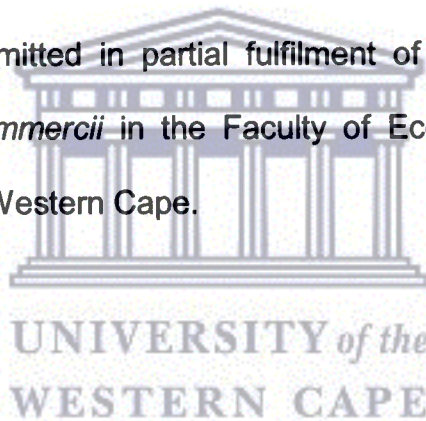An exploratory investigation into the feasibility of turning the student identification card into a debit card: The case for the University of the Western Cape.

By

Okoko OSAMBO

A research project submitted in partial fulfilment of the requirements for the degree of *Magister Commercii* in the Faculty of Economic and Management Sciences, University of Western Cape.
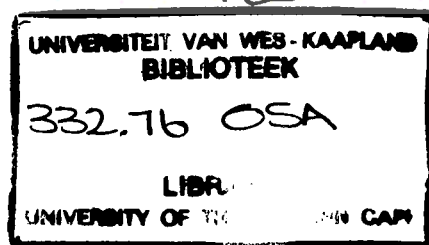
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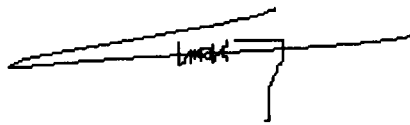Supervisor: Mr. Kobus VISSER

November 2003.

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DECLARATION

I, Okoko Osambo declare that "An exploratory investigation into the feasibility of turning the student identification card into a debit card: The case for the University of the Western Cape." is my own work and that all the sources I have quoted have been indicated and acknowledged by means of references.
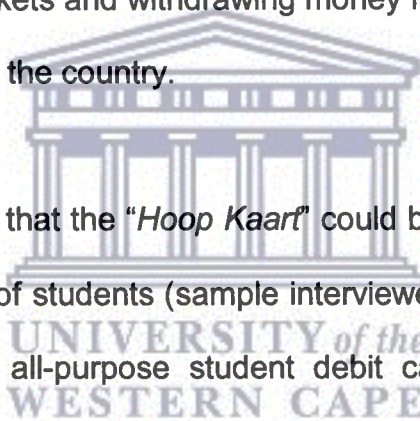
Signature...   ....Date...*14 November 2003*...........

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ABSTRACT

This study investigates the financial, marketing as well as technological feasibility of turning the current University of Western Cape (UWC) Student ID Card into a more featured debit card called the "*Hoop Kaart*". This debit card will offer the functionality of access to secure UWC areas, the purchase and use of photocopying credits, the purchase of printing credits, taking out library books; and identification, as the old student card does. It will also have the added functionality of replacing cash when paying for vending machines, cafés, take-aways, shops, supermarkets and withdrawing money from ATMs, at UWC, within South Africa and outside the country.

The study demonstrates that the "*Hoop Kaart*" could be a feasible product in the student market as 65% of students (sample interviewed) have accepted to carry and use the proposed all-purpose student debit card to utilise services on campus, as well as accessing retail services on and off-campus.

As a hybrid card combining both magnetic stripe technology and smart chip technology, it will be technologically feasible by connecting online and off-line the on-campus and the off-campus point-of-sales to the current UWC computer network and to the computer system of the bank that will underwrite the operations.

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The *"Hoop Kaart"* will be financially beneficial to the university, as it will generate substantial revenues for the university. These revenues will emanate mainly from the purchasing of the student card, the advertisements on the student debit card and from the bank that will underwrite the process.

Although the *Hoop Kaart* will require an initial investment, the research shows that it will provide a positive Net Present Value, a greater Internal Rate of Return and a relatively short payback period.

A proper application of marketing techniques consisting in a thorough examination of the marketing mix (product, price, promotion and place) for the student debit card will allow the *"Hoop Kaart"* to fulfill students' need of an "one-in-all" debit card which, by creating progressively a cashless campus, will allow both a parsimonious use of student's funds and the enhancement of security on campus.

ACKNOWLEDGEMENTS

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I also wish to thank Mr. Madiny Darries, Director of Information Technology at UWC and his team, who willingly shared their resources and whose views and insights on the subjects helped me to shape my own.
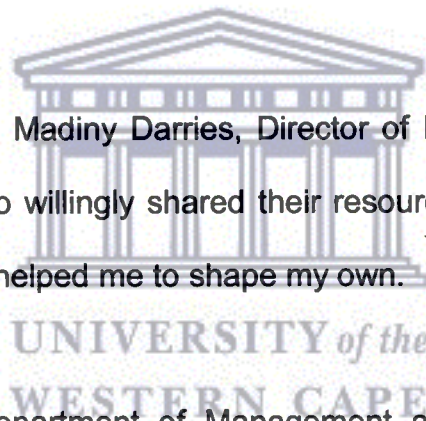
To the team of the Department of Management and UWC Writing Centre, ✓ particularly Ms. Margo Simon, Ms. Suenique Boois and Ms. Rosetta Scheepers for their support: thank you.

Lastly to all my colleagues at UWC and UCT: Ping Yu, Robert Ndaba, James Rait, Addmore Ndudzo, Patrick Mokoena, Thurston Marinus, Ebenezer Ayieh, Richard Niyonkuru, Thabiso Mathabatha, Rofiwa Libago, Pinehas Mweya and Ndumiso Mafani: thank you.

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DEDICATION

I dedicate this work to my dearest Father and Mother, Jean Paul Okoko and Louise Mwamba, who have been my pillars of strength and source of inspiration and without whose love I would never come this long road.

This is also a special gift to my friend Brother René Roy, his friends and his students at the Bishop Donahue Higher school in Wheelings, West Virginia (USA) for their inexhaustible generosity, without them my postgraduate studies in South-Africa would have been impossible: thank you very much.

I also dedicate this work to my uncle Gaby Mwamba and his wife Tantine Christine, who have been the first ones to believe in my ability to do something good in South Africa: *Merci beacoup Tonton et Tantine*.

To my wife, Sylvie Ekanga Lumumba and our children: Emmanuel, Lucie, and Louise, for their patience and love.

To Patrick Okoko, Gift Zawadi and Papy Kalombo who had endured beside me in Cape Town.

