has reported some success factors of ABC implementation. These factors included the establishment of clear and achievable objectives for an ABC implementation to match the underlying strategic policies and goals of an organisation, provision of adequate resources in a timely manner, involvement, and consultation of staff, and adoption of a participative approach in data gathering.

Stapleton *et al*. (2004:587) when sharing their experiences in the implementation of ABC proposed that, when determining the cost drivers for each activity, it is important that managers be not bogged down with too many details that cannot be explained. One of the key issues cited in the work of Stapleton *et al*. (2004:587), was that the firm will be able to get faster buy-in from upper management if managers can quickly point to cost savings (Stapleton *et al*., 2004:587). In the very same study by Stapleton *et al*. (2004:587), they purported thus, for optimal success the firm should establish a reasonable period, where they proposed six to twelve months as the aggressive but reasonable time.

In a study by Baykasoglu and Kaplanoglu (2008:308), it has been cited that in order to improve the effectiveness of ABC an integrated approach that combines ABC with business process modelling and analytical hierarchy approach is proposed. From the study of Baird *et al.* (2007), as quoted by Sartorius *et al.* (2007:7), organisational factors such as necessary levels of training and performance management and compensation has been cited as one of the critical success factors in the implementation of ABC.

Certainly, there are success factors learnt from the literature analysis that are pertinent to the objectives of this study. Two essential characteristics of any successful implementation of an ABC system include support from top management and the design and the implementation should be the responsibility of a cross-functional team rather than of the accounting department (Garrison *et al*., 2008:314). The ABC data should be linked to how people are evaluated and rewarded. In addition, designing a good ABC system requires intimate knowledge of many parts of the organisation's overall operations (Garrison *et al*., 2008:314).

2.5.7 The extent and reasons for the adoption of ABC by firms

Activity-based costing system has been studied in recent years to find better ways of managing costs within organisations. ABC techniques can be applied to accomplish a wide variety of purposes, including budgeting, reduction of costs and the improvement of processes and activities as well as benchmarking and determination of customer profitability (Wessels and Shotter, 2000:216).

In spite of these far-reaching rewards associated with ABC, only a small proportion of SA companies have endeavoured to realise the benefits of the revolutionary costing and management technique (Wessels and Shotter, 2000:216). From the study of Wessels and Shotter (2000:216), it has been found that only 15.18% of the responding listed companies in SA have attempted to implement ABC.

In a study conducted by Sartorius *et al.* (2007:9), of the 181 responding Johannesburg Stock Exchange (JSE)-listed companies, only 21 had then implemented ABC. In the very same survey from the study of Sartorius *et al.* (2007:9), the study found an overall diffusion rate of ABC in SA to be 12%.

Amongst the most cited reasons in a study conducted by Sartorius *et al.* (2007:10) for the implementation of the ABC system by the SA companies were to obtain accurate costs, to control and minimise costs, to allocate costs correctly, to understand costs and cost setting activities, and to conduct customer and product profitability analysis.

Sartorius *et al.* (2007:1) conducted a survey-case study on the implementation of ABC in SA firms, and the results of the survey had shown that the extent of ABC implementation in SA is lower than that found in developed countries, but the evidence was inconclusive.

Sartorius *et al.* (2007:2) further asserts that, if ABC is successfully used to reduce the costs and increase the competitiveness of firms in SA, it may serve as an impetus to other African countries to adopt ABC and modernise their management control systems. In a similar survey of finance staff members of the SA Post Offices, it has been found that the implementation of ABC was mainly seen as positive (Correia *et al*., 2008:358).

Medscheme one of the leading SA medical scheme administrators was one of the first companies in health care to adopt ABC (Correia *et al*., 2008:358). The company had identified more than 1400 activities and 278 cost drivers (Correia *et al*., 2008:354). According to Correia *et al*. (2008:358), Medscheme adopted ABC due to competitive pressures in the sector.

From the real life situations as identified by Correia *et al*. (2008:360), the University of South Africa (UNISA) experienced significant budget deficits in the 1990s. According to Correia *et al*. (2008:360), a key cornerstone for UNISA, was the introduction of an ABC model and ensuring a buy-in from senior staff member where the university undertook 63 seminars to explain the workings of ABC.

The Principal and Vice-Chancellor, Professor Pityana, as quoted by Correia *et al*. (2008:360), stated that the institution has to date costed and mapped almost 10 000 activities. Having costed and mapped most of their activities, that had allowed UNISA to effect a much more focused and targeted financial strategy, as the Vice-Chancellor further explained the benefits of implementing ABC (Correia *et al*., 2008:360).

At an international level of benchmarking concerning the extent of ABC adoption by firms, it has been found that the extent of ABC adoption of a broad range of Unite States (US) companies has increased from 25% to 52% and that of United Kingdom (UK) companies has increased from 6% to 23% as reported by Sartorius *et al.* (2007:4).

Askarany, D., Yazdifar, H., and Askary, S (2009:238-248) mentioned that, in order to improve supply chain management and the performance of organisations by increasing the adoption of ABC in organisations, one of the main implications was that the adoption of ABC in smaller firms needs more attention compared with the larger firms regardless of industries.

The SAPC is a small-medium sized organisation, which according to Askarany *et al*. (2009:238-248) are ideal for the implementation and adoption of the ABC system. When the decision is made to implement ABC, non-manufacturing firms need more attention to proceed with higher level of ABC adoption (Askarany *et al.,* 2009:238-248).

There are various reasons cited in literature for the adoption of ABC in developed countries for example, the reasons cited by Sartorius *et al.* (2007:5) included the need for more accurate costs to support both strategic and tactical decisions and to understand the profitability of products and customers better. Isolated reasons as mentioned by Sartorius *et al.* (2007:5) included adopting ABC as a response to increased overheads.

Cost accounting reasons include improved product costing and superior allocation of overheads (Sartorius *et al.,* 2007:5). Performance measurement reasons as cited by Sartorius *et al.* (2007:5) included motivation and the measurement of product profits, departmental efficiency, and activity management.

2.6 TRADITIONAL COSTING VERSUS ACTIVITY-BASED COSTING

According to Seal *et al*. (2009:297), when measuring the resources consumed by products and other cost objects, the ABC system will provide a much better basis for decision making than a traditional cost accounting system that spreads overhead costs around without much regard for what might be causing the overhead.

Yereli (2009:573-575) mentioned in one of his studies that, rapid developments in information technologies and intense global competition have affected all types of enterprises. Yereli (2009:573-575) further mentioned that these emerging developments have revealed the inadequacy of traditional approaches in calculating service costs.

With the Traditional Costing Management (TCM) systems, only manufacturing costs (that is, direct materials, direct labour, and manufacturing overhead) are assigned to products (Garrison *et al*., 2008:328). TCM systems have become extremely inadequate since they continue to allocate overhead costs on a volume-driven basis such as labour hours or machine hours, which no longer depict the true consumption of resources in modern manufacturing and design (Lin *et al*., 2001:704).

According to Garrison *et al*. (2008:328), with TCM, manufacturing overhead costs are applied to products using a plant-wide overhead rate, which is computed using the following formula:

$$Plantwide\ overhead\ rate = \frac{Total\ estimated\ manufacturing\ overhead}{Total\ estimated\ allocation\ base}$$

In ABC, products are assigned all of the overhead costs whilst in Traditional Cost Accounting (TCA), a predetermined plant-wide overhead rate, as shown by the equation above, is applied to all the products (Garrison *et al*., 2008:328). In TCA, there is generally only one stage for allocation of the overheads to the cost objects, by using the plant-wide overhead rate (Baykasoglu & Kaplanoglu, 2008:310).

According to Qayoumi (2008) as quoted by Ismail (2010:41), TCM systems are focused on managing cost by means of cost-based budgets, standards and variances, established at the departmental or unit level, thus making the management accounting information to be too late, too aggregated, and too distorted to be relevant for managers.

The TCM approach tends to over- or underestimates the costs of products and services based on misleading measures, thus resulting in erroneous decisions (Ismail, 2010:41). Baykasoglu and Kaplanoglu (2008:310) quoted from the work of the authors Baykasoglu *et al*. (2003); Tsai and Kou (2004); Gunasekaran and Sarhadi (1998) mentioned that, there was a consensus about distortion of product costs when the accounting is performed by TCM, especially for the organisations where the proportion of overheads to total costs is high.

In today's business environment, continuing to rely exclusively on a limited number of overhead cost pools and traditional allocation bases posed the risk that reported unit product costs would be distorted and, therefore, misleading when used for decision-making purposes (Garrison *et al.*, 2008:312). Therefore, as proclaimed by Garrison *et al*. (2008:312), ABC costing system will provide an alternative to the traditional plant-wide and departmental approaches to defining cost pools and selecting allocation bases.

According to Garrison *et al*. (2008:310), TCM rely exclusively on allocation bases that are driven by the volume of production, whereas in ABC, different levels activities that do not necessarily rely on the volume of units produced. To stay competitive in the

emerging global markets, business must change the way they view their traditional business functions (Lin *et al*., 2001:702).

According to Ismail (2010:42), there is a growing body of literature, which argues that, compared with TCM; ABC offers important advantages to organisations. It is therefore imperative that the SAPC business processes be subjected to scrutiny and the resource-wasting activities be eliminated, in order to save costs on non-value adding processes, by exploring the benefits of implementing ABC.

According to Garrison *et al*. (2008:310), companies can use ABC rather than traditional methods to calculate unit product costs for the purpose of managing overhead and making decisions. They further explained that, activity-based costing system is designed to be used for internal decision-making. Numerous overhead cost pools are used, each of which is allocated to products and other cost objects using its own unique measure of activity (Garrison *et al*., 2008:310).

According to Lin *et al*. (2001:704), ABC does not replace the traditional accounting systems and records, but merely attempts to define the data aggregated in traditional accounts into a more advantageous decision-making form for managers. ABC is a preferred costing technique in logistics organisations, since it logically allocates costs to activities, which can then be meaningfully allocated to cost objects (Lin *et al*., 2001:705).

Drury (2009:198) in his study, reported that the partial costs reported by direct costing systems, and the distorted costs reported by traditional systems, may result in significant mistakes in decisions (such as selling unprofitable products or dropping profitable products). Drury (2009:198) further asserts that, if costs of errors arising from using partial or distorted information generated from these systems exceed the additional costs of implementing and operating an ABC system, then an ABC system ought to be implemented.

2.7 CHAPTER SUMMARY

This chapter focused on the published literature pertaining to the challenges and successes in the implementation of the ABC systems by various industries. It also focused on the theory behind the activity-based costing systems, its benefits, and drawback both in service and manufacturing firms.

Due to the difficulty of curbing the ever-escalating overhead costs in the service organisations, in using the ABC, as confirmed by Stapleton *et al*. (2004:596), firms are able to control and manage overhead costs efficiently and effectively. It is for that reason that in this analysis, the steps of implementing ABC were applied to the company's cost data in an effort to identify resource-wasting activities and strengthen those that create value for both the clients and the company.

It is therefore of imperative concern for management and all employees at all levels of the organisation, to seek and embrace cost minimising activities while not compromising on the quality of service or products provided to its subscribed membership and members of the public at large.

The following chapter will address the findings of the literature through the stated aim and objectives by applying proven ABC steps employed for successful implementation of the ABC systems. The stated objectives were designed to apply the steps for successfully implementing the ABC system for a predominantly service organisation, the SAPC.

CHAPTER THREE

THE APPLICATION OF AN ACTIVITY- BASED COSTING MODEL

3.1 INTRODUCTION

Based on the published literature, this chapter outlines the research design followed through in order to achieve the stated objectives in chapter one. The empirical approach to this analysis follows a stepwise approach on the implementation of ABC as published in the studied literature presented in the preceding chapters.

3.1.1 The South African Pharmacy Council (SAPC/Council)

The SAPC is a statutory Council established in terms of the Pharmacy Act No. 53 of 1974. It is an autonomous body, which receives no grants or subsidies from Government or any other source. Council is wholly funded by the profession who subscribes with it. The main consumers of its services are the registered members and members of the public. The public does not and is not expected to contribute financially to the functioning of Council.

The primary object of Council is to assist in the promotion of the health of the population of South Africa (SA). This object is achieved broadly speaking, in the fields of registration, education, practice, and professional disciplines in pharmacy. Council consists of committees (such as the Executive, Education, Practice, and Continuing Professional Development Committees) that report on all matters relating to their respective jurisdiction.

The Education Committee reports to Council on all matters relating to the establishment, development, maintenance and control of universally acceptable standards in pharmaceutical education and training, including the approval of providers of education and training and the courses offered by providers, examinations, the evaluation of educational qualifications and exemptions from examinations.

In order for the Education Committee to exercise its functions as mandated by Council, the Education and Training Department provides the Committee with the necessary

administrative and secretarial support. The next section deals with the main functions carried out in the Education and Training Department in order to fulfil the objects of Council.

These main functions were, in the later sections of this report, broken down into meaningful business processes that formed the fundamental elements used in the implementation of an ABC system for the Education and Training Department.

3.1.2 Broad functions of the Education and Training Department

The first major function of the Education and Training Department is to manage all activities aimed at declaring a person competent, prior to registration in terms of the Pharmacy Act. This function involves the administration of the processes pertaining to the undergraduate training of pharmacists, pharmacist internship programme, in-service training for Pharmacist's Assistants and the recognition of foreign qualifications.

Secondly, the department is also responsible for managing all the activities aimed at the accreditation and approval of providers and courses. The third function of the department is to provide the secretarial services to the Education Committee of Council through organising and managing the logistics involved in conducting Committee meetings and Task Teams.

The fourth main function includes the promotion of quality amongst the constituent providers of pharmacy education through a coordinated quality assurance programme for providers and courses. The last two main functions of the Education and Training Department involve the generation of standards for pharmacy related qualifications and managing of all Education and Training Quality Assuring (ETQA) related functions.

In the next section, an ABC system was implemented by breaking down these main functions into activities and processes performed in the department. This chapter seeks to develop and implement an activity-based costing model for the Education and Training department. Both financial and non-financial data was utilised in the analysis. A customised service-costing framework was investigated by applying the principles of ABC. An analysis of the department's service and customer profitability was also performed.

The following sections of this report present a comprehensive cost analysis of the activities performed in the Education and Training Department when services were produced.

3.2 GATHERING OF DATA

A retrospective analysis of both financial and non-financial data of the SAPC was performed. An analysis of historical data of the company to determine cost behaviour was conducted by identifying all costs incurred by the Education and Training Department.

All activities involved in the provision of the internship programme, recognition of foreign qualifications, in-service training of pharmacists' assistants and university inspections, were identified. These activities were then narrowed down into those activities that have the greatest impact on overhead costs, which are referred to throughout in this report, as main activities.

Cost drivers for each activity that caused costs to be incurred were also identified. The resources consumed in carrying out each activity were identified and their costs were used to assign costs to the activities and cost objects. The costs of the activities were assigned to the cost objects.

Various processes that involved numerous activities carried out by the Education and Training department were identified from the company's processes manual. Various source documents were also utilised to collect both financial and non-financial data and these documents included amongst others, the invoices, claim forms, service provider monthly statements, purchase orders, service requisition memorandum, the traditional ledger system of the organisation, procurement documents, QMS manual, budget documents, and other relevant documents.

Some of the information was acquired by conducting unstructured interviews with employees and through on-site direct observations to determine how much of a resource was consumed by the activity. Based on the working experience on some of these activities, estimations were also made to determine the average time required to

complete certain activities in order to allocate direct labour costs to activities and cost objects.

An ABC approach was applied to analyse the overhead costs that are incurred by the Education and Training Department in providing services to its registered members. The approach followed throughout the analysis of overhead costs incurred by Education and Training Department is presented in a stepwise manner as outlined by Garrison *et al*. (2008:316-327):

3.2.1 Identifying activities, activity measures and activity cost pools

Firstly, all the cost objects provided by the Education and Training Department were identified. Seven cost objects were identified and they included university inspections, provision of the internship programme, recognition of foreign qualifications, accreditation of providers and courses, monitoring the in-service training of pharmacists' assistants and managing of the RPL assessment processes. However, only costs associated with six cost objects could be analysed.

A bill of activities associated with each cost object was drawn. Only those activities that formed the foundation of each cost object were considered for the analysis. All the activities that were found to utilise similar cost drivers or activity measures were also grouped together into main activities.

These main activities were then narrowed down into activity cost pools for each cost object identified. An ABC approach was followed for tracing costs of services produced by the department. Overhead costs were divided into homogeneous cost pools where a single cost driver explained cost variations.

3.2.2 Assigning of costs to activities

Various source documents, which were also mentioned in the preceding sections, were used to collect both financial and non-financial information regarding the identified activities and activity cost pools. Resources consumed by various activities were assigned to those activities. The costs of the resources were assigned to the associated activities.

3.2.3 Computing of activity rates

After allocating overhead costs to activity cost pools, activity rates were then computed. Costs per unit of each cost pool were computed by dividing the total overhead costs determined through ABC by the total level of the corresponding activity.

3.2.4 Assigning of overhead costs to activity cost pools

In this step, overhead costs determined through ABC, were assigned to all cost objects identified in step one.

3.2.5 Preparing of management reports

Management reports that included service and customer profitability reports were prepared using the ABC data generated in the previous steps. The overhead costs prepared using an ABC approach, were also compared to the overhead costs reported on the company's general ledger.

The next section presents the application of the ABC steps to the company's financial data. Each cost object was addressed separately using the ABC steps presented above.

3.3 RESULTS AND DISCUSSION

3.3.1 The internship programme

Upon registration with Council, a pharmacist intern undergoes a battery of competency assessments, which are administered by the office of Council. Direct and indirect activities involved with the administration of the internship programme are shown in table 3.1 and a detailed bill of activities is presented in Annexure 3 to 24. The costs of conducting the competency assessments can be either direct or indirect.

Annexure 1 and 2 were omitted in this report, since the activities involved occur in another department and no sufficient information could be obtained to complete the analysis of costs incurred in that department. These two major activities include the

approval of premises for training and tutors. These two activities are performed in the Pharmacy Practice department of Council.

Table 3.1 presents a summary of identified main activities involved in the delivery of the internship programme to the registered interns. The competency assessments of the interns include the written pre-registration examination, submission of a professional portfolio and favourable progress reports. Pre-registration examinations are written three times in a year (that is, in March, June, and October).

The number of examinations conducted in one registration year was considered as the measure of the activity level for providing the cost object, the internship programme. The costs presented in table 3.1, are a breakdown of the main activities performed during the internship by the Education and Training Department of Council.

In order to establish a thorough understanding of the cost behaviour associated with the provision of the internship programme, these costs were further grouped into activity cost pools as shown in table 3.2 and figure 3.1. According to the historical data obtained from the register system of Council, an average of 400 interns registered for the internship programme each year.