To Professor Rwigamba Balinda, Rector of the Kigali Independent University, Professor Augustin Mutabazi, Dean of the Faculty of Economic Sciences of the

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To all my students in the Democratic Republic of Congo and in Rwanda for their fervent support.

Thanks all.

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KEY WORDS

Automated Teller Machine (ATM)

Computer network

Debit card

Financial feasibility

Magnetic stripe Card

Marketing feasibility

Point-of-sale

Student debit card

Technology

University of the Western Cape

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CHAPTER 1. INTRODUCTION

1.1. INTRODUCTION

This chapter gives a short historic overview on the debit card and on the student debit card. It also introduces the motivation and the importance of this study. This is followed by the presentation of the problem statement, the hypotheses and the assumption of the study. The definition of key terms and concepts used in this study are explained. An outline of the project completes the chapter.

1.2. BACKGROUND, MOTIVATION AND IMPORTANCE OF THE STUDY.
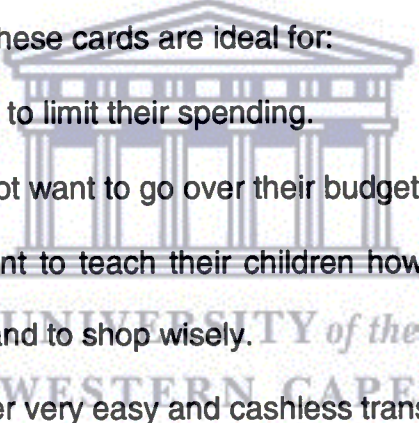
1.2.1. Background.

The 1970s have seen an unprecedented usage of the magnetic stripe card. This process started to be used on paper and filmbased ID cards as well as credit and debit cards, as affirmed by Eltroncards (2003). Magnetic stripe technology became therefore widely used throughout the United States of America and the world; it appeared as the dominant technology for access control and remote transaction processing. Other technologies such as the Portable Data File (PDF) bar code and smart chip cards are now capturing part of the magnetic stripe card market since they can hold more information, pursues Eltroncards (2003). The magnetic stripe technology allows banks, department stores, and many other vendors to issue both credit and debit cards to their customers. These cards

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work as means of payments. In order for customers to use them in transactions, they must have a current cheque or savings account with these banks, department stores or other vendors. When customers make a purchase using their debit cards, the money is transferred from their current account as if they had written a cheque or paid cash, underlines Keenan (2003:30-33). According to the research firm Raddon Financial (Keenan, 2003:30), 65% of American households possessed a debit card in September 2002. Those households used their debit card for mostly merchandise purchase purposes and for cash withdrawals at Automatic Teller Machines.

Killian (2003) shows that these cards are ideal for:

- People who want to limit their spending.

- People who do not want to go over their budget.

- Parents, who want to teach their children how to create a budget, to manage money and to shop wisely.

- People who prefer very easy and cashless transactions.

King (1999:18), Fickes (1999:22-24) and Moneta (1997:5-16) affirm that there has been a push in the last couple of years for a multipurpose card that offers students at tertiary institutions a simple and unique mechanism to conduct their day-to-day business. This card would serve simultaneously as a student ID card, an access card, a library card, a balance card for all on-campus purchases at cafeterias, vending machines, laundry facilities, bookstores, events halls, and eventually as a bank card and as a balance card at some off-campus retailers

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who will accept the tertiary institution card as means of payments in business transactions.

Many tertiary institutions worldwide, particularly in the United States of America implemented this system to cater for their students' need, amongst them: the Northeastern University (Fickes, 1999); the University of Pennsylvania (*University of Penysylvania*, 2003); the Florida Atlantic University (*Florida Atlantic University*, 2003); The Memorial University (*Memorial University*, 2003) and many other (Cray, 1997). The potential scope of a new student ID and debit card services is summarized in the Table 1.1 below :

Table 1.1 : Summary of the potential scope of the student debit card.			
	Operations online on campus	Operations online off campus	Operations offline on campus
BURSAR			
➢ Payments		X	
➢ Inquiry	X		
➢ Refunds		X	
COMPUTING			
➢ Printer fees			X
➢ Usage fees		X	
➢ Access control	X		
➢ Network charges		X	

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BUSINESS AND FINANCE			
➢ Time and attendance	X		
➢ Direct deposit		X	
HOUSING AND FOOD SERVICES			
➢ Meal plans/dining access	X	X	
➢ Residences security access	X		
➢ Time and attendance	X		
➢ Laundry services			X
➢ Vending			X
FINANCIAL AID			
➢ Electronic applications	X		
➢ Electronic payments		X	
STUDENT GOVERNMENT			
➢ Event access	X		
➢ Equipment checkout	X		
➢ Usage payments		X	
COMMERCIAL USAGE			
➢ Long distance telephone			
➢ Banking	X	X	
➢ ATM services		X	
➢ Point-of-sale (POS)			
➢ Off-campus (local) merchants		X	
➢ On-campus		X	

LIBRARY			
➤ Book checkouts	X		
➤ Fine billing		X	
➤ Copy service			X
➤ Fee base checkouts		X	
SECURITY SERVICES			
➤ Parking	X		
➤ Fine/Fee payments		X	
REGISTRAR			
➤ Address update	X		
➤ Phone registration	X		
➤ Class attendance	X		
➤ Lab access	X		
➤ Self Inquiry	X		
Source: Compliled from data from several universities in North America and the University of Stellenbosch, South Africa.			

1.2.2. Motivation and importance of the study.

In the way of technology, it has been observed that the South African society is rapidly catching -up with the rest of the world. There are so many credit and debit cards available on the market today, such as the Visa Card, MasterCard, Absa Flexi Card, Standard Bank Debit Card, various retailers debit cards and so forth.

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The primary objective of these cards is that of facilitating the life of consumers by making easier their daily retail operations of purchase. Amongst these consumers are tertiary institutions students.

The experiences of many North American universities , such as the Northeastern University in Boston, show that those tertiary institutions are very competent in implementing the student debit card (Fickes, 1999). However, the tertiary institutions in the Western Cape Province (South Africa), are not showing that progress yet, except in the case of the University of Stellenbosch, which will be explored at a later stage. Student cards of students in the Western Cape can not be used for many on and off-campuses purposes. The understanding of the multiple gains that can be obtained from the use of the student debit card, through the case of the University of Western Cape, constitutes the motivation behind this study.

1.3. PROBLEM SETTING, HYPOTHESES AND ASSUMPTION.

1.3.1. Problem Setting.

Kotler and Armstrong (2001:1) affirm that today there are many blessings for Humankind: vast improvements in modern medicine, extremely high productivity because of mechanisation and automation, the promise of computers and Internet, the rapid global trade, and the end of the cold war. Along side these

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blessings is the persistence of intractable problems: poverty; conflicts; environmental degradation; political dictatorship and so forth. Therefore, leaders of enterprises, public services; tertiary education institutions and so forth, are challenged to find a path that makes sense. They have to meet needs profitably.

The *Hoop Kaart*, the proposed new UWC student card, operating simultaneously as the official registration card and as a debit card, with other more features and with an improved and fun design offers UWC management the occasion to meet profitably the student need of an all-in-one card on campus, as it is the case in many north-American universities (Bambenek, 2001; Fickes, 1999; Hale, 1999; Hellevig, 1999; King, 1996; Cray, 1997; Moneta, 1997; Spoor, 1997; Morall, 1996).
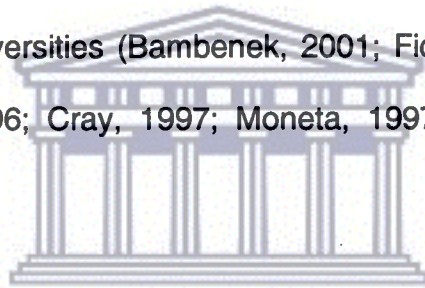
This proposed debit card will reduce inconveniences such as crime, losses, unplanned and costly expenses, and so forth, related to carrying multiple debit cards and cash, in non-digitally restricted areas. It is thus important to examine the technological and the financial feasibilities of this debit card, on one hand, and on the other, the marketing strategies that may be applied in order to meet the requirements of the environment and hence to assure the success of the *Hoop Kaart* project. These strategies will make use of the new, diversified and improved electronic channels of communications, such as Internet for its promotion.

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1.3.2. Hypotheses.

In view of the experiences of many universities worldwide, particularly those in North- America and Western-Europe in implementing the student debit card, the literature on this topic and the researcher's own observations, it is possible to formulate the following hypothetical statements:

1.3.2.1. The *Hoop Kaart*, with its new and added features will be a feasible product for the UWC student niche market.

1.3.2.2. The *Hoop Kaart* will be technologically feasible by connecting online and off-line the functions-places to the UWC current computer network.

1.3.2.3. The *Hoop Kaart* will offer the functionality of the standard UWC student card and in addition will be a debit card for the campus shops, take-aways; cafés, vending machines, and for other on campus and possibly off-campus various payments (various business and finance transactions, accommodation and food service, library, parking and so forth).

1.3.2.4. The *Hoop Kaart* will be financially beneficial to the University and it will generate substantial revenues for the university. These revenues will emanate mainly from the purchasing of the student card, advertisements on the debit card and from the bank that will underwrite the process.

1.3.2.5. A proper application of marketing techniques will allow the *Hoop Kaart* to fulfill students' needs of a "one-in-all" debit card which, by creating progressively a cashless campus and it will also allow both a parsimonious use of student's funds and the enhancement of security on campus.

1.3.3. Assumption.

The study assumes the existence of a reliable computer network[1] at the University of Western Cape that gives it registered users in different buildings of the university the ability to share software, information and processing power.

1.4. DEFINITION OF KEY TERMS AND CONCEPTS.

The context of the problem statement and of the hypotheses of this study leads to the adoption of certain key terms and of their definition, as given hereafter:

1.4.1. Technology

Bergen (2003:3) affirms that technology is the technical means that people use to improve their surroundings. It is also the knowledge of using tools and machines to complete tasks efficiently. People use technology to control the world in which

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[1] Darries (2003) and Julies (2003) affirm that the UWC computer network is a reliable one, this system is able to support a student debit card system (particularly the Smart City Student Debit Card System which concerns this study).

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they live. Technology is then, people using knowledge, tools, and systems to make their lives easier and better. People use technology to improve their ability to do work. Through technology, people communicate better, they make more and better products and they travel more comfortably.

1.4.2. Debit card.

Wikipedia Encyclopedia (2003) defines a debit card as an ISO[2] 7810 card that is used as an alternative to cash when making purchases. However, when purchases are made with a debit card, the funds are withdrawn directly and immediately from the purchaser's bank account. The debit card uses the same underlying technology which allows Automated Teller Machines (ATMs) to dispense cash from a bank account at any location. The same method of personal identification is used by means of a numeric Personal Identification Number (PIN) known only to the cardholder. Debit cards can be used only where a point-of-sale (POS) terminal is properly equipped; in particular, a separate keypad is needed to allow the customer to enter his or her PIN and select the account from which funds should be drawn. A debit card can also be a real major credit card (e.g. Visa Card or MasterCard) with its credit limit set to the amount of money deposited in the owner's account. Another feature is that the card

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[2] ISO stands for the International Organization for standardization. It is an international non-governmental organization, composed of representatives of national standards bodies that produce worldwide industrial and commercial standards. This organization cooperates closely with the International Electrotechnical Commission (IEC), which is responsible for standardization of electrical equipment. It must be noted that standards for financial and identity cards are set out by ISO. All credit and debit cards, and most ID cards are the same shape and size, as specified by the ISO 7810 standard (*Wikipedia Encyclopedia*, 2003).

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represents an amount of money, recorded on the card, that the issuer of the card owes the holder. When the card is used for a purchase this amount is reduced. The card may be disposible (one buys a new one when it is finished), or be rechargeable from a bank account.

1.4.3. Magnetic stripe card

According to Brain (2003), a magnetic stripe card is made up of tiny iron-based magnetic particles in a plastic-like film, as shown in Figure 1.1.

Source: Brain, M. 2003. *Howstuffworks?* How does a magnetic stripe on the back of a credit card work? (Online).
http://money.howsstuffworks.com/question503.htm 18 February.