Table 3.1 shows the 21 main activities involved in the provision of the internship programme by the SAPC. However, three of these main activities fall outside the jurisdiction of the Education and Training Department. These main activities include the approval of premises for training of interns, the approval of tutors or preceptors, and the registration process of the interns. Of these three, only the costs of registering the intern could be estimated using the ABC approach.

Table 3.1: Cost object, main activities, activity measures and estimated overhead costs associated with the provision of the internship programme

Cost Object	Main Activities	Activity Measures	Level of Activity	Overhead Costs/unit	Total Overhead Cost	% Resource consumed
Internship Programme	Intern registration	No. of interns	350	R 71	R 24 808	5.2%
	Secure exam venues	No. of exams	3	R 457	R 1 372	0.3%
	Appoint invigilators	No. of exams	3	R 571	R 1 714	0.4%
	Appoint examiners	No. of exams	3	R 253	R 758	0.2%
	Appoint moderators	No. of exams	3	R 227	R 680	0.1%
	Evaluate exam applications	No. of exams	3	R 3 477	R 10 430	2.2%
	Set exam paper	No. of exams	3	R 2 967	R 8 900	1.8%
	Moderate exam paper	No. of exams	3	R 1 476	R 4 428	0.9%
	Conduct examinations	No. of exams	3	R 9 606	R 28 819	6.0%
	Mark scripts	No. of exams	3	R 9 164	R 27 493	5.7%
	Moderate scripts	No. of exams	3	R 611	R 1 833	0.4%
	Prepare exam results	No. of exams	3	R 2 658	R 7 973	1.7%
	Assess portfolios	No. of portfolios	350	R 315	R 110 208	22.9%
	Moderate portfolios	No. of portfolios	350	R 25	R 8 711	1.8%
	Prepare portfolio results	No. of portfolios	350	R 15	R 5 148	1.1%
	Conduct supp. evaluation	No. of evaluations	1	R 14 764	R 14 764	3.1%
	Evaluate progress reports	No. of reports	1700	R 20	R 34 113	7.1%
	Evaluate cession of contract	No. of applications	20	R 47	R 935	0.2%
	Evaluate delegation of training	No. of applications	20	R 47	R 935	0.2%
	Conduct workshops	No. of workshops	20	R 8 028	R 160 565	33.4%
	Conduct meetings	No. of meetings	6	R 4 423	R 26 540	5.5%
TOTAL					**R 481 128**	**100.0%**

Supp- Supplementary; No-Number

The cost calculations for each activity are shown in Annexure 1 to 24 appended to this report. According to the results of the ABC analysis, the average cost of providing the internship programme in one registration year is R481 128 (Table 3.1). The estimation of the levels of activity for each activity cost pool identified was based on the current practice and the policy of Council on the frequency of offering such services.

The 21 main activities presented in table 3.1 were grouped together to produce four activity cost pools as shown in table 3.2. Conducting of workshops and the portfolio assessment consumed R160 565 and R124 067 respectively of the resources allocated for the internship programme (Table 3.2). These activities consumed the most resources allocated to the provision of the internship.

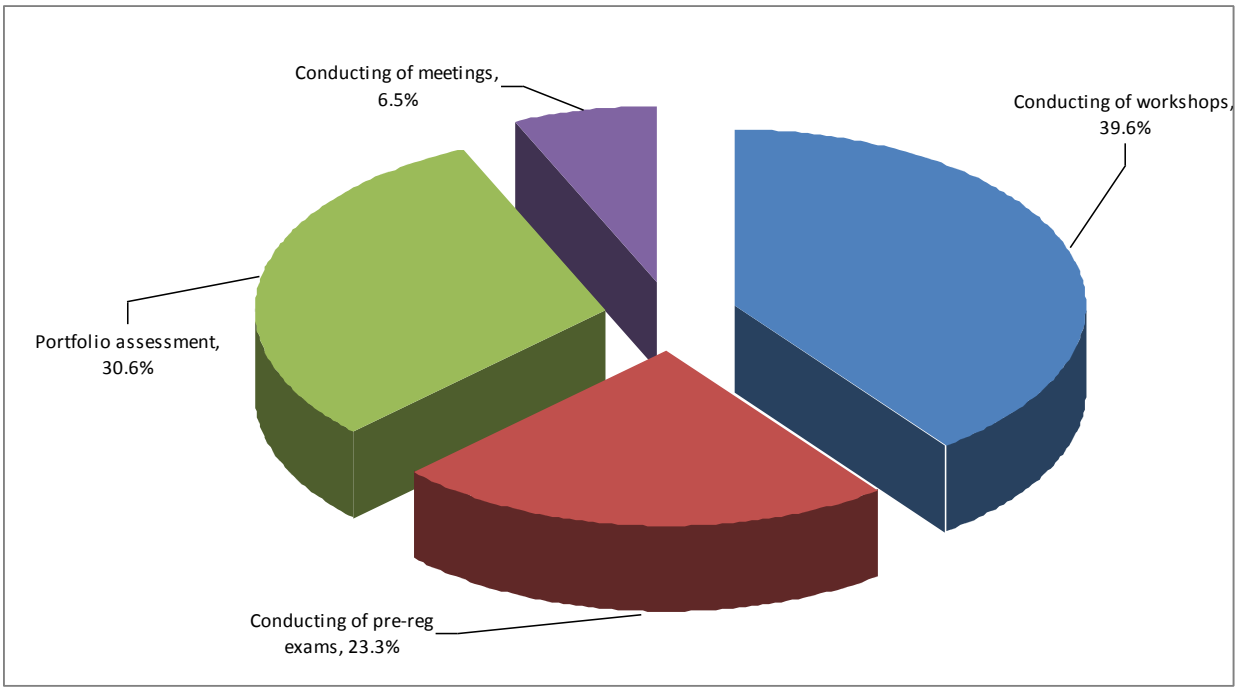
Table 3.2: An abstract of major activity cost pools for the internship programme

Activity Cost Pools	Activity measure	Level of activity	Unit cost/Rate	Total cost	% cost
Conduct workshops	No. of workshops	20	R 8 028	R 160 565	39.6%
Portfolio assessment	No. of portfolios	350	R 354	R 124 067	30.6%
Pre-registration exam	No. of exams	3	R 31 467	R 94 401	23.3%
Conduct meetings	No. of meetings	6	R 4 423	R 26 540	6.5%
Total Costs				**R 405 574**	**100.0%**

No- Number

The costs presented in table 3.2 and figure 3.1, are an abstract of the total cost of providing the internship programme as presented in table 3.1. From the cost analysis presented in table 3.2 and figure 3.1, conducting of the workshops and the assessment of the portfolio consumed the most resources allocated to the provision of the internship programme (that is 39.6% and 30.6% respectively as shown in table 3.2). Conducting of meetings was found to consume the least resources allocated to the provision of the internship programme (6.5%).

Figure 3.1: Resource consumption by activity cost pools of the internship programme



There are three types of workshops (that is, one train the facilitator, twelve intern and tutor and eight information session workshops) conducted by Council and all of which are meant to support the interns during their training. The average cost of conducting one train the facilitator workshop, one tutor/intern workshop, and one information session workshop was found to be R14 320.96, R7 669.87 and R2 093.26 respectively (as shown in Annexure 22).

According to the examination records of Council, an average of 350 portfolios was assessed during the internship registration year, 2010. Most of the costs associated with the assessment of portfolios were due to the logistics involved, which included the courier services costs. Portfolio-handling costs, which included portfolio assessment, portfolio moderation, and preparation of portfolio results, are depicted in Annexure 15, 16, and 17 respectively.

A detailed discussion on the cost analysis of these four activity cost pools (that is, conducting of workshops, portfolio assessment, conducting of the pre-registration examinations and conducting of meetings) is presented in the sections that follow.

Having considered the percentage distribution of resources allocated to the provision of the internship programme, attention is now focused on the actual causes of these overhead costs.

3.3.1.1 Overhead costs associated with the conducting of the internship workshops

There are three types of workshops conducted by Council during the delivery of the internship programme. These workshops are meant to support the interns during their pre-registration year. These workshops include the intern and tutor empowerment, train the facilitator and the information session workshops.

These workshops are conducted from the fourth academic year of training as a pharmacist during the undergraduate programme. The aim is to provide the prospective interns with the information regarding the administrative requirements of Council during the internship and the assessments conducted by Council during the pre-registration year.

The second type of the workshop is aimed at training the facilitators on how to present/facilitate the workshops for the interns regarding the pre-registration assessments in a more standardised manner. The third type of the workshop is the actual internship workshops aimed at empowering the interns themselves and assisting the tutors as well.

There are 20 workshops conducted in total during the delivery of the internship programme (eight information session workshops, one train the facilitator workshop and eleven intern and tutor empowerment workshops). To conduct these workshops, an average of R2 093.93, R14 320.96 and R7 669.87 for the information session workshop, train the facilitator workshop and the intern and tutor empowerment workshop were incurred respectively (Annexure 22 shows the detailed computation of these costs).

The workshops conducted during the internship appeared to consume the most resources during the provision of the internship programme. Workshops consumed 39.6% (Figure 3.1) of the total resources allocated to the internship programme. Although this analysis did not quantify the workshop content, it appears though that the content pertains largely to the portfolio. Therefore, there would be some portfolio costs that could be traced to the cost of conducting the workshops (indirect portfolio-assessment costs), hidden in the workshop costs.

3.3.1.2 Overhead costs associated with the assessment of the portfolio

Costs associated with the assessment of the portfolio include marking costs, moderation costs, and the costs of preparing the results.

3.3.1.2.1 Costs of marking the portfolios

When considering all the main activities involved in the portfolio administration, portfolio assessment activities consumed 30.6% of the resources allocated to the Education and Training department as compared to other activity cost pools in the internship programme (Figure 3.1).

It is worth noting that there are sub-activities (as shown in Annexure 15, 16 and 17) involved in the management of the portfolio assessment. Portfolios are couriered to and from the assessors who are located throughout the country. According to the records of Council, 350 portfolios in total were assessed during the internship registration year, 2010.

The average cost of assessing a portfolio, which includes handling by the staff members in the office, the actual assessment costs and the courier services costs is R314.88 per portfolio (computation shown in Annexure 15 and 24). For the courier services company, it appears though that they measure cost drivers for providing the service in terms of courier distance, petrol, weight and/or the dimension of the parcel. However, for the purpose of this analysis, the number of portfolios assessed caused costs to be incurred.

The average weight of a portfolio couriered was computed to be 1.8kg and its average courier costs were computed as R116.6 per portfolio (Annexure 15). The cost of handling the portfolio by the relevant staff members in the office was computed as R198.28 per portfolio (Annexure 15).

3.3.1.2.2 Costs of moderating a portfolio

The costs of moderating a portfolio are shown in Annexure 16 of this report. When applying the policy of Council on the selection of portfolios for moderation, an average of 40 portfolios were moderated for the registration year, 2010. A moderator of the portfolio claims a fee of R95 per portfolio moderated. Because not all portfolios that are assessed are actually moderated, the average costs of moderating 40 portfolios (R8 711) was computed as shown in Annexure 16. This cost was spread amongst all the portfolios assessed (350) to derive the average cost of moderating one portfolio (R24.89).

3.3.1.2.3 Preparation of portfolio results

The analysis of the costs of preparing the results of a portfolio is shown on Annexure 17. The costs of preparing the results per portfolio assessed were found to be R14.71. This cost included the actual data manipulation using excel spreadsheets by the education practitioner and subsequent checking, verification and approval by the manager, senior manager and the registrar respectively.

All portfolios received for assessment are posted back to the interns once they have been assessed, moderated and the results have been approved and released. Posting of these portfolios, back to the interns consumes resources in terms of the shipment

material used and the mailing services costs charged by the Post Office. An amount of R13.90 per portfolio posted was incurred for a normal mailing service using a size 7 Giffy.

Interns are notified of the portfolio results by a Short Message Service (sms) that is sent through the register system, which is charged at a standard message cost of R0.22 per sms sent. In addition to the cost of mailing services, there are costs incurred due to returned mail. For the year 2010, 100 portfolios were returned and some have been re-posted after the addresses were confirmed by calling the interns.

3.3.1.3 Overhead costs associated with conducting the pre-registration examinations

There are three examinations conducted by Council in one pre-registration year. There are a number of sub-activities involved during the conducting of the pre-registration examinations. According to table 3.1, there are 11 main activities identified, that were involved with the conducting of pre-registration examinations.

These activities include securing of examination venues, appointing of invigilators, appointing of examiners and moderators, evaluating examination application forms, setting the paper, moderating the paper, conducting of the examinations, marking of the scripts, and preparing of the results. A detailed cost analysis of each main activity is presented below:

3.3.1.3.1 Securing of pre-registration examination venues

For the three examinations that are conducted, an average of 20 venues was secured on an annual basis. The activity of requesting examination venues involves calling the individual contact persons at the venues, most especially the pharmacy schools, hospitals, and community centres in all provinces. Telephone costs are incurred and the estimated call duration is five minutes.

Once the venues have been confirmed, they are captured on the register system to create an exam. An estimated time to capture the venue details on the register system by the Education practitioner is five minutes. The resource consumption by some of the

steps in the process as shown in Annexure 4 are negligible, hence no time has been allocated to these steps.

Labour hours appeared to be a resource consumed the most when carrying out the activity of securing examination venues. The cost of securing one venue by members of staff in the Office has been computed as R68.62 per venue according to Annexure 4 using the employee's normal wage rates. Labour time was converted from minutes to hours in order to compute the cost of securing the venue per hour. The cost of securing the venue per hour was then added to the venue leasing cost to arrive at the cost of securing one venue of R68.62.

3.3.1.3.2 Appointment of invigilators

Examinations are conducted at different examination centres, which are arranged prior to the examination. Invigilators are appointed for each centre. Invigilators are paid at a rate of R100.00 per hour for a 3 hours examination. An average of 12 invigilators was appointed per examination conducted during the pre-registration year. The activity of appointing invigilators per examination consumed R571.18 of resources as shown in Annexure 5. The only direct material costs incurred for appointing the invigilators included the postage material costs to a value of R 18.52 (Annexure 5).

3.3.1.3.3 Appointment of pre-registration examiners

The process cost of appointing examiners was found to be R158.21 per hour (Annexure 6). The cost of appointing examiners was spread amongst three exams conducted. The computed cost of appointing examiners for one examination was found to be R252.83 per examination conducted (Annexure 6).

3.3.1.3.4 Appointment of pre-registration moderators

Every examination paper is moderated. The cost of carrying out the process of appointing moderators was computed as R134.52 per hour for every moderator appointed (Annexure 7). Similar to the process of appointing examiners, there were direct materials costs associated with postage, to the value of R181.90. Although Council would finally appoint one moderator, there were also indirect costs involved

prior to the appointment of a moderator. These costs included the costs of inviting potential moderators from pharmacy schools and hospitals around the country. A detailed activity and cost analysis for the appointment of moderators is shown in Annexure 7 of this report.

3.3.1.3.5 Evaluation of pre-registration examination applications

An average of 155 applications per examination was received during the pre-registration period, 2010. To evaluate these applications, an amount of R3 358.70 per examination conducted was expensed. Prior to sitting for the examinations, interns are required to do so by applying to sit for the examination at least one month in advance. According to the computations as shown in Annexure 8, R3 476.7 worth of resources were consumed in processing 155 application per examination conducted. An average of R22.43 was required to process one application.

Processing of these applications was based on the criteria set out by Council for candidates to qualify to be admitted to the examination. The process of evaluating the examination applications by the personnel, involved entries made on the register system when creating the examination. Once the examinations were created on the register system, confirmation was sent to the interns via sms or postal services. A detailed cost computation for this activity is presented in Annexure 8.

3.3.1.3.6 Setting of the pre-registration examination paper

Setting of the examination paper is done for every examination conducted. The average process cost of setting one examination paper with all activities involving personnel was computed as R13.14 per hour (Annexure 9). The pre-registration examination paper has four sections (A, B, C, and D) and examiners claim according to the sections they set. The first examiner produced the first draft of the paper at a total cost of R1 311.76 per examination paper which was then reviewed by the second examiner at a total cost of R1 013.40 per examination paper.

However, the second examiner was also responsible for setting the entire section D, which he/she claimed the full amount of R357.75. The total cost of setting one examination paper was found to be R 2966.70.

3.3.1.3.7 Moderation of the pre-registration examination paper

The moderator moderates all sections of the paper including section D and claims a sum of R834.4 per paper (Annexure 10), for doing the moderation work on the draft paper. In addition to the moderation work done on the paper, there is a review committee referred to as the pre-registration task team, which also reviews the paper over a teleconference.

The average cost of hosting a teleconference is R621.90 per examination paper reviewed (Annexure 10). On average, added together, an amount of R1 475.94 of resources was consumed to moderate and/or review one pre-registration examination paper. The cost computations for moderating the examination paper are presented in Annexure 10.

3.3.1.3.8 Conducting of the pre-registration examinations

Conducting of the examinations forms the most critical activities within the service of offering the entire internship programme. The handling of the examination paper requires careful consideration to high quality and security measures. The manager spends 3.5 hours supervising the printing and the preparation of the shipment of the papers to the exam venues (Annexure 11).

During the examination, an average of R3 951.59 was consumed for 35 hours of the invigilation required at the venues per examination conducted (process cost as shown in annexure 11). This was based on the average labour hours required for sufficient invigilation at the venues when conducting an examination.

The entire process of handling the examination paper within the office including the invigilation required is R5104.78. The total amount of time claimed by the invigilators for each examination uses an average of 12 invigilators for duration invigilation required was found to be R5 104.78. The total amount of time claimed by the invigilators for each examination requires an average of 12 invigilators for a total duration of 2100 minutes. The direct cost of materials (R1 300.75) utilised for each examination was calculated from the amount of resources consumed, such as the sheets used to print the paper and other related costs (Annexure 11).

Once the papers have been printed, they are couriered to and from the examination venues at an average cost of R3 200.87 per examination. Annexure 11 presents a detailed and comprehensive analysis of the costs associated with the conducting of the examinations.

All the examinations are supposed to be captured onto the register system. The costs of capturing the examinations were not traced to the internship programme. These are additive overhead costs incurred for conducting the examinations, which could not be traced to the identified cost object, the internship programme.

3.3.1.3.9 Marking of the pre-registration examination scripts

After the examinations scripts have been received from the examination centres, they are couriered to the examiners for marking. Courier services costs were incurred and assigned as overhead costs to the activity of marking scripts. Examination scripts are also couriered back to the office once the marking has been completed. All calculations relating to the costs of marking of the examination scripts are shown in Annexure 12.