Figure 1.1: The back of a magnetic stripe card.
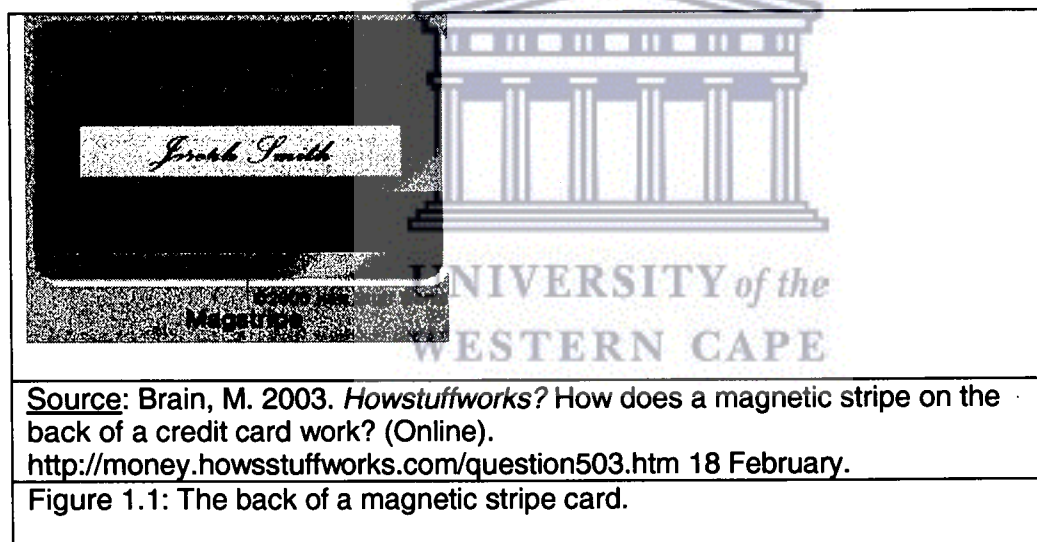
The magnetic stripe on the back of the card is very similar to a piece of cassette-tape fastened to the back of a card. Instead of motor moving the tape so it can be read, the hand provides the motion as it "swipes" a credit through a reader or inserts it in a reader at the university restaurant point-of-sale, for example. There are three tracks on the magnetic stripe card: track one; track two and track three.

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The ISO standard 7810 type uses only tracks one and two which generally contain a start character; the primary account number; a separator; the country code name; the expiration date; discretionary data and a sentinel character. Track three is a read/write track (that includes an encrypted PIN, country code, currency units, amount authorized), but its usage is not standardized among issuers.

How does the magnetic stripe card function? After a customer or the cashier swipes the debit card through a reader, the Electronic Data Capture (EDC) software at the point-of-sale (POS) terminal dials a stored telephone number via a modem to call an acquirer. An acquirer is an organization that collects debit authentication requests from merchants and provides a payment guarantee to the merchant. When the acquirer company gets the debit card authentication request, it checks the transaction for validity and the record on the magnetic stripe for the merchant ID; valid card number; expiration date; credit card limit; card usage and resumes the operation. Single dial-up transactions are processed speedily, while direct Internet attachment uses much higher speeds via an initially specified protocol in the system.

1.4.4. Computer network

Haag, Cumming and Dawkins (2000:222) define a computer network as a connection of two or more information technology components (typically computers) that gives users the ability to share software, share information, share peripheral devices, communicate with each other, and share processing

power. Networks go hand-in-hand with telecommunications (electronic movement of information from one location to another). A network can be as simple as two desktop computers connected to the same portal (peripheral sharing), or as complex as the Internet (a collection of computers all over the world that supports the sharing and communicating of information). Networks are perhaps the most important aspect of information technology in business today because they support telecommunications.

1.5 STRUCTURE OF STUDY

The first chapter is an introduction that covers a short historic overview of the student debit card and explains the rationale of the topic and the importance thereof. The chapter also presents the research problem statement, the hypotheses and the assumption of the study. These are followed by the definition of the key terms and concepts that will be used in this project.

Chapter 2 presents the literature survey, on both the student debit card technological and financial feasibilities. It also gives a literature review on the marketing strategies that can contribute to the success of the project.

In the third chapter, evidence of the technological feasibility and the feasibility of the product in the UWC student market are analyzed. In order to establish this feasibility, this chapter analyses the micro-environment and the macro-

environment of the project and presents the questionnaire, the survey and the findings of the market research of the product, namely the *Hoop Kaart*.

The fourth chapter studies the financial feasibility of this project and presents the cost volume-profit, the capital budgeting, the source of finances, and the revenues from advertising on the student card and the income statement followed by the balance sheet of the project.

Chapter 5 highlights the strengths, weaknesses, opportunities and threats of the project. The project product policies and policies related to price, the distribution and the promotion of the product are also presented.

The final chapter, Chapter 6, gives a summary, conclusions and recommendations from the study.
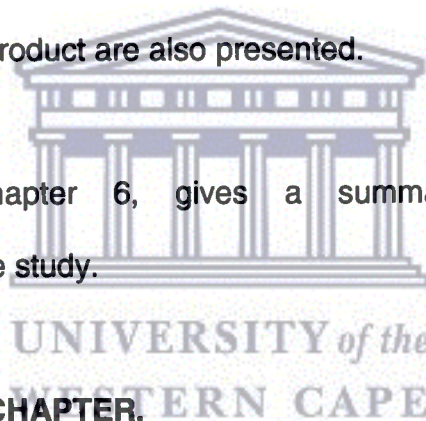
1.6 SUMMARY OF THE CHAPTER.

This chapter has presented for the reader, the arguments which will constitute the framework within which this study will be undertaken. It has thus presented the historic overview of the student debit card and its importance, the problem statement, the hypotheses and the assumption underlying the study. The Chapter is concluded by defining the concepts which will be used in the project and by giving a brief presentation of the succinct points which will be discussed.

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CHAPTER 2. LITERATURE SURVEY

2.1. INTRODUCTION

There are very few articles and almost no book published both in English and in French on the student debit card, as this field is still in its infancy stage of development. However, research that has been carried out on the financial feasibility and on the marketing management of projects such as the student debit card, as is the case with the current study, has been wide, diverse and reflects different interests, orientations, and opinions. This chapter presents a review of literature on both the technological feasibility of the project, its financial feasibility and its marketing management.

2.2. LITERATURE SURVEY ON THE STUDENT DEBIT CARD.

Programmes taking advantage of the Microsoft-led schools interoperability framework, such as Mycard@school™, bdIDge™, ATM/POS Mag Stripe, Virtual Food System (VFS), Andover Controls Continuum Security Management System, General Meters, Datacard's Accelus Systems, Cybermark, Plasco System, Smart City system, Odin debit card system and so forth, have been developed to streamline administrative tasks in tertiary institutions.