Examiners claimed a fee of R40.00 per examination script marked. An average of 155 scripts was marked per examination (Annexure 12). Averages have been used as the measures of central tendency for most calculations. Since exams are conducted three times in a year, the average cost per exam has been computed. The average cost of marking the exam scripts per examination was found to be R9 164.40 (Annexure 12).

3.3.1.3.10 Moderation of the pre-registration examination scripts

When selecting scripts for moderation, Council employs a rule of 1 in 10. Therefore, one in every 10 scripts was randomly selected for moderation per examination conducted. Out of 155 scripts that were marked per examination, an average of 16 scripts was moderated per examination conducted. The average cost of moderating the scripts per exam was computed as R611.03 (Annexure 13).

3.3.1.3.11 Preparing the examination results

The preparation of examination results included processing of marks obtained by pharmacist interns using Microsoft Excel spreadsheets by the Education Practitioner. The labour hours of preparing the results by the Education Practitioner takes longer (that is, 880 minutes as shown in Annexure 14). Due to the importance of the process, the process involved senior personnel such as checking and counter-checking by the manager, senior manager and the Registrar.

After the results have been prepared, checked, and approved, they are released to the interns at an average cost of R34.17 per exam. Once the results are approved and released, interns are informed of the examination results through the sms and a letter at an average cost of R1 088.89 per examination conducted (Annexure 14).

3.3.1.4 Conducting of the meetings

Meetings accounted for the smallest proportion of the total costs incurred for delivering the internship programme to the registered interns. The resources consumed by conducting meetings with respect to the cost of the internship programme, was based on the percentage of the agenda items discussed during the meetings that relates to decisions impacting on the internship programme.

There are three types of meetings that were considered for this analysis which included the Education Committee meeting, Heads of Pharmacy Schools meeting and the meeting of the Assessors of Portfolios. Table 3.3 shows the average cost of resources consumed by the activity of conducting meetings (a detailed computation is shown in Annexure 23).

The most notable resources consumed by the activity of conducting these meetings included the flight expenses, travelling allowances, accommodation, catering costs, locum tenens, preparation fees, and parking allowances (Annexure 23). Preparation fees includes all the time taken to prepare for the meeting which includes reading of the working documents and preparing of reports or any other policy or working documents for discussion at the meeting.

Table 3.3: The average cost of conducting meetings

Meetings	No. of meetings (A)	% internship items/meeting (B)	Total costs per/meeting (C)	Internship costs/meeting (D)
Education Committee	4	17%	R 37 022.47	R 6 205.26
Heads of Schools Committee	1	10%	R 18 940.48	R 1 894.05
Assessors of Portfolios	1	100%	R 5 170.90	R 5 170.90
Average internship cost/meeting	6		**R 20 377.95**	**R 4 423.40**

[where internship cost/meeting (D) = B* C]

The material costs included the costs of producing meeting documentation and its associated courier services costs. The Education Committee meeting appeared to consume the most resources (that is, R37 022.47) allocated to the activity of conducting of meetings. The meeting of the Assessors of Portfolios consumed the least resources (that is, R5 170.90) allocated for the activity of conducting of meetings.

3.3.2 Recognition of foreign qualifications

Provision of this cost object by Council involves a meticulous exercise of evaluating the supporting documentation that is accompanying the application. Council endeavours to deliver quality to the people of South Africa. It is therefore imperative that Council satisfies itself as to whether the people who obtained their qualifications outside the Republic are competent to practise as such in South Africa, thus fulfilling its mission, that of ensuring the provision of quality pharmaceutical services to all people of SA.

Table 3.4 presents a breakdown of the costs involved in the process of recognising foreign qualifications into its main activities and the associated costs. The activity that appeared to consume the most resources (26.6%) is that of conducting the professional examinations.

The process cost of conducting one examination was computed to be R4 802.96 (Annexure 33). This cost involved printing of the paper, couriering of the paper to the venues and back, and the required invigilation at the examination centres. Securing the exam venues consumed the least resources (0.3%) allocated for conducting the professional examinations.

Table 3.4: Cost object, main activities, activity measures and estimated overhead costs for the recognition of foreign qualifications

Cost Object	Main Activities	Activity Measures	Level of Activity	Overhead Cost per unit	Total Overhead Cost	% Resource Consumed
Recognition of Foreign Qualifications	Evaluate credentials	No. of applicants	8	R 317	R 2 536	4.6%
	Secure exam venues	No. of exams	2	R 76	R 152	0.3%
	Appoint invigilators	No. of exams	2	R 698	R 1 395	2.6%
	Appoint examiners	No. of exams	2	R 195	R 389	0.7%
	Appoint moderators	No. of exams	2	R 195	R 389	0.7%
	Process exam applications	No. of exams	2	R 1 497	R 2 994	5.5%
	Set paper	No. of exams	2	R 4 518	R 9 035	16.5%
	Moderate paper	No. of exams	2	R 2 629	R 5 258	9.6%
	Conduct examinations	No. of exams	2	R 7 266	R 14 533	26.6%
	Mark scripts	No. of exams	2	R 3 582	R 7 164	13.1%
	Moderate scripts	No. of exams	2	R 1 670	R 3 340	6.1%
	Prepare exam results	No. of exams	2	R 953	R 1 906	3.5%
	Conduct meetings	No. of meetings	4	R 1 401	R 5 603	10.2%
TOTAL					**R 54 695**	**100.0%**

No. - Number

For Council to deliver the cost object, recognition of foreign qualifications, 13 main activities were performed (Table 3.4). Of these activities, 11 activities relates to the conducting of professional examinations. Due to the relatedness of these 11 activities, they were then further grouped together as shown in table 3.5 into an activity cost pool, conducting of professional examinations. Two examinations conducted in one registration period, were used as the measure for the level of activity in this cost pool.

Therefore, there were three activity cost pools identified for the recognition of foreign qualifications namely, evaluation of credentials, conducting of professional examinations, and conducting of meetings (Table 3.5). According to table 3.5 and figure 3.2, the activities related to the conducting of the professional examinations consumed 85.1% of the resources allocated to the cost object. Conducting of meetings and evaluation of credentials consumed 10.2% and 4.6% of the allocated resources respectively.

Table 3.5 presents the amount of resources consumed in monetary terms. Although the process of evaluating the credentials appears to be more complex and meticulous, it consumed the least resources (4.6%) as shown in table 3.5 below.

Table 3.5: Activity Cost pools for the recognition of foreign qualifications

Activity Cost pool	Activity measure	Level of activity (A)	Unit cost (B)	Total cost (C)	% cost (D)
Conduct prof. exams	No. of exams	2	R 23 278	R 46 555	85.1%
Conduct meetings	No. of meetings	4	R 1 401	R 5 603	10.2%
Evaluate credentials	No. of applicants	8	R 317	R 2 536	4.6%
Total Costs				**R 54 695**	**100.0%**

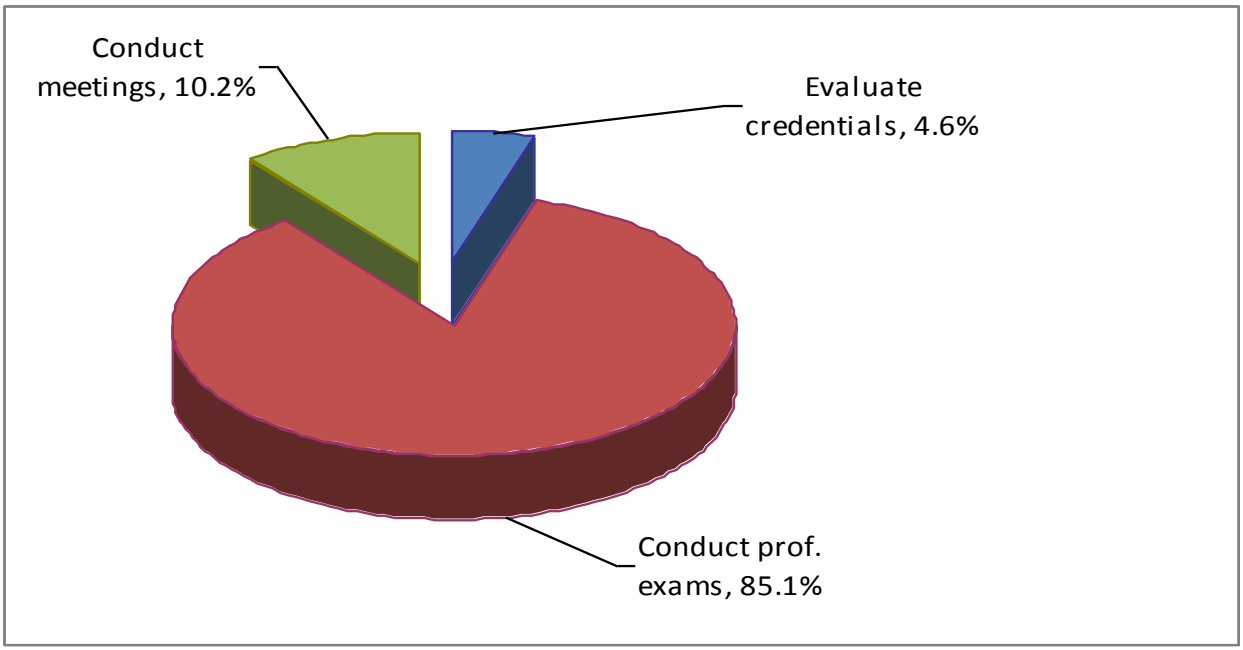
Prof. – Professional [where C = A*B and D = C/R54 695*100]

Conducting of the Education Committee meetings was also considered as an important activity in this cost pool, since the Education Committee takes the decisions regarding the applications for recognition of foreign qualifications. The Education Committee meetings consumed 10.2% of the resources (Figure 3.2) allocated to the delivery of the cost object, recognition of foreign qualifications.

The costs of conducting the committee meetings were based on the number of items tabled for discussion in the agendas of the committee (Annexure 25). For all the meetings conducted by the Education Committee, the item, recognition of foreign qualifications, represented an average of 3.78% of the total number of agenda items discussed per meeting (Annexure 25).

Therefore, R1 400.86 which is 3.78% of the average Education Committee meeting costs (R 37 022.47), was assigned to the activity of recognising foreign qualifications (see Annexure 25 for details on the cost computations). Under normal circumstances, there are four committee meetings scheduled every year. The number of meetings conducted appeared to be the major cost driver, since costs were incurred for conducting the meetings irrespective of the number of applications evaluated.

Figure 3.2: Resource consumption for recognition of foreign qualifications



Prof. - Professional

3.3.2.1 Conducting of the professional examinations

Conducting of the professional examinations consumed 85.1% of the resources allocated to the cost object (figure 3.2). This activity follows the evaluation of foreign qualifications by the Office and the Education. Council conducts four types of examinations for these candidates. These examinations are made up four disciplines, Pharmacy Practice and Administration, Pharmacology and Toxicology, Pharmaceutics and Pharmaceutical Chemistry and Pharmacy Law and Ethics. For every discipline, Council appoints an examiner and the moderator both at the same process cost of R134.52 per moderator and/or examiner appointed (Annexure 28 and 29 shows the detailed cost computations).

After the process of setting the examination paper has been concluded and before the papers can be printed, the papers were reviewed over the teleconference by the examiner and the moderator. Then the paper will be finalised and printed under the supervision of the Education and Training manager and then couriered to the examination venues (Annexure 33). Invigilators are appointed to ensure the smooth running of the examinations and to ensure that candidates adhere to the examinations rules at the venues. Invigilators were paid at a rate of R100.00 per hour.

The duration of each paper is three hours and the examinations are conducted twice a year, in June and October. Cost computations were then based on the average cost of conducting one examination. Conducting of examinations incurred costs irrespective of the number of candidates that sat for each of the examinations conducted; hence, the chosen cost driver was the number of examinations conducted and not the number of candidates who wrote the examination. Costs varied with the number of examinations conducted.

Candidates applied to sit for the examinations at least a month in advance. Once the examinations are written, papers were couriered from the venues to the Office, from the Office to the examiners and from the moderators back to the office. The logistical activities consumed resources. The costs incurred by the courier services when carrying out the activities of conducting the examinations, marking the scripts, and moderating the paper are shown in Annexure 34, 35 and 36 respectively.

Once the process of marking and moderating the examinations scripts is completed, the results are prepared and released at a cost of R952.87 per examination conducted (Table 3.4). A complete calculation on this activity costs, is presented in Annexure 37.

3.3.2.2 Conducting of meetings

Conducting of the meeting consumed 10.2% of the resources allocated to the cost object, recognition of foreign qualifications (figure 3.2). Apart from other matters that the committee discusses, the committee is also required to make decisions regarding these applications. Based on the number of agenda items that were tabled for consideration by the Education Committee, the average cost of evaluating the qualifications per meeting was found to be R1 400.86. This cost is based on the overhead costs incurred by conducting the meeting. In every meeting that was conducted since 2008, there has been an item on the Education Committee agenda regarding the evaluation of foreign qualifications.

However, the number of applications has been varying for every meeting conducted. An average of the number of applications per meeting has been computed and was found to be seven applications per meeting (Annexure 25). The activities involved in the process of evaluating foreign qualifications consumed R325.65 per application.

The material costs (R1 392.40 per meeting) involved in this process included the costs of materials used for compiling a separate volume of supporting documents for every application as shown in Annexure 23. Every member of the committee gets a copy of the separate volume of application documents.

3.3.2.3 Evaluation of the credentials

Evaluation of credentials makes the initial main activity performed in the recognition of foreign qualifications. This cost pool consumed 4.6% of the resources allocated for the cost object, recognition of foreign qualifications (figure 3.2). On average, seven applications were compiled per meeting, for consideration by the Education Committee as shown in Annexure 25. The processes of evaluating foreign qualifications starts by the compilation of the supporting documentation from the applicant by the customer care official. This activity requires a special attention to the documentation supplied to ensure that it is correct, valid, and authentic.

Therefore, due attention is required for the detail and the correctness of the documentation supplied. Further clarification on some of the documents might be sought from the applicant since some of them are supplied in their original or foreign language. Compiling one application consumes a considerable amount of the time resource. It takes an average of 75 minutes to evaluate one application at a process cost of R136.77 (Annexure 25).

After compiling the supporting documentation by customer care, the application is forwarded to the manager Education and Training who evaluates it for compliance. This includes reading through the supplied documents. The manager Education and Training then files the applications for further evaluation by the Education Committee, which will either recommend or reject the application. Council approves the recommendations made by the Education Committee for every application. For this analysis, costs of conducting Council meetings were not traced to all the identified cost objects, including the recognition of foreign qualifications.

A set of 11 documents are received by a customer care clerk for each application received (Annexure 25). Receiving of these documents involved stamping and

acknowledging receipt of the documentation. The documents required by Council include the following:

- the application form and proof of payment
- the identity document or passport;
- SAQA evaluation certificate;
- a copy of the qualification
- a letter from the examining body where the qualification was obtained;
- a letter of good standing from the Council where the candidate was practising;
- proof of practical training;
- a syllabus and
- a letter of support from the Department of Health (DOH).

Checking of all these documents by customer care officials, takes an average of 35 minutes per application. The amount of time required was not based on checking an individual document, but for the entire set of documents (11 documents, Annexure 25). An average of R136.77 was found to be consumed during the processing of one application by the office.

3.3.3 Monitoring of Pharmacists Assistants' in-service training

Pharmacy support personnel are required to register with Council during their in-service training. As an ETQA, Council needs to ensure that their training is of the required standard. To ensure that the same standard is achieved across the board with regard to the training of assistants, they are required to submit to Council progress reports. Table 3.6 presents the Cost object, main activities, activity measures, and estimated overhead costs consumed for monitoring the in-service training of Pharmacists Assistants

Table 3.6: Cost object, main activities, activity measures and estimated overhead costs for monitoring the in-service training of Pharmacists Assistants

Cost Object	Main Activity	Activity Measure	Estimated Level of Activity	Estimated Overhead Cost/Unit	Estimated Overhead Cost	% Resource Consumption
Monitoring of Assistants in-service	Evaluate progress reports	No. of reports	2960	R 20.07	R 59 396.10	100.0%
TOTAL					**R 59 396.10**	**100.0%**

Every learner is required to submit two progress reports during their training. These reports were processed by the members of the office at a cost of R13.28 per report (Annexure 37). Based on the number of learners previously registered with Council in the year 2010, 540 and 940 learner basic and learner post basic Pharmacists' Assistants respectively were enrolled on the register of Pharmacists' Assistants.

After the report has been processed, feedback is provided to the learners. Provision of this feedback consumes resources to the amount of R6.79 per feedback provided on each report (Annexure 37). The material costs of providing feedback to the learners include the cost of the A4 sheet, envelope, and the postal services.

The major cost driver in this cost object was the number of reports required. From an average of 540 and 940 registered learners, 2960 reports were estimated to be processed. Therefore the total estimated overhead costs incurred for evaluating progress reports submitted by learners was R59 396.10. An average cost of evaluating one report was computed to be R20.07 (Annexure 37 and table 3.6).

3.3.4 Conducting of university inspections

The fourth cost object that was analysed was the inspection of the providers of the Bachelor of Pharmacy qualification (BPharm) that is, the higher education and training institutions. University inspections are conducted to monitor the quality of the delivery of the BPharm programme by pharmacy schools. There are eight pharmacy schools accredited by Council in SA.

Council inspects each institution once in a cycle of four years. Table 3.7 presents the cost object, main activities, activity measures, and estimated overhead costs associated with the activity of inspecting universities. To co-ordinate one university inspection by

the office, R9 667 worth of resources was expensed. The process cost per university inspection arranged was found to be R9 667 per inspection conducted at the Pharmacy School (Annexure 38 and 39).

Table 3.7: Cost object, main activities, activity measures and estimated overhead costs for University inspections

Cost Object	Main Activities	Activity Measures	Level of Activity	Overhead Cost/unit	Total Overhead Costs	% Resource Consumption
Inspection of Universities	Manage inspection process	No. of inspections	2	R 9 667	R 19 334	32.6%
	Conduct inspections	No. of inspections	2	R 18 082	R 36 165	61.0%
	Conduct meetings	No. of meetings	2	R 1 891	R 3 781	6.4%
TOTAL				**R 29 640**	**R 59 280**	**100.0%**

No. –Number

The calculations of costs incurred during the inspection of the universities are shown in Annexure 38 and 39. In 2010, three monitoring inspections were conducted. According to the general ledger (Annexure 40), R54 246.82 of overhead costs was incurred for conducting three university inspections in the fiscal year 2010. However, based on the ABC analysis of the total costs incurred for conducting three university inspections, R59 280 of resources were consumed. It appears though, that there was an understating of the overhead costs as reflected on the general ledger.