These programmes use one card, incorporating the student photograph and identification numbers, the tertiary institution logos', the sponsors'

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advertisements, the library bar codes and so forth, to serve as the student university ID and access card (access to facilities such as residence halls, some academic buildings, computer labs, some administrative buildings, recreational facilities, athletic facilities and events halls, etc.) while serving also as a debit card allowing the user to make purchases on-campus and eventually off-campus, at various food locations, stores, vending machines, laundries, bookstores, post offices, computer laboratories and other similar facilities. It can be used simultaneously as an ordinary bank debit card. Some terminals of these systems are portable; they can be moved to a football field, gymnasium or theatre, to complete transactions in a remote location. Generally, these programmes also allow for online purchases at selected sites (*Access Control & Security Systems Integration*, 2001; *Curriculum Administrator*, 2000; *Education Technology*, 2000; Gompers, 2002; Bambenek, 2001; Mount Holyoke, 2001; Fickes, 1999; Hale, 1999; Hellevig 1999; King, 1999; Partington, 1999; Whitaker, 1999; Cray, 1997; Moneta, 1997; Spoor, 1997; Morall, 1995; Odin, 2003).

These programmes were developed to streamline administrative tasks in tertiary institutions by means of an all-in-one card. They generally use many software components with an easy-to-use interface, such as modules for card design and production; data integration utilities to link disparate administrative applications; reporting or data view modules; security check and a secure log-in method for workstations. These cards have an Internet component, which consists of an

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online web portal for schools or tertiary education institutions, students and parents.

Parents are then able to use the website to view a range of information about their children school or tertiary education institution activities, including grades, attendance, spending patterns and others (*Curriculum Administrator*, 2000; *School link technologies*, 2000; *Education Technology*, 2002).

Debit cards such as the *Husky Card* of the Northeastern University in Boston (Fickes, 1999); the *Penn Card* of the University of Pennsylvania (*Pennsylvania State University*, 2003); the *Bear Card* of the South West Missouri State University (*South Missouri State University*, 2003); the *Cougar1 Card* of the University of Houston (*University of Houston*, 2003); the W*ildcat Card* of the Kansas State University (*University of Kansas's office of Public Relations*, 2003); the *Mean Green Card* of the University of North Texas (Gompers, 2002; Bambenek, 2001); the *eID* of the Colorado State University (Hale, 1999; Hellevig, 1999) and the Stellenbosch University Student Debit Card (*Stellenbosch University*, 2002), and their implemented systems, are the results of those programmes described above which have been developed to streamline administrative tasks in tertiary institutions by means of an all-in-one card.

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2.3. LITERATURE SURVEY ON THE FINANCIAL FEASIBILITY OF A PROJECT.

An investment proposal originates as an idea for improving organizational performance and adding value for the owner and eventually for all the stakeholders of a business. The process that later converts this idea into an actual investment, can have several forms. However, it has as fundamental components the following elements: the capital budgeting; the analysis of the sources of finances; the income statement and the balance sheet (Hartley, Firer and Ford, 2000; Gary, 1998; Ross, Westerfield, and Jordan, 2001).

These components indicated in the previous paragraph constitute the major techniques that will allow analyzing whether or not the *Hoop Kaart* project is financially beneficial to the University of Western Cape.

2.3.1. Capital budgeting as a rigorous numerical evaluation of alternative investment provides an answer to the financial management question: "what to invest in?" the answer lies in the project (investment) which benefits the owners (shareholders and various stakeholders) the most. Some techniques are therefore used to identify and evaluate projects (investments) that will add the most value for the owners. Capital budgeting constitutes that set of techniques. These are:

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2.3.1.1. The Net Present Value (NPV): the present value of future cash flows discounted at the firm's cost of capital or at the required rate of return, less the costs of the investment. Therefore, an investment with a positive NPV will add value or will benefit the shareholders and should be accepted; if the NPV is negative, then it ought to be rejected.

2.3.1.2. The Internal Rate of Return (IRR) is the interest (or discount rate) which equates present value of future cash flows to cash outlay. It is also understood as the discount rate that results in the NPV for the project being zero. The IRR must be compared to the required rate of return in order to determine the acceptability of the project. The project is generally accepted if the Internal Rate of Return is superior to the Required Rate of Return (RRR), and rejected in the contrary case.

2.3.1.3. The Simple Payback Period (SPP) is the length of time taken to recover the initial investment from the net cash flows of the project. It really measures how long the funds are at risk. The payback period of a project is acceptable if it is less than a benchmark specified by management (Mitchell, 2001; Hartley, et al., 2000; Gary, 1998; Ross, et al., 2003).

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2.4. LITERATURE SURVEY ON THE MARKETING MANAGEMENT OF A PROJECT.

Successful enterprises have to recognize and respond profitably to unmet needs and trends. They could increase their return on investment, return on assets and net income if they could solve any of the public problems by managing to create new solutions to unmet needs; however, detecting a new market opportunity does not guarantee its success, even if it is technically feasible. Many opportunities are found by identifying trends of the market. For this reason market research is necessary to determine an opportunity's profit potential by a clear study on its consistency with the changing scenario on the six major forces of the macro-environment: demographic; economic; natural; technological; political-legal and social-cultural. In addition, trends on enterprises and their suppliers, intermediaries, customers, competitors and public, constituting the microenvironment have to be analyzed as well (Kotler, 2000; Kotler and Armstrong, 2001).

An opportunity potential profit requests a systematic design, collection, analysis and reporting of data and findings relevant to it. Primary data may be gathered through interviews (using questionnaires) in order to learn about people's knowledge, beliefs, preferences and satisfaction; in brief, to obtain a sense of how people feel about the product (Kotler, 2000; Cova, Ghauri and Salle, 1999; Kotler and Armstrong, 2001).

Market segmentation is an effort to increase organizational precision. Whatever feelings people have towards a product, an enterprise cannot serve all the customers in a broad market. Customers are too numerous and diverse in their buying requirements and hence the enterprise needs to identify the market segments that it can serve more effectively. Therefore, market segmentation constitutes an effort to increase an enterprise's marketing precision. Once the firm has identified its market segment opportunities, it has to decide how many and which ones to target. Enterprises are constantly trying to differentiate their market offering from competitors. They dream up new services and guarantees, special rewards for loyal users, new conveniences and enjoyments. Enterprises constantly need to think up new value-adding features and benefits to win the attention and interest of choice rich, price-sensitive consumers. Hence, they reformulate their marketing strategies several times during a product's life, when for example, economic conditions change, when competitors launch new assaults, and when the product passes through new stages of buyer interest and requirements. Consequently, an enterprise must plan strategies appropriate to each stage in the product's life cycle. Positioning a product constitutes the ways an organization can effectively differentiate its offering to achieve competitive advantage throughout a product's or an offering's life cycle (Kotler, 2000; Czinkota, Kotabe, and Mercer, 1997).

Once an enterprise has carefully segmented the market, selected its target customers, identified their needs, and determined its market positioning, it is

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better able to develop its marketing-mix. This implies the development of new product characteristics, the design of the pricing strategies and programmes, the management of the distribution channels and the management of the integrated marketing communications which involve coordinating the various promotional elements (such as advertising, sales promotion, public relations and direct marketing) and other marketing activities that communicate with a firm's customers.

Today, the dream of the paperless office is closer than it has ever been before. The new workplace, filled with electronic forms, databases and websites, also brings with it all the benefits of the information age. Not only are offices now potentially less cluttered by paper, but also communications can now be governed by formal rules of logic. Both intra-organizational communication via intranet and extra-organizational communication, via the Internet impact on the promotional of a new product. Online funds deposit, student card deactivation, checking of account balances, suspension of account, is a reality for the student debit card (Kotler, 2000; Belch and Belch, 2001; Elaine, 2000; *Loyola University Chicago*, 2003; Strum, 1997; *University of Michigan*, 2003).

Market research aspects as well as the market segmentation, the product targeting and the development of the marketing mix, as described above, will allow the study to set the possible marketing strategies for the success of the *Hoop Kaart.*

2.5 SUMMARY OF THE CHAPTER

The objective of this chapter was to present a review of the literature related to both the technological feasibility of the student card, the financial feasibility of a project and its marketing management aspects. Despite the lack of broad published research in the student debit card field, as it stills in its infancy stage of development, the first part of the chapter presented a diverse but not-exhaustive literature on the student debit card aspects. The second part of the chapter presented a diverse but not exhaustive literature on the analysis of the financial feasibility of a project. Literature on the means and ways of managing the marketing aspects of a project was the focus of the last part of the chapter.

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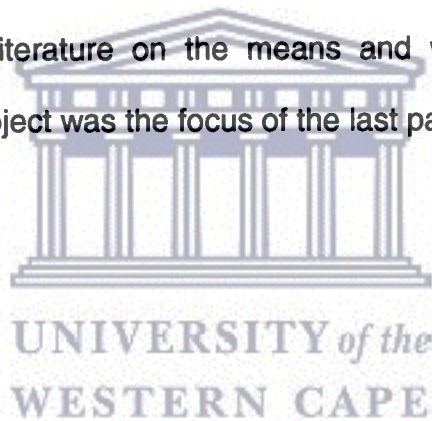
CHAPTER 3. ENVIRONMENT ANALYSIS AND MARKET RESEARCH.

3.1. INTRODUCTION

This chapter gives a brief analysis of the technological feasibility of the idea of turning the student ID card into a debit card. The experiences of The *Husky Card* at the Northeastern University in Boston (USA) and the Stellenbosch University Student Debit Card in South Africa are presented. The potential use of for such a card at UWC is examined.

The chapter also analyses the macro-environment and the micro-environment of this project.

A survey has been conducted in order to establish whether or not the *Hoop Kaart* is a feasible product in the student market. The findings of this survey are presented in the last part of the chapter.

3.2. IS THE IDEA TECHNOLOGICALLY FEASIBLE?

Spoor (1997), Gompers (2002), Fickes (1999), Darries (2003) and Benett (2001) affirm that even though the idea of turning a student ID card into a debit card is still in its infancy stage of development, many universities in Northern America particularly, have successfully implemented the idea. Two illustrative cases are

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the Northeastern University in Boston (USA) and the Stellenbosch University in Stellenbosch (South Africa).

Darries (2003) explains that the ordinary mechanism under which such a system operates may be summarized under the Figure 3.1, below:

Source: Darries, M. 2003. *Personal interview.* Information Technology Director, University of Western Cape. Cape Town. October 10.

Figure 3.1: Modus operandi of the student debit card.
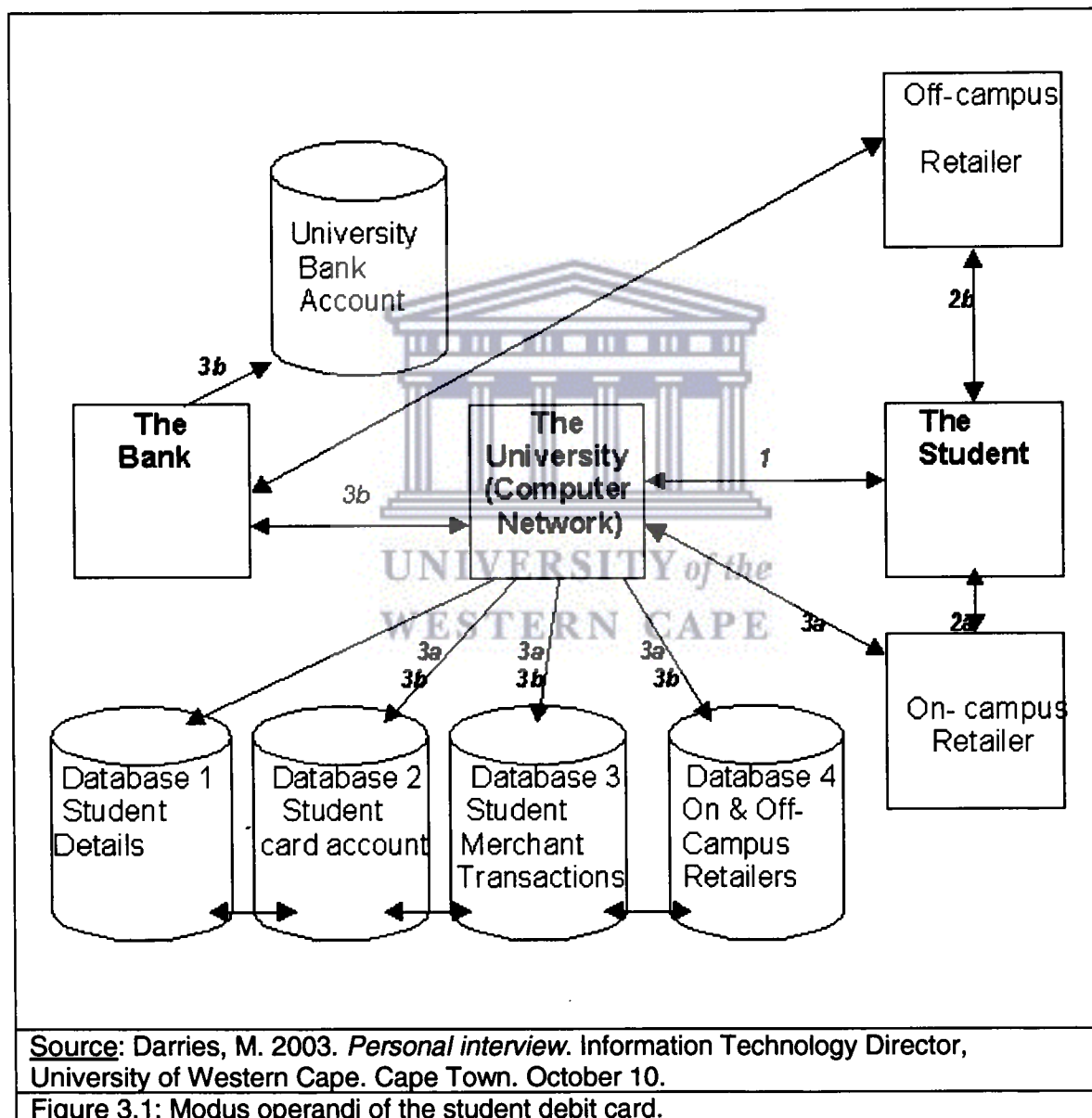
Discussion: Databases 1,2,3 and 4 are hosted on the university computer network and controlled by a mother "server" and store information on student details, their student card account (issued by the university: "1" in Figure 3.1), the balance of the students merchant transactions and the on-campus and the off-campus retailers accounts.