The actual conducting of the university inspections consumed R 18 082 of resources allocated for the inspection of universities (Table 3.7, Annexure 38 and 39). This cost included the flight expenses for the panel that is visiting the university, accommodation for the panel, travelling allowance, courier services costs of sending the report and the language editing costs of the final report. Council conducts two inspections on average each year. Once the inspection is completed, a report is compiled which is approved at the meeting of the Education Committee. According to table 3.7, an average of R29 640 was consumed per university inspection conducted during the fiscal year, 2010.

Since two inspections are normally conducted annually, it therefore requires two Education Committee meetings to approve the reports. The costs of conducting the Education Committee meetings were traced to the cost object, inspection of universities. The costs associated with the conducting of the Education Committee meetings that was assigned to the university inspections was R1 891 per meeting (Table 3.7, Annexure 38 and 39).

3.3.5 Summary of overhead costs incurred by the Education and Training Department

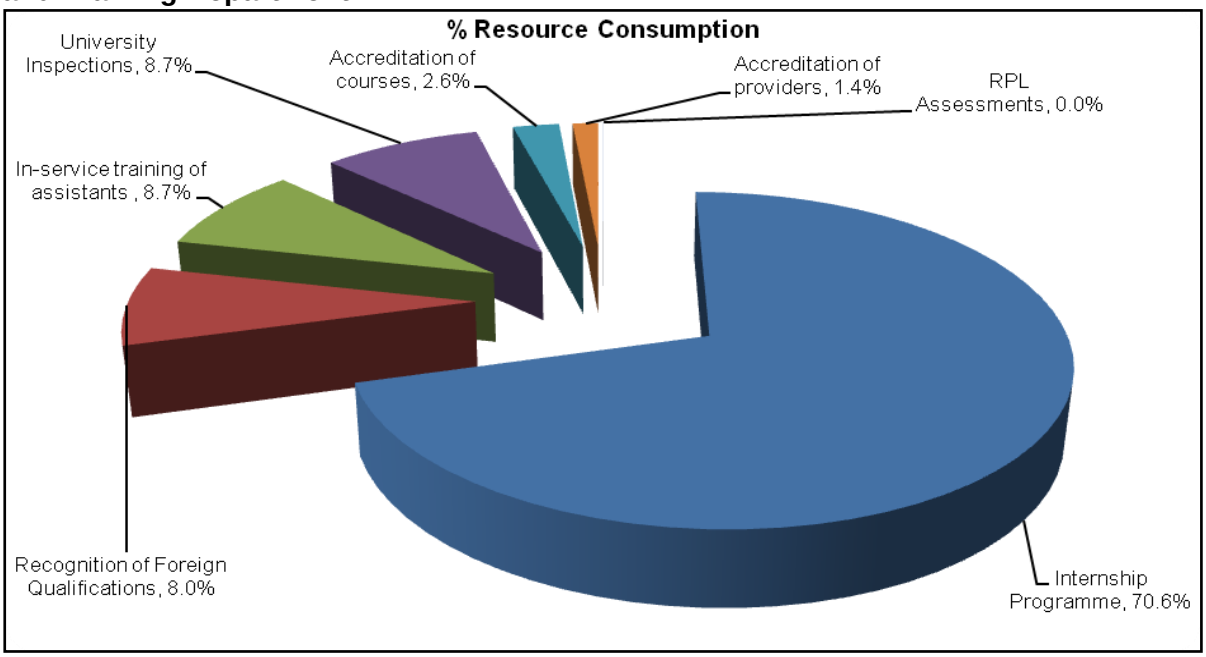
Seven cost objects have been identified within the Education and Training department (that is, the internship programme, recognition of foreign qualifications, monitoring of Pharmacists' Assistants in-service training, university inspections, accreditation of providers and courses, and recognition of prior learning). The internship programme consumed the most financial resources (70.6%) allocated to the department (Figure 3.3).

According to figure 3.3, it appears though that, the least resource consuming cost object was the management of Recognition of Prior Learning (RPL) assessment processes. However, there was no cost information found in the data sources regarding the RPL assessment except for one GL posting which amounted to R145.08. This is not a true reflection since more RPL assessments were conducted. Due to missing and incomplete information on RPL costs, resources consumed by the RPL processes could not be completed as in other costs objects.

Therefore, for the purpose of this analysis, accreditation of courses and providers seemed to consume the least resources (2.6% and 1.4 respectively). Figure 3.3 below, presents a complete overview of cost distribution across all cost objects provided by the Education and Training Department.

The total overhead costs incurred by accreditation of courses and providers and conducting of RPL assessments, were obtained directly from the Council's general ledger accounts. A bill of activities and resources consumed by these cost objects could not be done like with other costs objects due to incomplete and/or missing information from Council's data sources. However, to complete this analysis and present a complete overhead costs distribution across all cost objects, costs abstracted from the general ledger account were used as an estimate. Figure 3.3 presents a complete overview of cost distribution across all cost objects of the Education and Training Department.

Figure 3.3: A complete overview of total overhead costs consumed by the Education and Training Department



Pharmacists' Assistants constituted a large customer base for the Education and Training department, however monitoring of their in-service training required the amount of resources equal to that of inspecting the universities and the recognition of foreign qualifications (that is, 8.7%, 8.7% and 8.0% respectively). Due to lack of comprehensive data on accreditation of courses and accreditation of providers, an ABC analysis was not conducted in order to value the activities involved. However, the general ledger costs were used as overhead costs estimation for these costs objects.

3.3.6 Management reports

Customers of the Education and Training Department include the registered interns, pharmacists' assistants, and providers of pharmacy education and training. The main services provided to these customers include the internship programme, monitoring of the in-service training of pharmacists assistants, evaluation of foreign qualifications and the monitoring of the providers and their courses as shown in figure 3.3.

Revenue is collected as member's fees, either as registration fee for interns and annual fees paid by pharmacists' assistants and providers of the BPharm programme. Table 3.8 shows the profitability analysis of the cost objects that were analysed. Contribution margins for some of the cost objects were computed as the amount remaining from

revenues in terms of member's fees after overhead expenses (variable expenses) have been deducted. These overhead expenses varied with the level of activity for each cost object.

The contribution margins computed, represented the available amounts to cover fixed expenses and to provide profits for the period. For contribution margins that were not sufficient to cover fixed expenses, profit losses were experienced for the period. It is important that break-even points are achieved for all cost objects in order to avert losses due to high escalating overhead costs. However, for Council as a non-profit enterprise, profit losses were experienced with the provision of internship programme (-20% contribution margin as shown in table 3.8 and figure 3.4).

Table 3.8 presents the profitability analysis of some of the cost objects that were identified, based on the income received in terms of member subscription fees and the computed ABC costs. As mentioned earlier in the report, some data was not sufficient to apply ABC analysis to some of the cost objects; hence only four cost objects were considered for profitability analysis as presented in table 3.8 below. Activity rates were used to apply overhead costs to products and customers from the preceding analysis where a total of R481 128 (table 3.1) was allocated to the cost object, internship programme.

The internship programme was offered to an average of 400 registered interns. The average costs of providing the internship programme to one registered intern was found to be R1 202.82 as shown in table 3.8.

To compute the internship programme's profit margin, annual fees for registered interns, and the cost of providing the internship program to the interns were used. Revenue collected in terms of internship registration fees was R1 000.31 per intern in 2010. As mentioned earlier, the contribution margin of the internship yielded -20%, which indicates profit losses due to the provision of the cost object (Table 3.8). Other cost objects yielded positive contribution margins.

Table 3.8: Product and customer profitability analysis

	Internship Programme	Recognition of Foreign Qualifications		Assistants In-service Training	University Inspections
		Evaluate Credentials	Conduct Exams		
Revenue	R 1 000.31	R 849.01	R 1 188.36	R 135.14	R 12 948.03
Less: V. Expenses	R 1 202.82	R 268.16	R 596.86	R 20.07	R 7 410.00
CM	**R -202.51**	**R 580.85**	**R 591.50**	**R 115.07**	**R 5 538.03**
% CM	**-20%**	**68%**	**50%**	**85%**	**43%**

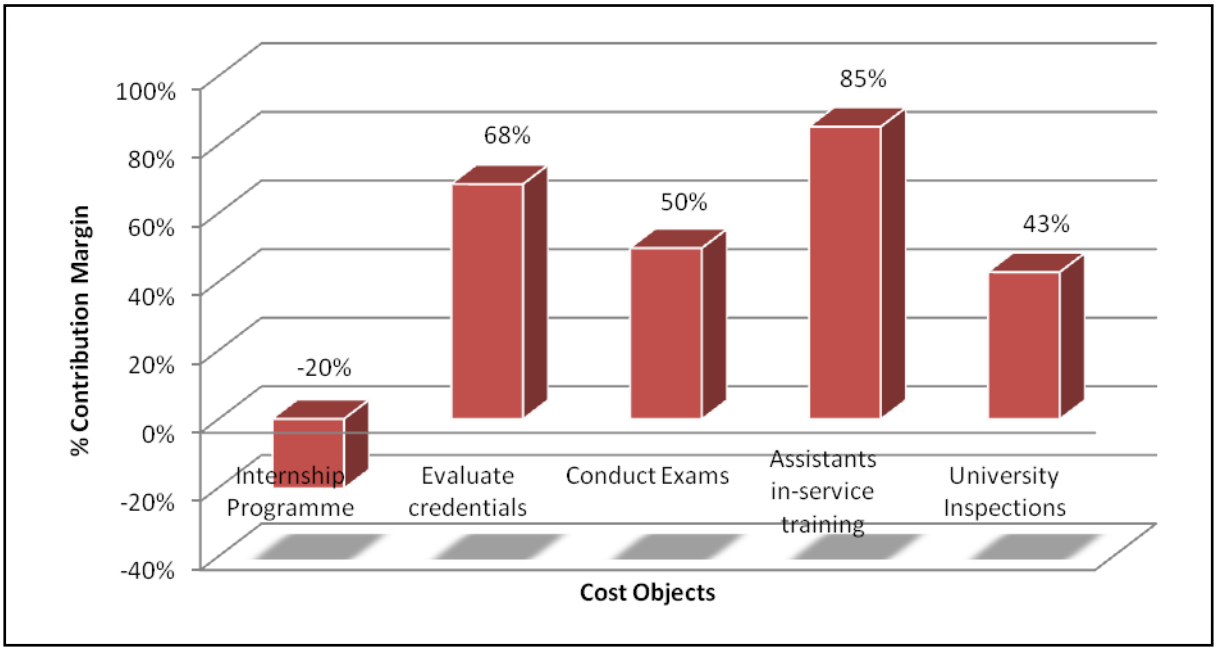
V. - Variable; CM- Contribution Margin [%CM = CM/Revenue; CM = Revenue – V. Expenses]

Similarly, people with foreign qualifications are levied a fee to the amount of R849.01 and R1 188.36 per discipline to be admitted into the professional examinations. Pharmacists' Assistants and the providers of the BPharm programme (that is, universities) pay annual fees to the amount of R135.14 and R12 948.03 respectively (Table 3.8) for the services that are due to them. The ABC overhead costs computed for the provision of Pharmacists' Assistants in-service training and university inspections were computed as R20.07 and R7 410.00 per unit of their activity measures respectively.

The common reports that were prepared with the ABC data were the product and customer reports. These reports will help the SAPC in channelling their resources to the most profitable growth opportunities while highlighting products and customers that drain profits.

Figure 3.4 presents the percentage contribution margins for various cost objects provided by the Education and Training Department. The contribution margins were computed as percentages of revenue collected in terms of member's annual fees.

Figure 3.4: Contribution margins for various cost objects



Based on the information generated through the ABC analysis, the internship programme appears to generate a negative contribution margin. This cost object has appeared to have had a high overhead cost component (70.6% from Figure 3.3) with less member fee charged.

3.4 CHAPTER SUMMARY

From the results of the ABC analysis that was conducted, the total overhead costs incurred by the department amounted to R 681 570. It is also clear that the internship programme was the major cost driver (70.6%) for the Education and Training department consuming 70.6% worth of the resources allocated to the department.

The SAPC is a non-profit organisation and predominantly service-oriented, it therefore relies on membership fees to remain sustainable and viable. To achieve its objectives, a high proportion of overhead costs were therefore incurred.

This chapter has presented cost computations for the development and implementation of an activity-based costing model as stated in its objectives. For the model, overhead costs for the Education and Training department were identified and analysed. The analysis culminated into the scientific estimation and a framework for optimal costing and pricing of the services produced by the Education and Training Department. For a

few cost objects, the analyses of the department's service and customer profitability were performed and the results were used to draw conclusions and recommendations for Council to consider.

The next chapter will focus on the recommendations to the SAPC based on the results of the ABC analysis conducted. Recommendations about potential overhead costs reduction points within the department based on the results of the ABC analysis will also be made.

CHAPTER FOUR

CONCLUSIONS AND RECOMMEDNDATIONS

4.1 INTRODUCTION

Management and control of overhead costs through the application of an ABC system, has proven to be an intricate and cumbersome process to undertake, especially if performed manually. However, the outcomes of the analysis have yielded useful information for guiding the decision-making process.

The overhead costs incurred by the Education and Training department of the SAPC, were presented in the preceding chapters. It is important for management to realise and appreciate that, as services were produced to meet the needs of the subscribed members, activities were directly and indirectly performed, which in the process also consumed resources. Resources and costs associated with these activities were assigned to activity cost pools and finally traced to individual cost objects.

It is also worth noting that in its endeavours to provide quality services to members, overhead costs were inevitable for Council, especially for an enterprise that produces as its outputs, services to its members. As shown by the overview of overhead costs for the department presented in figure 3.3 in the preceding chapter, delivering of the internship programme to the interns consumed the most resources allocated to the cost centre.

Based on the summary of the overhead costs incurred by the identified cost objects and the profitability analysis of these cost objects, recommendations and conclusions are drawn in this chapter. From a realistic and practical point of view, the following sections of this report presents, the conclusions and recommendations to be considered when managing overhead costs from the cost computation results presented earlier.

4.2 CONCLUSIONS

The company experienced a negative contribution margin with respect to the provision of the internship programme therefore, for this cost object, there was no amount available to cover fixed expenses and then to provide profits for the period.

4.2.1 Specific conclusions

The activities associated with portfolio assessment and the conducting of internship workshops are consuming a considerable amount of resources allocated to the provision of the internship. These activities are the major cost drivers in the provision of the internship programme. The value of some of these activities in the entire value chain of delivering quality internship programme should be considered for cost reduction.

Although conducting of examinations did not consume resources as much as the portfolio assessment and the internship workshop activities, there are some activities that require elimination as an effort to reduce overhead costs associated with conducting examinations. For example, the second examiner of the pre-registration examination paper does not add value to the paper for reviewing sections A, B, and C of the examination paper since this person, is ideally appointed to produce section D based on his/her expertise in industrial pharmacy practice.

Similarly, the appointed moderator for the pre-registration examination paper does not add value to the paper for moderating section D since he/she does not have expertise in the industrial pharmacy practice.

The submission of a professional portfolio and the writing of the pre-registration examination are the two fundamental methods for assessing competence of the interns. These two assessments methods are assigned weightings of 65% and 35% for the written examination and submitted professional portfolio respectively. However, from the computed analysis of overhead costs associated with the two activities, the portfolio consumed 30.6% of the resources and the examinations consumed 23.3%.

It is therefore apparent that, the rate at which the resources are consumed by these two activities is not congruent to the value or importance that is assigned to these activities.

There is an inverse relationship observed with the rate at which the resources are consumed by the portfolio assessment activities and the value that is placed on the submitted professional portfolio for the final assessment.

Similarly, there is an inverse relationship observed with the rate at which the resources are consumed by the activities involved with conducting of the pre-registration examinations and the value that is placed on the written examination for the final assessment.

The portfolio assessment, conducting of the pre-registration examinations, and the conducting of the internship workshops, contributed largely to the cost of the internship programme. When comparing the overhead costs incurred for delivering the internship programme to other cost objects, it is clear that the programme incurred more costs (70.6%) than any other cost object.

The internship programme yielded a negative contribution margin (-20%) as compared to other cost objects, yet consumed the most resources (70.6%). It is therefore the least profitable service that is provided by the Education and Training department. The most profitable cost object is the monitoring of the Pharmacists Assistants' in-service training, yielding 85% of the contribution margins as compared to other cost objects.

4.2.2 General conclusions

Even though there was some form of budgetary control for the responsibility centre, in this case the Education and Training department of the SAPC, there was lack of a detailed service costing system or framework. There was also lack of financial reporting and monitoring on departmental activities with respect to overhead costs.

The following general conclusions regarding the inefficiencies of the current service costing structure can be drawn-

(a) There is also a lack of understanding of the customer that is served by the department;

(b) Products and services delivered by the department are not well defined; hence, the lack of apprehension of what drives costs in the department;

(c) Inappropriate overhead cost categorisation in the company's general ledger has lead to incorrect posting of overhead expenses. Therefore, according the company's general ledger, costs were understated as they were incurred. There was also lack of appropriate recording and monitoring of important overheads costs as incurred by the cost centre for every activity that consumes resources allocated to the department. This has also lead to inconsistent and inaccurate reporting of overhead costs.

Overhead costs, if not known, managed and controlled will pose a problem in the effective management of operations and resources allocated for providing effective and efficient service to the subscribed members. The Education and Training department of the SAPC was no exception in this regard. This is true as the 2010 general ledger accounts reported a total of R225 924.77 as compared to the costs derived through the ABC analysis which were found to be R693 948.10 (Annexure 40).

4.3 RECOMMENDATIONS

There were several indicators identified that proposes an overhaul of the costing structure for the cost objects offered by the Education and Training Department of Council which included-

(a) Under-expression of overhead costs as reported in the company's general ledger for the preceding fiscal year (Annexure 40);

(b) The proportion of overhead costs incurred with every cost objects that were analysed, was found to be high;

(c) Profit margins for some services were difficult to explain, for example, the internship programme showed higher than expected costs, and lower or negative margins. Provision of this programme consumes more production resources as compared to other cost objects. It seems though, there is over differentiation of this cost object, which incurs more costs.

The service differentiation features observed with respect to the provision of the internship included the number of examination attempts allowed in one pre-registration year, a high number of workshops conducted to support the interns and the logistics involved with the management of portfolio assessment. Cutting on some of these features of the services and the activity levels will reduce the overhead costs incurred for providing this cost object. Increasing service diversity has lead to increased overhead costs.

The internship programme has become, far more diversified since 2005, from just a competence assessment with one examination conducted in one pre-registration year, to a programme which included submission of progress reports, submission of a professional portfolio, three examination attempts in one pre-registration year, running of the internship related workshops and so forth.