When a student buys an item from an on-campus retailer by using his student card as the means of payment ("2a" in Figure 3.1), the student card account is debited (reduced by the monetary value of the transaction), while the on-campus retailer account is credited (augmented by the monetary value of the transaction). At this stage the university may, if initially agreed with the on-campus retailer, transfer this money into the on-campus retailer's bank account at a third merchant bank ("3a" in Figure 3.1 captures the essence of this operation).

When a student buys an item from an off-campus retailer by using his student card as the means of payment ("3b" in Figure 3.1), his student card account is debited (reduced by the monetary value of the transaction), while the off-campus retailer account both in the university "on-campus and off-campus retailers' database" and in the off-campus retailer's bank account at either the university banker or a third bank, initially designated is credited. The financial operation between the off-campus retailer and the university is intermediated by the university banker, also called "the card underwriting bank", or simply "the underwriting bank".

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Darries (2003) shows that it could be technically and technologically possible for the university to manage directly the floats between the students' accounts and the off-campus account and possibly "having" commissions, but by law, an university is not authorized to do so, as this constitutes a financial service, reserved for banks and other financial institutions.

The information on the student card is decoded by the retailer at a point-of-sale by means of a pre-installed device, called a "card-reader". A certain number of these readers, generally two to sixty-four, are managed by a "reader-controller", device that sends the information captured from the magnetic stripe card, or to be written on to the magnetic stripe card, to the rest of the university computer network.
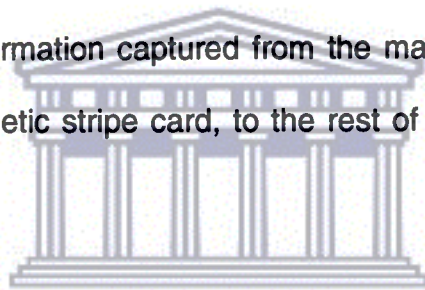
However, in order to have a true 24-hour accessible debit-card, seen as the key for the future, it is becoming necessary to purchase (or to integrate to) smart cards, instead of magnetic stripe cards. Spoor (1997) underlines that these cards are equipped with a computer chip upon which future security needs using specialized security applications (such as biometrics identification, using individual physical characteristics-fingerprints, DNA, breath, etc- for identification) can be rolled-in, just as on a real computer system.

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Since a smart card contains all the necessary data on the microchip (which bears its operating system[3]), it can therefore even work off-line.

With a magnetic stripe card, vendors must have access to the university's on-line databases to gather information about the student and about the available funds in his or her student account. This can create problems when the system is down or the university is closed. Nevertheless, many student cards are hybrids, which feature a smart chip card that will manage their future as well as a magnetic stripe card, the most utilized technology basis of their legacy system (Darries, 2003).

Many commercial systems are available on the market for this purpose. The matching between a higher education institution's needs and the system to be purchased is the only parameter to be carefully examined. The Northeastern University in Boston and the Stellenbosch University in Stellenbosch have managed this matching relatively well.

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[3] In computer sciences, an operating system (OS) is the system software responsible for the direct control and management of hardware and basic system operations. The term is most often used to mean all the software which "comes with" a computer system before any applications are installed. The operating system ensures that other applications are able to use memory, input and output devices and have access to the file. If multiple applications are running, the operating system schedules these such that all processes have sufficient processor time where possible and do not interfere with each other (*Wikipedia*, 2003).

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3.2.1. The Husky Card: Icon of the Northeastern University student debit card experience.

The *Husky Card* of the Northeastern University (see sample in appendix 2) provides access to university residences, laboratories, recreation centre and other campus facilities. In addition it serves as a library card and a card for various on-campus services payments, such as vending machines, laundry facilities, student centre, dining halls, and so forth. The card also functions as an ATM card and a debit card for banking transactions and debit purchases at establishments accepting MasterCard (Fickes, 1999).

This new category of the student campus card, with off-line debit capability, enables purchases to be made anywhere in the world. This card is issued by the Bank of the Future Division of BankBoston, whose name appears on the Husky Card, in collaboration with the Northeastern University.

The *Husky Card* is issued at a secure campus-based facility where a Data Card printer personalizes it for students. The University maintains a stock of blank cards under strict security requirements. Cameras record its activities 24 hours a day. There are alarms on the doors and windows, and the University employs a 24-hour police force, well trained to respond quickly to the existing campus network of intrusion alarms and panic buttons.

Fickes (1999) highlights that the design proved to be one of the dealmaker in that University's drive to provide the *Husky Card*. During negotiations, BankBoston

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persuaded MasterCard to consider allowing the University to print and issue the cards. In the agreement, strict guidelines including security designs were set.