This has not only resulted in the increase of workload to the staff, but also the increasing of overhead costs. This over-diversification of the internship programme was never congruent to neither an increment in financial resources nor substantial increment in member subscription fees.

(d) Provision of complex services, such as that of recognising foreign qualifications had higher profit margins than it was expected, given the amount of resources that were expensed for this cost object;

(e) The internship programme is the major cost driver in the department;

(f) The process of conducting the examinations is labour intensive. It forms the most critical process in the entire internship programme. However, the resources allocated to the process were found to be incongruent to the weight assigned to the examination (65%) component of the final assessment;

(g) The fees that are charged to members are not informed by the consideration for the associated overhead costs incurred for providing the services.

Based on the findings of the analysis presented in chapter three and the indicators identified for the overhaul of the costing structure, the following specific recommendations are made-

(a) An ABC analysis could be considered as a once-off or bi-annual exercise in order to study and understand cost behaviour within the cost centres. The results of the analysis can be used as a service-costing framework for Council, especially when considering how fees should be charged. This will also assist in identifying those services that consume most overhead costs without adding value to the service provided;

(b) Investigate the fixed cost component for the Department in order to compute break-even points and to value services;

(c) There is a need to re-classify the expenses accounts on the general ledger and to ensure appropriate and timeous posting of the expenditure as it occurs to those accounts;

(d) To ensure consistency in the use of budget codes for correct posting in the general ledger, the codes has to be pre-printed on the claim forms for services provided;

(e) A registered intern has an opportunity to attempt the pre-registration examination for the first time after six months of their registration date. Therefore, a majority of the interns that attempt the examination for the first time in one registration year is during the second examination, which is normally conducted in June or July.

Council could consider reducing the number of examinations conducted to two, by sacrificing the October examination and moving the March examination much earlier in the year (that is, January). This will allow sufficient time for those interns who were not successful in the June examination to prepare for the next examination and to consider any possible remedial solutions before they can attempt the next examination;

(f) There are three types of workshops (that is, one train/facilitator workshop, twelve intern/tutor workshops and eight internship information session workshops) conducted by Council and all of which are meant to support the interns during their training. The average cost of conducting each workshop is R14 320.96, R7 669.87 and R8 028.26 for the train/facilitator workshop, intern/tutor workshop and internship information session workshops respectively. If Council is to curb the costs associated with these activities, this is one area that this analysis recommends a considerable cut in the number of these workshops or the type of these workshops (that is, reduce the level of activity for the cost object);

(g) Council could consider a proportional increase in the registration fee for the interns in line with the overhead costs incurred whilst also cutting on overhead costs in order to break even;

(h) Eliminate overhead costs associated with the reviewing of sections A, B, and C of the pre-registration examination by the second examiner and let him/her focus on producing section D, an area where he/she is well conversant;

(i) Similarly, eliminate overhead costs associated with the moderation of section D of the pre-registration examination by the moderator and let him/her focus on moderating sections A, B, and C, an area where he/she is well conversant;

(j) There was also lack of financial reporting and monitoring on departmental activities with respect to overhead costs, which calls for the implementation of a balanced scorecard to measure management performance as an effort to encourage financial consideration on departmental activities;

(k) Since Council is a non-profit organisation, raising member fee is likely to be a difficult option, however consideration should be given to cut or reduce the product differentiation features such as reducing number of workshops, reducing the number of examinations conducted etc;

(l) Specific points of cost reduction-

(i) Reduce the number of workshops;

(ii) Reduce the number of examinations to two exams per annum;

(iii) Replace the submission of a professional portfolio with a web-based form submitting evidence and reflection for the portfolio. Introduce a web-based method of assessing the submitted evidence and reflection in an effort to cut on the logistics involved with the managing of the assessment of a portfolio. Council should consider submission of only one piece of evidence for a selected competence standard in order to lessen the burden of assessing the portfolio and ensuring that the results are readily available for the interns.

(m) The cost objects that need to be promoted are the evaluation of credentials when recognising foreign qualifications and monitoring the in-service training for pharmacists assistants. These are costs objects that yielded positive contribution margins and incurred less overhead costs. The cost objects consume less cost as compared to others.

(n) Other possible considerations-

Option 1: To achieve a 50% product margin for the internship programme, it will require Council to justify to the profession a hike in internship registration fees by 50% of the computed ABC overhead cost (that is, 50% of R1 202.82). The ABC intern registration fee will then be R2 405.64. This will allow for additional capacity for effectively providing the internship programme. Apart from high escalating overhead costs associated with the internship, provision of the programme itself is labour intensive.

Option 2: A reduction or cutting in some of the product features, such as reducing the number of workshops, number of examinations and portfolio assessment related costs could reduce overhead costs and allow for some capacity.

4.4 ACHIEVEMENT OF THE STUDY'S OBJECTIVES

An ABC analysis was successfully was applied to the cost data related to the Education and Training department of the SAPC. The analysis of this cost data involved, identifying of activities and resources consumed by these activities. The costs of these resources were then assigned to activity cost pools and the associated cost objects. Computations shown in Annexure 1 to 40, forms the framework for the implementation of the ABC system for the Education and Training department.

From the results of the profitability analysis of different cost objects, it was evident that, optimal costing of services produced by the department seemed not to have been considered when membership fees (service prices) were set. Although there were, some limitations encountered during this analysis, the results on this analysis forms the basis for decision making, especially concerning service costing and pricing and considerations for dropping or improving some of the cost objects.

Contributions margins were computed using the computed ABC variable overhead costs. The contribution margins computed for the internship programme, recognition of foreign qualifications, monitoring of Pharmacist Assistants' in-service training, and university inspections, forms the basis for further computations of profitability and breakeven point analysis.

This step could be achieved once the fixed costs are determined. This objective was partially achieved since the fixed cost component of the company could not be established. However, the recommendations presented regarding possible profit loss on some of the cost objects, were based on ABC information generated during the analysis.

4.5 RECOMMENDATIONS FOR FUTURE RESEARCH

Three other costs that were considered for this analysis included the costs of approving tutors and premises and the costs involved in the registration of an intern. These costs are incurred outside the jurisdiction of the Education and Training Department; however, they have an impact on the resource allocation for the organisation in its entirety. These costs have major ramifications for the budgeting process, when the internship

programme is considered. Costs associated with these activities needs to be identified and assigned accordingly to the internship programme as indirect overhead costs.

The cost associated with the use of the register system, other IT programmes, computer equipment, and its depreciation were not factored into this analysis. The register system is utilised throughout the organisation and its acquisition and maintenance costs could be traced directly to various cost objects in the department. Other fixed costs that include rent, office supplies and furniture and other municipal utilities were not traced to the identified cost objects. Future analysis of this nature should consider investigating these costs and allocating them appropriately to costs objects.

After fixed costs have been computed, break-even points should be computed in order to support the decisions regarding the dropping or improving some of the cost objects.

The ABC overhead costs could be discounted for future value in order to make long-term strategic decisions on the impact of offering some of the services in line with the demands for investing in new technological innovations in an effort to improve service delivery in a more effective way.

4.6 CHAPTER SUMMARY

Overhead costs are inevitable especially in a predominantly service-oriented organisation. To attain customer satisfaction, the organisation has to incur overhead costs to support the services provided to its stakeholders. Since the organisation is a non-profit organisation, it relies on membership fees to remain sustainable and viable.

It is important to ensure that costing of services is optimal in order to break-even during the entire value chain creation and to avert profit losses during operations. Central to effective enterprise resource management is the effective management and control of the overhead costs in the entire value chain creation.

Optimal costing systems of products and services in a non-profit organisation are required to ensure that operational overhead costs are reduced and to maximise revenue and services. The ever-escalating overhead costs of producing services to

subscribed members and the projects ran by the Department of Education and Training are of momentous concern for the organisation.

Knowledge about cost behaviour will assist in managing resources more effectively. This will also help in planning operations, preparing budgets and predicting future activity levels for the organisation. To control the cost of providing products and services to the clients, will require knowledge of the costs that will be incurred at various levels of activity. These costs can be actively managed and reduced by managing the major cost drivers. Companies must determine the activities and find a way to reduce resource consumption.

Cost estimation can be accomplished through analyses of historical data involving costs and different activity levels. Estimates of cost behaviour will provide the basis for predicting future costs.

Companies need to perform functional cost analysis in order to decrease the cost of products and services. It is in such a concerted effort that companies should hold quality circles, and cross-departmental groups in order to examine the organisation processes and find a solution to reduce costs without affecting quality levels. These organisations need to embrace a service-costing system in order to provide customer-oriented cost control. In this study, a generic process-based service costing was developed.

The internship programme administered by Council is the main cost driver for the department as mentioned earlier.

The administration of the internship programme for graduate pharmacists by Council appears to be the major resource driver in the department. These costs are associated with the examination logistics, support workshops for the interns and other indirect labour hours consumed with the general administration of the internship programme.

Logistics is becoming more and more recognized as the critical step in the process of meeting the demands of the customer. For the SAPC, logistics plays an integral part in the delivery of services to its clients. Some of these logistical activities include successful administration of the internship assessments (e.g. examination and portfolio administration processes and successful delivery of workshops to stakeholders).

One of the major cost drivers in the Education and Training Department of the SAPC is the administration of the internship programme. It will be interesting for the management of the organisation to be able to use ABC data to make informed decisions regarding the process mix in the provision of services to its clients. In a study by Cooper and Kaplan (1991), as quoted by Stapleton *et al*. (2004), it has been found that a customer profitability analysis found 20 percent of the customers to have generated 225 percent of profits, 70 percent of the customers hovered around the breakeven point, and the remaining ten percent generated a 125 percent loss. This analytical insight can be very helpful in determining the profitability of a department within the organisation.

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ANNEXURE 3: INTERN REGISTRATION

Materials:

manuals	400	14092
portfolio	400	7044
		21136
		R 60.39
Certificate		R 2.00
Letters:	Intern	R 0.66
	Tutor	R 0.33
Postage	Intern	R 5.00
	Tutor	R 2.50
TOTAL		**R 70.88**

ANNEXURE 4: SECURE EXAM VENUES

11 venues are used

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Request venues	Practitioner	5	0.08	R 87.69	R 7.31
2	Create exam-venue	Practitioner	5	0.08	R 87.69	R 7.31
3	View venue	Manager	0	0.00	R 0.00	R 0.00
4	Request payment	Snr. Manager	0	0.00	R 0.00	R 0.00
5	Generate venues list	Practitioner	0	0.00	R 0.00	R 0.00
TOTAL						**R 68.62**

venues required for all examinations	20
No. Of examinations conducted	3
average number of venues/exam	**6.7**

AVERAGE COST OF SECURING VENUES/EXAM	**R 457.43**

ANNEXURE 5: APPOINT INVIGILATORS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Request names	Practitioner	5.0	0.08	R 87.69	R 7.31
2	Create exam-invigilator	Practitioner	5.0	0.08	R 87.69	R 7.31
3	Appoint invigilator	Manager	5.0	0.08	R 87.69	R 7.31
4	Authorize appointment	Manager	2.5	0.04	R 140.01	R 5.83
5	Send appointment	Secretary	2.5	0.04	R 64.36	R 2.68
TOTAL						**R 30.44**

Material costs:		**cost/unit**	**qty**	**total cost**
	A4 white sheet	R 0.33	2	R 0.66
	Envelope	R 0.21	1	R 0.21
	Registered mailing services	R 17.65	1	R 17.65
	Total			**R 18.52**

AVERAGE COST OF APPOINTING INVIGILATORS	**R 48.96**

Exam	Pta	Polok	Durb	Jhb	Potch	Port E	Graham	East L	Kimb	Cape T	Bloem	Total
March	2	1	1	1	2		1	1		1	1	9
June	2	2	3	1	2	1	1	1	1	2	1	15
October	2	1	2	1	1	1	1	1	1	1	1	11
total invigilators/year	**6.0**	**4.0**	**6.0**	**3.0**	**5.0**	**2.0**	**3.0**	**3.0**	**2.0**	**4.0**	**3.0**	**35.0**

total invigilators required for exams			35.0
No. Of examinations conducted			3
average number of invigilators/exam			**11.7**
AVERAGE COST OF APPOINTING INVIGILATORS/EXAM			**R 571.18**

ANNEXURE 6: APPOINT EXAMINERS

i. Process costs

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Request CVs	Manager	45.0	0.75	R 140.01	R 105.01
2	Table CV for committee	Manager	2.5	0.04	R 140.01	R 5.83
3	Create exam-examiner	Manager	5.0	0.08	R 140.01	R 23.34
	Appoint examiners	Manager	4.0	0.07	R 140.01	R 18.67
4	Send appointment	Secretary	2.5	0.04	R 64.36	R 5.36
TOTAL						**R 158.21**

		cost/unit	qty	total cost
ii.	**Material costs:**			
	A4 white sheet	R 0.33	11	R 3.63
	Envelope	R 0.21	11	R 2.31
	Registered mailing services	R 17.65	11	R 194.15
	Total			**R 200.09**

AVERAGE COST OF APPOINTING AN EXAMINER PER EXAM R 252.83

ANNEXURE 7: APPOINT MODERATORS

i. Process cost

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Request CVs	Manager	45.0	0.75	R 140.01	R 105.01
2	Table CV for committee	Manager	2.5	0.04	R 140.01	R 5.83
3	Create exam-moderator	Manager	5.0	0.08	R 140.01	R 11.67
	Appoint moderator	Manager	4.0	0.07	R 140.01	R 9.33
4	Send appointment	Secretary	2.5	0.04	R 64.36	R 2.68
TOTAL						**R 134.52**

		cost/unit	qty	total cost
ii.	**Material costs:**			
	A4 white sheet	R 0.33	10	R 3.30
	Envelope	R 0.21	10	R 2.10
	Registered mailing services	R 17.65	10	R 176.50
	Total			**R 181.90**

AVERAGE COST OF APPOINTING A MODERATOR PER EXAM R 226.74

ANNEXURE 8: EVALUATE EXAM APPLICATIONS

i. Process costs

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Receive applications	Customer care	5.0	0.08	R 51.36	R 4.28
2	Evaluate application	E. Officer	5.0	0.08	R 62.84	R 5.24
3	Verifies applicant information	E. Practitioner	2.5	0.04	R 87.69	R 3.65
4	Approve application	ET. Manager	2.5	0.04	R 140.01	R 5.83
5	Send confirmation	E. Officer	2.5	0.04	R 62.84	R 2.62
TOTAL						**R 3 358.70**

		cost/unit	qty	total cost
ii.	**Material costs:**			
	A4 white sheet	R 0.33	1	R 0.33
	Envelope	R 0.21	1	R 0.21
	short message services (sms)	R 0.22	1	R 0.22
	Total			**R 118.05**

AVERAGE COST OF EVALUATING APPLICATIONS/EXAM R 3 476.75

ANNEXURE 9: SET PAPER

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Prepare schedule	E. Practitioner	5.0	0.08	R 87.69	R 7.31
2	Approve schedule	ET. Manager	2.5	0.04	R 140.01	R 5.83
3	Finalise schedule	E. Practitioner	0.0	0.00	R 0.00	R 0.00
4	Conduct task team telecon	Task team	0.0	0.00	R 0.00	R 0.00
SUB-TOTAL						**R 13.14**

1st examiner:

Sections: A	R 596.26
Sections: B	R 357.75
Sections: C	R 357.75
Total	**R 1 311.76**

2nd examiner:

Sections: A	R 298.15
Sections: B	R 178.75
Sections: C	R 178.75
Sections: D	R 357.75
Total	**R 1 013.40**

SUB-TOTAL	**R 2 325.16**

TOTAL COST OF SETTING PAPER	**R 2 966.70**

ANNEXURE 10: MODERATE PAPER

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Prepare schedule	E. Practitioner	5.0	0.08	R 87.69	R 7.31
2	Approve schedule	ET. Manager	2.5	0.04	R 140.01	R 5.83
3	Finalise schedule	E. Practitioner	0.0	0.00	R 0.00	R 0.00
SUB-TOTAL						**R 13.14**

	cost/unit	qty	total cost
Telephone cost	R 0.65	10	R 6.50
Pre-registration task team teleconference			R 621.90
SUB-TOTAL			**R 628.40**

Section A	R 298.15
Section B	R 178.75
Section C	R 178.75
Section D	R 178.75
Sub-Total	**R 834.40**

Pre-registration task team teleconference costs

Member	Line type	Cost/Unit	Call duration	Total cost
1	Land	R 1.50	45	R 67.50
2	Land	R 1.50	45	R 67.50
3	Cell	R 1.66	45	R 74.70
4	Cell	R 1.66	45	R 74.70
5	Land	R 1.50	45	R 67.50
6	Land	R 1.50	45	R 67.50
7	Land	R 1.50	45	R 67.50
8	Land	R 1.50	45	R 67.50
9	Land	R 1.50	45	R 67.50
Connection fee		R 72.45		R 0.00
Total Pre-registration task team teleconference cost				**R 621.90**

TOTAL COST OF MODERATING PAPER/EXAM	**R 1 475.94**

ANNEXURE 11: CONDUCT EXAMINATIONS

1. Process cost

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Print paper	ET. Manager	210	3.5	140.01	R 490.04
		E. Practitioner	210	3.5	87.69	R 306.92
		P. Officer	120	2	61.93	R 123.86
2	Arrange courier of paper to venues	Secretary	3	0.04	R 64.36	R 2.68
3	Conduct examinations	Invigilators	2100	35.00	R 100.00	R 3 951.59
3	Arrange courier of paper from venues	Secretary	3	0.04	R 64.36	R 2.68
4	Receive scripts	E. Practitioner	155	2.59	R 87.69	R 227.02
SUB-TOTAL						**R 5 104.78**

3. Conduct examinations

(a) External Invigilators

No. of exams	3
Total invigilators used for 3 exams	35
Average No. of invigilators/exam	12
Duration/exam in minutes (i.e. 3hrs)	180
Total time claimed/exam	**2100**

(b) Internal/Council Invigilators	Duration	Rate	Total
E. Practitioner	**3**	R 87.69	R 263.07
E. Officer	**3**	R 62.84	R 188.52
Total time claimed/exam			**R 451.59**

2. Material		cost/sheet		
A4 white sheet	Exam papers/exam	R 0.33	3883	R 1 281.50
	invigilator pack/exam	R 0.33	58	R 19.25
TOTAL MATERIAL COST				**R 1 300.75**

3. Courier services courier costs per exam **R 3 200.87**

Exam papers/exam	
Total No. of attempts	466
No. of exams/year	3
Average No. of attempts/exam	155
No. of pages/paper	25
Total No. of sheets/exam	**3883**

Invigilator pack/exam

Item	Qty
Covering Letter	1
Exam Instructions/Guidelines	1
Intern list	2
Claim form	1
Total sheets/invigilator	5
No. of invigilators/exam	12
Total Invigilator pack/exam	**58**

Receive scripts

Average No. of scripts/exam	155
Time for checking a script in minutes	1
Time for checking scripts/exam	**155**

AVERAGE COST OF CONDUCTING EXAMS/EXAM	**R 9 606.41**

ANNEXURE 12: MARK SCRIPTS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Prepare script for examiner	E. practitioner	1.0	0.02	R 87.69	R 227.02
2	Arrange for courier scripts	Secretary	3.0	0.05	R 64.36	R 3.22
3	Mark scripts (R40/script)					R 6 213.33
4	Arrange for collection of scripts	Secretary	3.0	0.05	R 64.36	R 3.22
5	Receive scripts	E. practitioner	1.0	0.02	R 87.69	R 227.02
SUB-TOTAL						**R 6 673.81**

Courier costs per examination

Average Courier costs/examination	**R 2 490.59**

TOTAL COST OF MARKING/EXAM	**R 9 164.40**

ANNEXURE 13: MODERATE SCRIPTS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Prepare scripts for moderator	E. practitioner	1.0	0.02	R 87.69	R 22.70
2	Arrange for courier scripts	Secretary	3.0	0.05	R 64.36	R 3.22
3	Moderate scripts (R20/script)					R 310.67
4	Arrange for collection of scripts	Secretary	3.0	0.05	R 64.36	R 3.22
5	Receive scripts	E. practitioner	1.0	0.02	R 87.69	R 22.70
SUB-TOTAL						**R 362.51**

Courier costs per exam

Total Courier costs/exam	**R 248.52**

Exam papers/exam	
Total No. of attempts	466
No. of exams/year	3
Average No. of attempts/exam	155
Moderation criteria (1 in 10)	16
Average scripts moderated/exam	**16**

TOTAL COST OF MODERATION/EXAM	**R 611.03**

ANNEXURE 14: PREPARE EXAM RESULTS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Prepare results	E. practitioner	880.0	14.67	R 87.69	R 1 286.12
2	Check results	ET. Manager	60.0	1.00	R 140.01	R 140.01
3	Verify results	Snr. ET. Manager	40.0	0.67	R 206.08	R 40.00
4	Approve results	Registrar/CEO	20.0	0.33	R 297.16	R 99.05
5	Release results	E. practitioner	2.5	0.04	R 87.69	R 3.65
SUB-TOTAL						**R 1 568.84**

Time required to prepare results by personnel involved

	March	July	October	Total	Average/exam
E. practitioner	720	1200	720	2640	**880**
ET. Manager	45	90	45	180	**60**
Snr. ET. Manager	30	60	30	120	**40**
Registrar/CEO	15	30	15	60	**20**
Average time/exam	**810**	**1380**	**810**	**3000**	**1000**

Release results

Total No. of attempts	466
No. of exams/year	3
Average No. of results/exam	155
Short messages service (sms)	R 0.22
Average sms costs/exam	**R 34.17**

Material costs:

	cost/unit	qty	total cost
A4 white sheet	R 0.33	155	R 51.26
Envelope	R 0.21	155	R 32.62
Normal mailing services	R 6.25	155	R 970.83
Average material costs/exam			**R 1 054.71**

Average release cost/exam	**R 1 088.89**

TOTAL COST OF PREPARING RESULTS/EXAM R 2 657.72

ANNEXURE15: PORTFOLIO ASSESSMENT

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Receive portfolio	CC. Officer	1.5	0.03	R 51.36	R 1.28
2	Create dashboard case	IT. Clerk	1.5	0.03	R 33.09	R 0.83
3	Arrange for assessment	E. Practitioner	1.5	0.03	R 87.69	R 2.19
4	Arrange for courier to assessors	Secretary	0.1	0.00	R 64.36	R 0.16
5	Assess portfolio	Assessor		0.00		R 190.00
6	Arrange for courier from assessors	Secretary	0.1	0.00	R 64.36	R 0.16
7	Receive portfolios	E. Practitioner	2.5	0.04	R 87.69	R 3.65
SUB-TOTAL						**R 198.28**

Arrange for courier to assessors

Time to prepare memo in minutes	5
No of memos per year	11
Total time for preparing memos	55
Total portfolios assessed	370
Time for memo/portfolio	**0.15**

Courier costs per portfolio

Average courier cost/portfolio	**R 116.61**
Fee for assessing a portfolio	**R 190.00**

AVERAGE COST FOR ASSESSING A PORTFOLIO R 314.88

ANNEXURE 16: PORTFOLIO MODERATION

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
3	Arrange for moderation	E. Prac.	1.5	0.03	R 87.69	R 2.19
4	Arrange for courier to moderators	Secretary	0.1	0.00	R 64.36	R 0.16
5	Moderate portfolio	Moderators	0.0	0.00	R 0.00	R 95.00
6	Arrange for courier from assessors	Secretary	0.1	0.00	R 64.36	R 0.16
7	Receive portfolios	E. Prac.	2.5	0.04	R 87.69	R 3.65
SUB-TOTAL						**R 101.16**

E. Prac.-Education Practitioner

Arrange for courier to assessors

Time to prepare memo in minutes	5
No of memos per year	11
Total time for preparing memos	55
Total portfolios assessed	370
Time to arrange courier /portfolio	**0.15**

Courier portfolio to & from moderators

Average courier cost/portfolio	**R 116.61**

portfolio moderation policy (2 for every assessor)	2
No. Of assessors	20
total portfolios moderated	**40**

TOTAL PORTFOLIO MODERATION COST	**R 8 710.81**

AVERAGE MODERATION COST/PORTFOLIO	**R 24.89**

ANNEXURE 17: PREPARE PORTFOLIO RESULTS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Prepare results	E. practitioner	60.0	1.00	R 87.69	R 87.69
2	Check results	ET. Manager	20.0	0.33	R 140.01	R 46.67
3	Verify results	Snr. ET. Manager	10.0	0.17	R 206.08	R 40.00
4	Approve results	Registrar/CEO	5.0	0.08	R 297.16	R 24.76
5	Release results	E. practitioner	2.5	0.04	R 87.69	R 3.65
6	Prepare portfolio mailing	E. Officer	3.0	0.05	R 62.84	R 3.14
SUB-TOTAL						**R 0.59**

Release results

short message services (sms)		**R 0.22**
Mailing cost/portfolio	Giffy: Size7	R 7.65
	Normal mailing services	R 6.25
Total mailing cost/portfolio		**R 13.90**

AVERAGE COST OF PREPARING RESULTS/PORTFOLIO R 14.71

ANNEXURE 18: CONDUCT SUPPLEMENTARY EVALUATION

Examiner				
Setting of the project:				R 357.75
Conducting an oral evaluation	Number of days	2.3	R 1 500.00	R 3 450.00
No. Of projects		14	R 30.00	R 420.00
No. of portfolios		0	R 190.00	R 0.00
Sub-Total				**R 4 227.75**

Moderator				
Setting of the project:				R 178.88
Conducting an oral evaluation	Number of days	2.3	R 1 500.00	R 3 450.00
No. Of projects		14	R 15.00	R 210.00
No. of portfolios		0	R 95.00	R 0.00
Sub-Total				**R 3 838.88**

Shuttle expenses			**R 916.00**
Flight expenses			**R 2 907.00**
Accommodation			**R 1 200.00**
Travel claim	**150**	R 2.92	**R 438.00**
Catering			**R 1 236.00**

TOTAL COST FOR SUPPLEMEMNTARY EXAM	**R 14 763.63**

ANNEXURE 19: EVALUATE PROGRESS REPORTS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Receive & create case	CC. Officer	2.5	0.04	R 51.36	R 2.14
2	Evaluate	E. Officer	2.5	0.04	R 62.84	R 2.62
3	Prepare feedback	E. Practitioner	2.0	0.03	R 87.69	R 2.92
4	Verify & sign	E. Manager	1.5	0.03	R 140.01	R 3.50
5	Send feedback	E. Officer	2.0	0.03	R 62.84	R 2.09
SUB-TOTAL						**R 13.28**

Number of processed progress reports

Community & Hospital Interns

12 Weeks: First Personal and Professional development	280
24 Weeks: Second Personal and Professional development	280
36 Weeks: Third Personal and Professional development	280
45 Weeks: Fourth Personal and Professional development	280
Summary of Outcomes Achieved	280

Academic Interns

400 hours practical training	30
Summary of Outcomes Achieved	30

Manufacturing Interns

12 Weeks: First Personal and Professional development	40
24 Weeks: Second Personal and Professional development	40
36 Weeks: Third Personal and Professional development	40
45 Weeks: Fourth Personal and Professional development	40
Summary of Outcomes Achieved	40
400 hours practical training	40
Total reports evaluated	**1700**

Material costs:

	cost/unit	**qty**	**total cost**
A4 white sheet	R 0.33	1	R 0.33
Envelope	R 0.21	1	R 0.21
Normal mailing services	R 6.25	1	R 6.25
Average material costs/exam			**R 6.79**

TOTAL COST OF EVALUATING A PROGRESS REPORT **R 20.07**

ANNEXURE 20: EVALUATE CESSION OF CONTRACT

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Receive & create case	CC. Officer	2.5	0.04	R 51.36	R 2.14
2	Evaluate application	E. Officer	15.0	0.25	R 62.84	R 15.71
3	Verify & prepare feedback	E. Practitioner	10.0	0.17	R 87.69	R 14.62
4	Approve cession	E. Manager	5.0	0.08	R 140.01	R 11.67
5	Send feedback	E. Officer	2.5	0.04	R 62.84	R 2.62
SUB-TOTAL						**R 46.75**

AVERAGE COST OF EVALUATING ONE APPLICATION FOR CESSION OF CONTRACT	**R 46.75**

ANNEXURE 21: EVALUATE DELEGATION OF TRAINING

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Receive & create case	CC. Officer	2.5	0.04	R 51.36	R 2.14
2	Evaluate application	E. Officer	15.0	0.25	R 62.84	R 15.71
3	Verify & prepare feedback	E. Practitioner	10.0	0.17	R 87.69	R 14.62
4	Approve delegation	E. Manager	5.0	0.08	R 140.01	R 11.67
5	Send feedback	E. Officer	2.5	0.04	R 62.84	R 2.62
SUB-TOTAL						**R 46.75**

AVERAGE COST OF EVALUATING ONE APPLICATION FOR DELEGATION OF TRAINING	**R 46.75**

ANNEXURE 22: CONDUCT WORKSHOPS

	No. Of Workshops
1. Tutor and Intern workshop	11

1. Workshop Materials Costs

Materials consumed			Qty	Price/Unit	Total Cost
Information Compact Disc			35	R 12.83	R 449.05
Handbooks:					
	i. Intern Manuals		35	R 35.23	R 1 233.05
	A4 white sheet	0.33	41	R 13.53	
	A4 colour sheet	0.77	24	R 18.48	
	A4 frosted sheet	0.9	1	R 0.90	
	Backing board	1.68	1	R 1.68	
	Ring binder	0.64	1	R 0.64	
	Black cartridge				
	Total			**R 35.23**	
	ii. Portfolios		35	R 17.61	R 616.35
	A4 white	0.33	44	R 14.52	
	A4 frosted sheet	0.77	1	R 0.77	
	Backing board	1.68	1	R 1.68	
	Ring binder	0.64	1	R 0.64	
	Black cartridge				
	Total			**R 17.61**	
TOTAL MATERIAL COST/WORKSHOP					**R 2 298.45**

2. Travelling expenses

(a) Travelling allowance	1	R 1 242.86	R 1 242.86
(b) Parking allowance	1	R 70.91	R 70.91
(c) Car rental	1	R 320.59	R 320.59
(d) Flight expenses	1	R 1 171.64	R 1 171.64
TOTAL TRAVELLING COST/WORKSHOP			**R 2 806.00**

(a) Staff travelling allowance

	Km	**Return**	**allowance/Km**	**Cost**
Polokwane	295	2	R 2.92	R 1 722.80
Pretoria	184	2	R 2.92	R 1 074.56
Potchefstroom	185	2	R 2.92	R 1 080.40
Johannesburg	55	2	R 2.92	R 321.20
Port Elizabeth	65	2	R 2.92	R 379.60
Durban	65	2	R 2.92	R 379.60
East London	265	2	R 2.92	R 1 547.60
Bloemfontein	450	2	R 2.92	R 2 628.00
Kimberley	450	2	R 2.92	R 2 628.00
Middleburg	262	2	R 2.92	R 1 530.08
Cape Town	65	2	R 2.92	R 379.60
TOTAL	**2341**	**2**	**R 2.92**	**R 13 671.44**
Average allowance claimed/workshop				**R 1 242.86**

(b) Parking allowance

Port Elizabeth	R 130.00
Durban	R 130.00
East London	R 130.00
Bloemfontein	R 130.00
Kimberley	R 130.00
Cape Town	R 130.00
TOTAL	**R 780.00**
Average allowance claimed/workshop	**R 70.91**

(c) Car rental

	cost/day
Port Elizabeth	R 466.47
Durban	R 475.09
East London	R 1 088.65
Bloemfontein	R 496.50
Kimberley	R 474.76
Cape Town	R 525.04
TOTAL	**R 3 526.51**
Average allowance claimed/workshop	**R 320.59**

(d) Flight expenses

	personnel	**return cost**	**return**
Port Elizabeth	1	R 2 194.00	R 2 194.00
Durban	2	R 1 336.00	R 2 672.00
East London	1	R 2 171.00	R 2 171.00
Bloemfontein	1	R 2 021.00	R 2 021.00
Kimberley	1	R 1 521.00	R 1 521.00
Cape Town	1	R 2 309.00	R 2 309.00
TOTAL			**R 12 888.00**
Average allowance claimed/workshop			**R 1 171.64**

4. Catering

Venue	cost/venue	No. of attendance
Polokwane	R 2 975.00	0
Pretoria	R 1 750.00	0
Potchefstroom	R 2 223.00	0
Johannesburg	R 2 439.00	0
Port Elizabeth	R 1 680.00	0
Durban	R 1 500.00	0
East London	R 538.95	0
Bloemfontein	R 584.00	0
Kimberley	R 0.00	0
Middleburg	R 892.50	0
Cape Town	R 1 925.00	0
TOTAL COST	**R 16 507.45**	**0**

TOTAL CATERING COST/WORKSHOP	**R 1 500.68**

5. Labour cost

Workshop presentation	3	R 140.01	R 420.03
Preparation of presentation	2	R 140.01	R 280.02
Overtime claimed/workshop			R 146.52
TOTAL LABOUR COSTS/WORKSHOP			**R 846.57**

Overtime claimed

Personnel	**Time**	**Rate**	**Total claim**
Secretary	5	R 96.54	R 482.70
E. Practitioner	5	R 131.54	R 657.70
E. Officer	5	R 94.26	R 471.30
Total Overtime	**15**		**R 1 611.70**

AVERAGE COSTS/TUTOR & INTERN WORKSHOP	**R 7 669.87**

2. Train the facilitator workshop 1

i. Workshop Materials Costs

Materials consumed		**Qty**	**Price/Unit**	**Total Cost**
Programme		12	R 23.13	R 277.56
	A4 white sheet	35	R 11.55	
	A4 colour sheet	10	R 7.70	
	A4 frosted sheet	1	R 0.90	
	A3 white sheet	1	R 0.66	
	Backing board	1	R 1.68	
	Ring binder	1	R 0.64	
	Black cartridge			
	Total		**R 23.13**	
TOTAL MATERIAL COST/WORKSHOP				**R 277.56**

ii. Travelling expenses

(a) Travelling allowance	1	R 4 730.40	R 4 730.40
(b) Parking allowance	1	R 520.00	R 520.00
(c) Shuttle services/car rental	1	R 500.00	R 500.00
(d) Flight expenses	1	R 7 653.00	R 7 653.00
TOTAL TRAVELLING COST/WORKSHOP			**R 13 403.40**

(a) Facilitator travelling allowance

	Km	Return	allowance/Km	Cost
UoL (Turf)	295	2	R 2.92	R 1 722.80
UoL (Medunsa)	55	2	R 2.92	R 321.20
NWU	185	2	R 2.92	R 1 080.40
Wits	55	2	R 2.92	R 321.20
Rhodes	125	2	R 2.92	R 730.00
UKZN	65	2	R 2.92	R 379.60
NMMU	15	2	R 2.92	R 87.60
UWC	15	2	R 2.92	R 87.60
TOTAL	**810**	**2**	**R 2.92**	**R 4 730.40**
Average allowance claimed/workshop				**R 4 730.40**

(b) Parking allowance

Rhodes	R 130.00
UKZN	R 130.00
NMMU	R 130.00
UWC	R 130.00
TOTAL	**R 520.00**
Average allowance claimed/workshop	**R 520.00**

(d) Flight expenses

	cost/flight
Rhodes	R 1 687.00
UKZN	R 1 766.00
NMMU	R 2 743.00
UWC	R 1 457.00
TOTAL	**R 7 653.00**
Average allowance claimed/workshop	**R 7 653.00**

3. Catering	cost/person	Qty	Total
	R 120.00	12	R 1 440.00

AVERAGE COST/TRAIN THE FACILITATOR WORKSHOP	**R 14 320.96**

3. Information session workshop 8

1. Workshop Materials Costs

Materials consumed		**Qty**	**Price/Unit**	**Total Cost**
Information pack:		40	R 4.95	R 198.00
	A4 white sheet	15	R 4.95	
	Total		**R 4.95**	
TOTAL MATERIAL COST/WORKSHOP				**R 198.00**

2. Travelling expenses

(a) Travelling expense	1	R 620.50
(b) Parking expenses	1	R 65.00
(c) Car rental	1	R 253.81
(d) Flight expenses	1	R 956.63
TOTAL TRAVELLING COST/WORKSHOP		**R 1 895.93**

(a) Staff travelling allowance

	Km	**Return**	**allowance/Km**	**Cost**
UoL (Turf)	295	2	R 2.92	R 1 722.80
UoL (Medunsa)	55	2	R 2.92	R 321.20
NWU	185	2	R 2.92	R 1 080.40
Wits	55	2	R 2.92	R 321.20
Rhodes	65	2	R 2.92	R 379.60
UKZN	65	2	R 2.92	R 379.60
NMMU	65	2	R 2.92	R 379.60
UWC	65	2	R 2.92	R 379.60
TOTAL	**850**	**2**	**R 2.92**	**R 4 964.00**
Average allowance claimed/workshop				**R 620.50**

(b) Parking

Rhodes	R 130.00
UKZN	R 130.00
NMMU	R 130.00
UWC	R 130.00
TOTAL	**R 520.00**
Average parking costs/workshop	**R 65.00**

(c) Car rental

	cost/day
Rhodes	R 862.02
UKZN	R 474.76
NMMU	R 346.52
UWC	R 347.16
TOTAL	**R 2 030.46**
Average car rental costs/workshop	**R 253.81**

(d) Flight expenses

	cost/flight
Rhodes	R 1 687.00
UKZN	R 1 766.00
NMMU	R 2 743.00
UWC	R 1 457.00
TOTAL	**R 7 653.00**
Average allowance claimed/workshop	**R 956.63**

AVERAGE COST/INFORMATION SESSION WORKSHOP	**R 2 093.93**
Total No. Workshops	**20**
TOTAL AVERAGE COSTS/WORKSHOP	**R 8 028.26**

ANNEXURE 23: CONDUCT MEETINGS

Meetings	No. of meetings	% internship matters per meeting	Total costs per meeting	Internship costs per meeting
1. Education Committee	4	17%	R 37 022.47	R 6 205.26
2. Heads of Schools Committee	1	10%	R 18 940.48	R 1 894.05
4. Assessors of Portfolios	1	100%	R 5 170.90	R 5 170.90
Average internship cost per meeting	6		**R 20 377.95**	**R 4 423.40**

1. Education Committee

Meeting	March			June			September			November			
year	total items	internship items	% internship items	total items	internship items	% internship items	total items	internship items	% internship items	total items	internship items	% internship items	total %
2008	20	4	20.00%	17	0	0.00%	25	4	16.00%	0	0	0.00%	9.00%
2009	15	3	20.00%	18	3	16.67%	23	8	34.78%	31	6	19.35%	22.70%
2010	24	9	37.50%	0	0	0.00%	35	9	25.71%	27	3	11.11%	18.58%
Average													**16.76%**

2. Assessors of Portfolios **100%**

3. Heads of schools Committee

year	total items	internship items	% internship items	% internship matters
2008	0	0	0.00%	0%
2009	0	0	0.00%	0%
2010	0	0	0.00%	0%
Average				**0%**

Meetings Costs

1. Education Committee

1.1. Travelling expenses

(a) Transport	R 6 318.88
(b) Parking	R 558.00
(c) Shuttle services	R 1 280.00
(d) Flights	R 12 278.00
TOTAL TRAVELLING COST/MEETING	**R 20 434.88**

(a) Transport

Member	**Km**	**Return**	**allowance/Km**	**Cost**
1	28	2	R 2.92	R 163.52
2	96	2	R 2.92	R 560.64
3	49	2	R 2.92	R 286.16
4	5	2	R 2.92	R 29.20
5	140	2	R 2.92	R 817.60
6	287	2	R 2.92	R 1 676.08
7	200	2	R 2.92	R 1 168.00
8	10	2	R 2.92	R 58.40
9	5	2	R 2.92	R 29.20
10		2	R 2.92	R 0.00
11	200	2	R 2.92	R 1 168.00
12	90	2	R 2.92	R 525.60
TOTAL	**1082**			**R 6 318.88**
Total transport claimed/meeting				**R 6 318.88**

(b) Parking

Member	
1	R 150.00
2	R 0.00
3	R 0.00
4	R 148.00
5	R 130.00
6	R 130.00
TOTAL	**R 558.00**
Total parking costs/meeting	**R 558.00**

(d) Flights

Member	return cost
1	R 2 423.00
2	R 1 544.00
3	R 2 331.00
4	R 2 114.00
5	R 1 531.00
6	R 2 335.00
TOTAL	**R 12 278.00**
Total flight costs/meeting	

1.2. Members fees/meeting

	Fees/day	No. of members	Total cost
Member	R 485.00	10	R 4 850.00
Chairperson	R 550.00	1	R 550.00
Total members fees/meeting			**R 5 400.00**

1.3. Preparation fees

fees/hr	average hrs	No. of members	total
R 35.00	4	12	R 1 680.00
Total preparation fees/meeting			**R 1 680.00**

1.4. Locum Tenens cost/meeting

member	cost
1	R 300.00
2	R 1 600.00
Total Locum Tenens cost/meeting	**R 1 900.00**

1.5. Catering Costs	R100/member			**R 2 000.00**

1.6 Direct Material

(i) Agenda Copies:

A4 white	200	R 0.33	20	R 1 320.00
A4 frosted sheet	1	R 0.90	20	R 18.00
A3 white	1	R 0.40	20	R 8.00
Backing board	1	R 1.68	20	R 33.60
Ring binder	1	R 0.64	20	R 12.80
Total material Costs				**R 1 392.40**

(ii) Separate volume of applications (Foreigners):

A4 white	111	R 0.33	20	R 731.13
A4 frosted sheet	1	R 0.90	20	R 18.00
A4 colour	51	R 0.77	20	R 790.53
Backing board	1	R 1.68	20	R 33.60
Ring binder	1	R 0.64	20	R 12.80
Total material Costs				**R 1 586.07**

1.7 Courier Services	**R 2 629.12**

AVERAGE COSTS PER EDUCATION COMMITTEE MEETING	R 37 022.47

2. Heads of Schools Committee Meeting

2.1. Travelling expenses

(a) Transport	R 3 851.48
(b) Shuttle services	R 700.00
(c) Flights	R 11 489.00
TOTAL TRAVELLING COST/MEETING	**R 16 040.48**

2.1. Travelling expenses

(a) Transport

Member	**Km**	**Return**	**allowance/Km**	**Cost**
1	26.5	2	R 2.92	R 154.76
2	86	2	R 2.92	R 502.24
3	208	2	R 2.92	R 1 214.72
4	20	2	R 2.92	R 116.80
5	0	2	R 2.92	R 0.00
6	60	2	R 2.92	R 350.40
7	140	2	R 2.92	R 817.60
8	49	2	R 2.92	R 286.16
9	70	2	R 2.92	R 408.80
TOTAL	**659.5**			**R 3 851.48**
Total transport claimed/meeting				**R 3 851.48**

(c) Flights

Member	**return cost**
1	R 1 988.00
2	R 1 988.00
3	R 1 908.00
4	R 1 668.00
5	R 1 790.00
6	R 2 147.00
Total flight costs/meeting	**R 11 489.00**

2.5. Catering	**R 2 900.00**

AVERAGE COSTS PER HEADS OF SCHOOLS COMMITTEE MEETING	R 18 940.48

3. Assessors of Portfolios

3.1. Travelling expenses

(a) Transport	R 3 270.40
(b) Parking	R 0.00
(c) Shuttle services	R 700.00
(d) Flights	R 0.00
TOTAL TRAVELLING COST/MEETING	**R 3 970.40**

3.1. Travelling expenses

(a) Transport

Assessor	Km	Return	allowance/Km	Cost
1		2	R 2.92	R 0.00
2		2	R 2.92	R 0.00
3		2	R 2.92	R 0.00
4		2	R 2.92	R 0.00
5	140	2	R 2.92	R 817.60
6		2	R 2.92	R 0.00
7	10	2	R 2.92	R 58.40
8		2	R 2.92	R 0.00
9	45	2	R 2.92	R 262.80
10		2	R 2.92	R 0.00
11	60	2	R 2.92	R 350.40
12		2	R 2.92	R 0.00
13		2	R 2.92	R 0.00
14	200	2	R 2.92	R 1 168.00
15	60	2	R 2.92	R 350.40
16		2	R 2.92	R 0.00
17	45	2	R 2.92	R 262.80
TOTAL	**255**			**R 3 270.40**
Average transport costs/meeting				**R 3 270.40**

There was no cost information found for **parking and** flights in the source documents utilised for this analysis

3.2. Catering	**R 1 200.50**

AVERAGE COST PER MEETING OF THE ASSESSORS OF PORTFOLIOS	**R 5 170.90**

ANNEXURE 24: COURIER SERVICES COSTS

Portfolio Assessment				Moderation			Pre-Reg Examination Scripts Marking			Meeting Agendas Education Committee		
Assessor' Name	**No. of Port**	**wt**	**Courier cost**	**Moderator's Name**	**wt**	**Courier cost**	**Examiner**	**wt**	**Courier cost**	**Member's Name**	**wt**	**Courier cost**
C Hanson	24	8	R 721.52	A Gous (portfolios)	2	R 112.00	**Conduct march exam**					
S Burton	20	19	R 3 373.62		1	R 106.40		2	R 347.21	**March**		
E Helberg	17	31	R 2 529.06		3	R 126.55		2	R 347.21	C Dangor	6	R 224.00
K Ward	8	23	R 1 602.58		4	R 245.27		2	R 341.21	K Johnson	6	R 224.00
C Oltman	20	35	R 3 601.90		1	R 106.40		2	R 347.21	M Lowes	6	R 187.04
I Modipa	21	47.5	R 4 403.64		1	R 166.67		1	R 112.00	D Oliver	6	R 187.04
S Boschmans	19	43	R 3 995.10		4	R 245.27		1	R 112.00	P Naidoo	6	R 224.00
P Naidoo	25	35	R 3 106.24		4	R 166.67		1	R 106.40	R Walker	6	R 224.00
S Fourie	20	22	R 789.48		5	R 219.30		1	R 112.00	M Joubert	6	R 187.04
M Matlala	19	118	R 2 448.28		0.5	R 166.67		1	R 166.67	L Mulovhedzi	6	R 224.00
V Padayachee	23	57.5	R 2 719.32		1	R 166.67	**sub-total**		**R 1 991.91**	L Moshiga	6	R 224.00
E Keeve	21	44	R 2 882.46		0.5	R 118.42				S Boschmans	6	R 224.00
N Butler	22	25	R 2 321.06		1	R 118.42				A Gous	6	R 187.04
R Steyn	24	23	R 1 917.56				**Conduct July exam**			**sub-total**		**R 2 316.16**
S Naidoo	27	33	R 1 728.08					2	R 333.34			
M Patterson	21	45	R 2 211.41					5	R 385.08			
H Meyer	19	26	R 460.53	S Putter (portfolios)	5	R 425.60		2	R 350.88	**June**		
TOTAL	**350**	**635**	**R 40 811.84**		17	R 712.28		6	R 485.97	C Dangor		
AVERAGE/portfolio		**1.81**	**R 116.61**		17	R 823.68		0.5	R 333.34	K Johnson		
				TOTAL	**67**	**R 4 026.27**		4	R 535.96	M Lowes		
				AVERAGE/portfolio		**R 100.66**		0.5	R 447.37	D Oliver	2	R 184.21
								4	R 564.91	P Naidoo		
								4	R 512.28	R Walker	0.5	R 184.21
							sub-total		**R 3 949.13**	M Joubert		
										L Mulovhedzi		
							Conduct October exam			L Moshiga		
										S Boschmans		
								1	R 184.21	A Gous	1	R 166.67
								1	R 184.21	**sub-total**		
								1	R 166.67			
								4	R 184.21			
								1	R 166.67	**November**		
								1	R 166.67	C Dangor	4	R 271.05

	1	R 166.67	K Johnson	4	R 271.05
	1	R 166.67	M Lowes	4	R 271.05
	1	R 144.74	D Oliver	4	R 271.05
sub-total		**R 1 530.72**	P Naidoo	4	R 271.05
			R Walker	4	R 271.05
			M Joubert	4	R 271.05
Average cost/exam		**R 2 490.59**	L Mulovhedzi	4	R 271.05
Average cost/script		**R 16.03**	L Moshiga	4	R 271.05
			S Boschmans	4	R 271.05
			A Gous	5	R 231.58
Annemarie	4	R 168.00	**sub-total**		**R 2 942.08**
	1	R 112.00			
	25	R 1 043.86			
Andries	4	234	**courier cost/meeting**		**R 2 629.12**
	15	R 573.00			
	0	R 0.00			
sub-total		**R 2 130.86**			
Average cost/exam		**R 710.29**			
Courier costs/exam		**R 3 200.87**			

Heads of Schools			University Inspections			Private Providers		
Member's Name	**wt**	**Courier cost**	**Member's Name**	**wt**	**Courier cost**	**Member's Name**	**wt**	**Courier cost**
Walker	1	R 112.00				Jooste	0.5	R 166.67
Gous	1	R 106.40	**UKZN**			Augustyn	0.5	R 166.67
Kotze	1	R 106.40	M Lubbe	4	R 166.67	Yanta	0.5	R 144.74
Malan	1	R 112.00	S Malan	4	R 166.67	Soopee	0.5	R 166.67
Suleman	1	R 112.00	P Danckwerts	4	R 144.74	Summers	0.5	R 144.74
Danckwerts	1	R 106.40	S Skweyiya	4	R 166.67	Phasha	0.5	R 144.74
Milne	1	R 112.00	S Boschmans	4	R 166.67	Nysschen	0.5	R 144.74
Dangor	1	R 112.00	C Shabalala	4	R 166.67			
sub-total		**R 879.20**	**Final Report**					
			HOS	2	R 166.67			
			Dean	2	R 166.67			
			DVC	2	R 166.67			
			UWC					
			J Bergh	1	R 166.67			
			S Boschmans	1	R 166.67			
			P Naidoo	1	R 166.67			
			S Skweyiya	1	R 166.67			
			K Johnson	1	R 166.67			
			Y Choonara	1	R 166.67			

ANNEXURE 25: EVALUATION OF CREDENTIALS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Receive application documents	CC Clerk	10.0	0.17	R 33.09	R 5.52
2	Check documents for correctness	CC Officer	25.0	0.42	R 51.36	R 21.40
3	Evaluate application	ET Manager	20.0	0.33	R 140.01	R 46.67
4	Validate application	Snr ET Manager	15.0	0.25	R 206.08	R 51.52
5	Evaluate application	Edu Committee				R 0.00
6	Inform candidates of decision	ET Manager	5.0	0.08	R 140.01	R 11.67
SUB-TOTAL			75.0	1.3		**R 136.77**

Evaluation costs by the Education committee

meeting	march			june			sep			nov			
year	total items	Foreign appl item	% internship items	total items	Foreign appl item	% internship items	total items	Foreign appl item	% internship items	total items	Foreign appl item	% internship items	total %
2008	20	1	5.00%	17	1	5.88%	25	1	4.00%	0	0	0.00%	3.72%
2009	15	1	6.67%	18	1	5.56%	23	1	4.35%	31	1	3.23%	4.95%
2010	24	1	4.17%	0	0	0.00%	35	1	2.86%	27	1	3.70%	2.68%
Average													**3.78%**

Average number of applications per meeting

year	march	june	sep	nov	Total
2008	13	12	3		9
2009	4	3	8	9	6
2010	10		12	2	8
Average	9	8	8	6	7

2009/2010 separate volume of documents			
Total sheets used/volume	**No. Of Applicants**	**Total A4 colour sheets used**	**Total A4 white sheets used**
128	4	44	84
70	2	22	48
305	11	121	184
128	5	55	73
29	1	11	18
53	1	11	42
280	8	88	192
153	4	44	109
313	6	66	247
Average sheets used/volume		**51**	**111**

Average costs of evaluation by Committee per meeting R 1 400.86
Average cost of evaluation by Committee per applicant R 188.88

AVERAGE COST OF EVALUATING CREDENTIALS/APPLICANT **R 325.65**

ANNEXURE 26: SECURE EXAM VENUES

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Request venues	Sec Support	5	0.08	R 87.69	R 7.31
2	Create exam-venue	ET Manager	5	0.08	R 140.01	R 11.67
3	View venue	ET Manager	0	0.00	R 0.00	R 0.00
4	Request payment	Snr. Manager	0	0.00	R 0.00	R 0.00
5	Generate venues lists	Practitioner	0	0.00	R 0.00	R 0.00
TOTAL						**R 18.98**

venues required for all examinations	8
No. Of examinations conducted	2
average number of venues/exam	**4.0**

AVERAGE COST OF SECURING VENUES/EXAM **R 75.90**

ANNEXURE 27: APPOINT INVIGILATORS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Request names	ET Manager	5.0	0.08	R 140.01	R 11.67
2	Create exam-invigilator	ET Manager	5.0	0.08	R 140.01	R 11.67
3	Appoint invigilator	ET Manager	5.0	0.08	R 140.01	R 11.67
4	Authorize appointment	ET Manager	2.5	0.04	R 140.01	R 5.83
5	Send appointment	Secretary	2.5	0.04	R 64.36	R 2.68
TOTAL						**R 43.52**

Material costs:

	cost/unit	qty	total cost
A4 white sheet	R 0.33	4	R 1.32
Envelope	R 0.21	4	R 0.84
Registered mailing services	R 17.65	4	R 70.60
Total			**R 72.76**

AVERAGE COST OF APPOINTING AN INVIGILATOR	**R 116.28**

Exam	Pretoria	Durban	Port Elizabeth	Cape Town	Total
June	3	1	1	1	3
October	3	1	1	1	3
total invigilators/year	**6.0**	**2.0**	**2.0**	**2.0**	**12.0**

total invigilators required for exams	12
no. Of examinations conducted	2
average number of invigilators/exam	**6**

AVERAGE COST OF APPOINTING INVIGILATORS/EXAM **R 697.67**

ANNEXURE 28: APPOINT EXAMINERS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Request CVs	ET Manager	45.0	0.75	R 140.01	R 105.01
2	Table CV for committee	ET Manager	2.5	0.04	R 140.01	R 5.83
3	Create exam-examiner	ET Manager	5.0	0.08	R 140.01	R 11.67
4	Appoint examiners	ET Manager	4.0	0.07	R 140.01	R 9.33
5	Send appointment	Secretary	2.5	0.04	R 64.36	R 2.68
TOTAL						**R 134.52**

Material costs:	**cost/unit**	**qty**	**total cost**
A4 white sheet	R 0.33	14	R 4.62
Envelope	R 0.21	14	R 2.94
Registered mailing services	R 17.65	14	R 247.10
Total			**R 127.33**

AVERAGE COST OF APPOINTING AN EXAMINER PER EXAM	**R 194.59**

ANNEXURE 29: APPOINT MODERATORS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Request CVs	Manager	45.0	0.75	R 140.01	R 105.01
2	Table CV for committee	Manager	2.5	0.04	R 140.01	R 5.83
3	Create exam-moderator	Manager	5.0	0.08	R 140.01	R 11.67
4	Appoint moderator	Manager	4.0	0.07	R 140.01	R 9.33
5	Send appointment	Secretary	2.5	0.04	R 64.36	R 2.68
TOTAL						**R 134.52**

Material costs:	**cost/unit**	**qty**	**total cost**
A4 white sheet	R 0.33	14	R 4.62
Envelope	R 0.21	14	R 2.94
Registered mailing services	R 17.65	14	R 247.10
Total			**R 127.33**

AVERAGE COST OF APPOINTING A MODERATOR PER EXAM R 194.59

ANNEXURE 30: EVALUATE EXAM APPLICATIONS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Receive applications	Customer care	5.0	0.08	R 140.01	R 11.67
2	Evaluate application	ET Manager	5.0	0.08	R 140.01	R 11.67
3	Verifies applicant information	ET Manager	2.5	0.04	R 140.01	R 5.83
4	Approve application	ET. Manager	2.5	0.04	R 140.01	R 5.83
5	Send confirmation	Secretary	2.5	0.04	R 62.84	R 2.62
TOTAL						**R 1 467.21**

Material costs:	**cost/unit**	**qty**	**total cost**
A4 white sheet	R 0.33	1	R 0.33
Envelope	R 0.21	1	R 0.21
short message services (sms)	R 0.22	1	R 0.22
Total			**R 29.64**

	2007		2008		2009		2010	
	June	**oct**	**June**	**oct**	**June**	**oct**	**June**	**oct**
Pharmacology	9	14	12	1	8	8	12	16
Pharmaceutics & Chemistry	9	13	22	1	8	11	11	11
Practice & Admin	9	13	13	1	7	8	10	9
Law & Ethics	8	14	13	1	4	11	13	12
Total papers per exam	35	54	60	4	27	38	46	48
Average number of papers per exam								**39**

TOTAL COST OF APPOINTING INVIGILATORS **R 1 496.85**

ANNEXURE 31: SET PAPER

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Prepare schedule	ET. Manager	5.0	0.08	R 140.01	R 11.67
2	Approve schedule	ET. Manager	2.5	0.04	R 140.01	R 5.83
3	Finalise schedule	ET. Manager	0.0	0.00	R 0.00	R 0.00
	register system					R 0.00
						R 0.00
SUB-TOTAL						**R 17.50**

Fees claimed by Examiners	
Examiner 1	R 900.00
Examiner 1	R 900.00
Examiner 2	R 900.00
Examiner 3	R 900.00
Examiner 4	R 900.00
Total	**R 4 500.00**

TOTAL COST OF SETTING PAPER PER EXAM **R 4 517.50**

ANNEXURE 32: MODERATE PAPER

Fees claimed by moderators

Moderator 1	R 450.00
Moderator 2	R 450.00
Moderator 3	R 450.00
Moderator 4	R 450.00
Moderator 5	R 450.00
Sub-Total	**R 2 250.00**

Professional exam task team teleconference costs (for 5 disciplines)

			Call duration		
Member	**Line type**	**Cost/Unit**	**min**	**hrs**	**Total cost**
Moderator	Land	R 1.50	45	0.75	R 1.13
Examiner	Land	R 1.50	45	0.75	R 1.13
Office	Land	R 1.50	45	0.75	R 1.13
Connection fee		R 72.45			R 72.45
Total Pre-registration task team teleconference cost					**R 379.13**

TOTAL COST OF MODERATING PAPER/EXAM	**R 2 629.13**

ANNEXURE 33: CONDUCT EXAMINATIONS

1. Process cost

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Papers /exam	Labour rate/hr	Cost
1	Print paper	ET. Manager	60	1	4	140.01	R 560.04
		Secretary	60	1	4	64.36	R 257.44
2	Arrange courier to venues	Secretary	3	0.04	4	R 64.36	R 10.73
3	Conduct examinations	Invigilators	540	9.00	4	R 100.00	R 3 600.00
3	Arrange courier from venues	Secretary	3	0.04	4	R 64.36	R 10.73
4	Receive scripts	ET. Manager	39	0.65	4	R 140.01	R 364.03
SUB-TOTAL							**R 4 802.96**

2. Conduct examinations

(a) External Invigilators

No. of exams		2
Total invigilators used for 2 exams		6
Average No. of invigilators/exam		3
Duration/exam in minutes (i.e. 3hrs)		180
Total time claimed/exam		**540**

(b) Internal/Council Invigilators	Duration	No of Papers /exam	Rate	Total
E. Practitioner	**1**	4	R 87.69	R 350.76
E. Officer	**1**	4	R 62.84	R 251.36
Secretary	**1**	4	R 64.36	R 257.44
Total time claimed/exam				**R 859.56**

3. Material		cost/ sheet	No of sheets/ paper	No of Papers /exam	total cost
A4 white sheet	Exam papers/exam	R 0.33	12	39	R 154.44
	Answer books	R 0.33	15	78	R 386.10
	invigilator pack/exam	R 0.33	48	4	R 63.36
TOTAL MATERIAL COST					**R 603.90**

4. Courier services courier costs per exam **R 1 000.02**

Invigilator pack/exam

Item	Qty
Covering Letter	4
Exam Instructions/Guidelines	4
candidate list	4
Claim form	4
Total sheets/invigilator	16
No. of invigilators/exam	3
Total Invigilator pack/exam	**48**

Receive scripts

Average No. of scripts/exam	39
Time for checking a script (min)	1
Time for checking scripts/exam	**39**

Courier costs incurred for conducting Professional Examination

Examination Centre	wt	Courier cost
Conduct exams		
Mojapelo	1	R 333.34
Symonds	1	R 333.34
Milne	1	R 333.34
COURIER COSTS/EXAM		**R 1 000.02**

AVERAGE COST OF CONDUCTING EXAMS/EXAM R 7 266.44

ANNEXURE 34: MARK SCRIPTS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Prepare script for examiner	ET Manager	1.0	0.02	R 140.01	R 91.01
2	Arrange for courier scripts	Secretary	3.0	0.05	R 64.36	R 3.22
3	Mark scripts (R40/script)					R 1 560.00
4	Arrange for collection of scripts	Secretary	3.0	0.05	R 64.36	R 3.22
5	Receive scripts	ET Manager	1.0	0.02	R 140.01	R 91.01
SUB-TOTAL						**R 1 748.45**

Courier costs per examination

Average Courier costs/examination	**R 1 833.37**

courier services costs for marking

P Naidoo	1	R 333.34
J Syce	0.5	R 333.34
A Gray	1	R 333.34
N Naidoo	3.5	R 666.68
H Leng	1	R 166.67
COURIER COSTS/EXAM		**R 1 833.37**

TOTAL COST OF MARKING/EXAM	**R 3 581.82**

ANNEXURE 35: MODERATE SCRIPTS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Prepare scripts for moderator	ET Manager	1.0	0.02	R 140.01	R 91.01
2	Arrange for courier scripts	Secretary	3.0	0.05	R 64.36	R 3.22
3	Moderate scripts (R20/script)					R 780.00
4	Arrange for collection of scripts	Secretary	3.0	0.05	R 64.36	R 3.22
5	Receive scripts	ET Manager	1.0	0.02	R 140.01	R 91.01
SUB-TOTAL						**R 968.45**

Courier costs per exam

Total Courier costs/exam	**R 701.76**

Courier services costs for moderation

C Dangor		
A Gous	2	184.21
M Lubbe	1	184.21
S Boschmans	2	333.34
S Malan		
PAPER COURIER COSTS/EXAM		**701.76**

TOTAL COST OF MODERATINGING/EXAM	**R 1 670.21**

ANNEXURE 36: PREPARE EXAM RESULTS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Prepare results	ET. Manager	180.0	3.00	R 140.01	R 420.03
2	Check results	Snr ET. Manager	45.0	0.75	R 206.08	R 154.56
4	Approve results	Registrar/CEO	20.0	0.33	R 297.16	R 99.05
5	Release results	ET. Manager	2.5	0.04	R 140.01	R 5.83
SUB-TOTAL						**R 679.48**

Release results

Total No. of attempts	39
Short messages service (sms)	R 0.22
Average sms costs/exam	**R 8.58**

Material costs:

	cost/unit	qty	total cost
A4 white sheet	R 0.33	39	R 12.87
Envelope	R 0.21	39	R 8.19
Registered mailing services	R 6.25	39	R 243.75
Average material costs/exam			**R 264.81**
Average release cost/exam			**R 273.39**

TOTAL COST OF PREPARING RESULTS/EXAM	**R 952.87**

ANNEXURE 37: EVALUATE PROGRESS REPORTS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Receive & create case	CC. Officer	2.5	0.04	R 51.36	R 2.14
2	Evaluate	E. Officer	2.5	0.04	R 62.84	R 2.62
3	Prepare feedback	E. Practitioner	2.0	0.03	R 87.69	R 2.92
4	Verify & sign	E. Manager	1.5	0.03	R 140.01	R 3.50
5	Send feedback	E. Officer	2.0	0.03	R 62.84	R 2.09
SUB-TOTAL						**R 13.28**

Estimated number of processed progress reports

Leaner-Basic Assistants		
	First report	540
	Second report	540
Learner Post-Basic		
	First report	940
	Second report	940
	Total reports evaluated	**2960**

Material costs:

	cost/unit	qty	total cost
A4 white sheet	R 0.33	1	R 0.33
Envelope	R 0.21	1	R 0.21
Normal mailing services	R 6.25	1	R 6.25
Average material costs/exam			**R 6.79**

AVERAGE COST OF EVALUATING A PROGRESS REPORT **R 20.07**

ANNEXURE 38: MANAGE UNIVERSITY INSPECTION PROCESS

Stage	Description	Responsible personnel	Labour Time (min)	Labour Time (hrs)	Labour rate/hr	Cost
1	Prepare inspection schedule	ET Manager	5.0	0.08	R 140.01	R 11.67
2	Appoint panel & Inform Provider	ET Manager	10.0	0.17	R 140.01	R 23.34
3	Receive self-assessment tool	ET Manager	2.5	0.04	R 140.01	R 5.83
4	Prepare inspection material	ET Manager	2.5	0.04	R 140.01	R 5.83
5	Distribute inspection material	Secretary	2.5	0.04	R 64.36	R 2.68
6	Arrange transport & Accommodation	Secretary	20.0	0.33	R 64.36	R 21.45
7	Conduct teleconference	Panel				R 472.50
8	Conduct visit	Manager	960.0	16.00	R 140.01	R 2 240.16
9	Conduct visit	Registrar	960.0	16.00	R 297.16	R 4 754.56
10	Receive individual reports	ET Manager	9.0	0.15	R 140.01	R 21.00
11	Compile draft report	ET Manager	900.0	15.00	R 140.01	R 2 100.15
12	Analysis of report	Committee				R 0.00
13	Approval of report	Council				R 0.00
14	Send final report to provider	Secretary	7.5	0.13	R 64.36	R 8.05
TOTAL						**R 9 667.22**

Conduct inspection panel teleconference

Member	Line type	Cost/Unit	Call duration	Total cost
1	Land	R 1.50	45	R 67.50
2	Land	R 1.50	45	R 67.50
3	Land	R 1.50	45	R 67.50
4	Land	R 1.50	45	R 67.50
5	Land	R 1.50	45	R 67.50
6	Land	R 1.50	45	R 67.50
7	Land	R 1.50	45	R 67.50
Connection fee		R 72.45		R 0.00
Total inspection panel teleconference costs				**R 472.50**

ANNEXURE 39: EDUCATION COMMITTEE MEETING

meeting	Total No. Of items per meeting			
year	March	June	September	November
2008	20	17	25	0
2009	15	18	23	31
2010	24	0	35	27
Average	**20**	**12**	**28**	**19**

Average No. Of items per meeting	20
No. Of University inspection items per meeting	1
% of University inspection items per meeting	5.11%
Average costs of the Education Committee per meeting	R 37 022.47
Average Inspection costs per meeting conducted	**R 1 890.51**

ANNEXURE 40: GENERAL LEDGER OVERHEADS ACCOUNTS

EDUCATION DEPARTMENT OVERHEAD COST BUDGET												
GL COSTS:	R 225 924.77											
ABC COSTS:	R 693 948.10											
VARIANCE:	R 468 023.33	67.44%										
ITEM DESCRIPTION	Pre-Reg. Examination Expenses	Portfolio Assessment Expenses	Workshop Expenses	Supplementary Evaluation Expenses	Professional Examination Expenses	Verification Visit	RPL Portfolio Assessments	Accreditation of Private Providers	Accreditation of Courses	Heads of Pharmacy Schools	University Inspections	Education Committee Meeting
ITEM CODE	2305		2310						2315	4332	2500	4200
ITEM COSTS	R 225.00	R 440.00	R 87.60	R 3 948.72	R 30.00	R 329.96	R 145.08	R 630.72	R 17 456.25	R 17 854.20	R 47 222.77	R 27 850.82
	R 30.00	R 440.00	R 67 913.11	R 3 459.36	R 1 260.00	R 2 135.44		R 1 005.40			R 970.00	
	R 225.00	R 330.00	R 154.76	R 438.00	R 1 230.00	R 2 598.40					R 1 100.00	
	R 225.00	R 330.00			R 1 290.00	R 283.24					R 970.00	
	R 225.00	R 330.00			R 1 200.00	R 1 274.84					R 970.00	
	R 236.25	R 110.00				R 86.85					R 934.40	
	R 225.00	R 75.00				R 388.52					R 184.40	
	R 225.00	R 75.00				R 950.60					R 240.77	
	R 225.00	R 440.00									R 289.48	
	R 300.00	R 330.00									R 140.00	
	R 2 587.50	R 330.00									R 140.00	
	R 225.00	R 330.00									R 140.00	
	R 900.00	R 330.00									R 140.00	
	R 450.00	R 220.00									R 140.00	
	R 900.00	R 220.00									R 175.00	
	R 450.00	R 330.00									R 210.00	
	R 225.00	R 330.00									R 280.00	
	R 225.00	R 330.00										
	R 225.00	R 165.00										
	R 225.00	R 440.00										
	R 225.00	R 220.08										
	R 225.00											
	R 225.00											
	R 225.00											
	R 225.00											

	R 236.00											
	R 236.25											
	R 225.00											
	R 225.00											
	R 225.00											
	R 705.00											
GL COSTS	**R 11 531.00**	**R 6 145.08**	**R 68 155.47**	**R 7 846.08**	**R 5 010.00**	**R 8 047.85**	**R 145.08**	**R 1 636.12**	**R 17 456.25**	**R 17 854.20**	**R 54 246.82**	**R 27 850.82**
ABC COSTS	**R 94 401.37**	**R 124 067.22**	**R 160 565.10**	**R 14 763.63**	**R 46 555.13**	**R 8 047.85**	**R 145.08**	**R 1 636.12**	**R 17 456.25**	**R 18 940.48**	**R 59 280.00**	**R 148 089.87**
VARIANCE (%)	**R 82 870.37**	**R 117 922.14**	**R 92 409.63**	**R 6 917.55**	**R 41 545.13**	**R 0.00**	**R 0.00**	**R 0.00**	**R 0.00**	**R 1 086.28**	**R 5 033.18**	**R 120 239.05**
	87.79%	**95.05%**	**57.55%**	**46.86%**	**89.24%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**5.74%**	**8.49%**	**81.19%**

South African Pharmacy Council

Registered Office
SAPC Building
591 Belvedere Street
Arcadia, Pretoria,0083

Postal Address
Private Bag X40040
Arcadia, 0007

Customer Care Line
0861 7272 00

Fax
(27)12-321 1492 /1479

E-mail
customercare@sapc.za.org

Website
www.sapc.za.org

ANNEXURE 41: REQUEST FOR AUTHORISATION TO USE COUNCIL DATA

Dear Registrar: Mr A Masango

I wish to request permission to use Council data for fulfilling the requirements for the compilation of an MBA mini-dissertation as required for successful awarding of the degree by the North-West University (NWU).

The report on this analysis shall be classified as confidential according to the rules prescribed by the Senate of the NWU and the prescripts laid down by the Senate with regard to the examination process. The policy on confidentiality of Council information/data shall be adhered to, as a matter of principle throughout the developmental phases of the report. The final version of the report shall be made available to the SAPC.

I wish to thank you in anticipation.

Yours sincerely,

MANAGER: EDUCATION AND TRAINING
MD Gaula
9 March 2011

ANNEXURE 42: DISSERTATION TITLE REGISTRATION

NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOMKAMPUS

KENNIS TER INDIENING / *NOTICE OF SUBMISSION*

Titel, volle name en van:
Title, first names and surname: **MOLAUDI DANIEL GAULA**.....

Adres (korrespondensie):
Address (correspondence): **7206 SECTION U, MAMELODI WEST, PTA, 0122** .....
.....

Tel (k/u): Universiteitsnr.
Tel (o/h): ***0726716647*** ..... *University no:* ***20141246*** .....

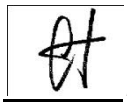
Kwalifikasie waarvoor tans ingeskryf: Promotor/Studieleier:
Qualification currently registered for: ***MBA***. *Promoter/Supervisor*: **Prof A SMIT** ....

Titel:*Title*: **Activity-Based Costing system for a non-profit organisation**
.....
.....
.....

Beoogde indieningsdatum:
Intended submission date: **30 JANUARY 2011**.....

Handtekening van student/*Signature of student:*

Handtekening: Datum:

Signature:  ..... *Date:* **30 JULY 2010**.....

Handtekening van Promotor of Studieleier/*Signature of Promoter or Supervisor:*
(Promotor/Studieleier bevestig hiermee dat die student aan die minimum duur van studie voldoen en dat alle aspekte rakende die student se titelregistrasie en benoeming van eksaminatore wel in orde is)
(Promoter/Supervisor hereby confirms that the student has complied with the minimum period of study and that all aspects regarding the student's title registration and appointment of examiners are in order)

Handetekening: Datum:
Signature: ..... *Date:* .....

Kennis moet drie maande voor indiening gegee word aan Akademiese Administrasie.
Notice must be given to Academic Administration three months prior to submission.

U sal dan 'n brief ter erkenning ontvang. Hierin sal u titel soos wat dit geregistreer is, vermeld word,

asook die aantal kopieë wat vir eksaminering ingedien moet word.
You will receive a letter confirming receipt of notice of submission. The title as registered as well as the number of copies to be submitted for examination will be stated.

Indien u nie indien soos u kennis gegee het nie, moet u weer drie maande voor die volgende indieningsdatum kennis gee.
Should you fail to submit as you intended doing, you will have to give notice three months prior to the next submission date.

ANNEXURE 43: APPROVAL/AUTHORISATION TO USE COUNCIL DATA

The South African Pharmacy Council

Internal Office Memorandum

TO:	Mr K Gaula
FROM:	Registrar/CEO
CC:	
DATE :	23 March 2011

RE :	

Thank you for your letter dated 9 March 2011.

Your request for permission to use Council data for the purpose of fulfilling the requirements for the compilation of an MBA mini-dissertation for the awarding of a degree by the North-West University is hereby approved.

The office would appreciate a copy of the final version of the report when available.

TA MASANGO
REGISTRAR/CEO

/ag