Students complete the applications, the information is then keyed into the university computer system and transmitted to the bank using encryption software supplied by BankBoston and MasterCard. The BankBoston computer system processes the card information, assigns a MasterCard account number and ships the data, encrypted once again, back to the campus. During processing, which requires only minutes, students are photographed by a digital camera, mounted on the office side of the wall and transfers the image data to the computer files. For the most part, the front office of the facility is staffed 24 hours a day, although cards are only issued between 8 a.m. and 8 p.m.

The BankBoston mainly manages on-campus and off-campus transactions and reconciliations, while the Northeastern University remains in control of the system. The success is attributable to both the Northeastern University, which manages the university computer network, to BankBoston, MasterCard and their technological partners that manage the smart card software and hardware. The success is also attributable to Synergistics Inc., Natick, and Mass., Rockwell International-Pittsburgh, Ram Tech, Johnston, R.I.; as companies supplying respectively the access control devices; managing the security control centre, and supplying emergency telephones.

The *Husky Card* offers on-campus and off-campus (nationwide and worldwide) discount and loyalty programmes. Students pay no monthly fees when using the

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card at the BankBoston ATMs. Free online banking service is also provided. When the balance exceeds US $1 000, the account bears interest.

3.2.2. An experience from the Stellenbosch University Student Debit Card.

The Stellenbosch University (*SUN*) in Stellenbosch (South-Africa) has about one hundred and fifty departments in ten faculties and more than forty research (and other) institutions (*SUN*, 2002). Teaching at this university is provided in 10 faculties situated on four campuses, namely: Stellenbosch (main campus), Tygerberg, Bellville Park and Saldanha. Tygerberg and Bellville Park are both located about 30km from the main campus; Saldanha is 170km distant.

The faculties on the main campus include: Arts and Social Sciences, Science, Education, Agricultural and Forestry Sciences, Law, Theology, Economic and Management Sciences, and Engineering. The faculties not situated on the main campus are Military Science (Saldanha) and Health Sciences (Tygerberg). The Bellville Park campus houses the Graduate School of Business and the School of Public Management and Planning. The total number of permanent staff in 2000 was 2 237. The University registered 21 756 students in that year.

Today, SUN has almost all its access control (661 doors, 6,8 millions entrees), facilities management and university debit card applications already integrated into a single system with a single magnetic stripe card system. The system is collectively known as TAS ("*Toegangs-administrasie stelsels*").

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This system has been developed over the last fifteen years by the university service and academic departments. Although the system was functional, evolving and growing, it was based on outdated technology and was due for replacement or upgrading. The turning of the system into a single magnetic stripe card system has marked the desired evolution (*SUN*, 2002)

SUN system realized R2.9 million of sales annually, from photocopying services (179 copiers), printing, meal payments (22 meal points), cafeteria payments, magnetic stripe cards replacements, laundry and washing machines (119 machines). All student and personnel cards are issued, personalized and programmed by the University's Student Fees Division.

In 2001, SUN proposed to create a student-centric system that can adapt rapidly to the changing needs of students, with the objective of enhancing student life both on and off-campus. The smart card (for which value resides on the card and transactions and devices are off-line) was believed to be the key element in such a framework.

However, despite the fact that it has a fully-featured debit card, using a magnetic stripe card, SUN still not obtain a student debit smart card. The university did not receive clear proposals from consortia and did not manage to reach a consensus with a bank on how the connection between the university card system and the

bank network will be managed, in a such manner that allows the university to also benefit from the substantial earnings resulting from financial flows on the transactions between the students and the various retailers.

The Stellenbosch University proposals (*SUN*, 2002) for the new system that had to manage its new student debit card (propositions that could be useful for the UWC's *Hoop Kaart* development) were as follows:

3.2.2.1. Copiers: On a total number of 55 copiers on campus, 14 000 000 copies are being made per annum at an average price of 20c.

3.2.2.2. Printers: For network printers, a similar situation to that of copiers is seen. Only networked printers that are heavily used by students (in computer user areas and libraries) are candidates for smart card activation. Estimates should be based upon the following figures: number of sites: 5, number of black & white laser printers: 25[4], number of printed sheets per annum: 4 000 000, average price per printed black & white sheet: 25c, at the moment of the project settlement, all these printers were owned by the University.

3.2.2.3. Meals and cafeterias: There are currently 22 residence kitchens and dining halls on the main campus, each with a card-based point-of-sale device, serving 1.5million meals per annum. Current meal prices vary

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[4] Some facilities on campus do provide colour printers, sheet costs vary

from R5.50 to R8.90 per meal. All cafeteria's and kitchens/dining halls are operated by catering companies.

3.2.2.4. Laundries: There are 211 washing and drying machines. All machines are currently owned and maintained by the University. The current average cost per cycle[5] to the student is R3.85. It is estimated that approximately 350 000 cycles p.a. will be purchased via the system in future.

3.2.2.5. Neelsie Centre merchants: Merchants (75% of 40 merchants) in the Neelsie Centre currently turn over R25.5 million per annum. The card system had to extend its point-of-sale in the Neelsie Centre in order to profitably serve the students.

3.2.2.6. Cardholders[6]: Main Campus: students: 14 777, staff: 3 066; Tygerberg: students: 2 771, staff: 520; Bellville Park: students: 1 106, staff: 70. In general, about 3 600 students leave and enter the University annually. Additionally, the University annually issues 1 500 cards to visitors. These include visitors who utilize the laundries at residences during vacations, and those who use copier facilities in the main library.

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[5] A cycle is an amount of services initially indicated , in a SUN laundry.
[6] Details on Saldhana, the fourth Stellenbosch university campus were unavailable.
Source: (*SUN*, 2000).

Potential additional card populations are: approximately 400 distance education students at remote electronic classrooms and approximately 61 000 alumni who are on the University's mailing list.

3.2.2.7. The SUN Card: Given that the future student card will have to operate with legacy systems for the foreseeable future, it will feature a smart chip(s), a magnetic stripe and a barcode - a hybrid card thus. It will remain the official University card for students and staff, but use may be extended to alumni, visitors, club or association members and associates.

3.2.2.8. Ownership of the SUN Card and branding: Regarding physical layout and appearance of the card, the University requires the right to utilize the card for the University logo, photographic identification (large), cardholder's University number, library barcode, name and role/status. The University is willing to consider appropriate co-branding on the card.

Additionally, the University is willing to consider custom card designs for university residences, sports clubs, recognized university societies and faculties. Such designs will be co-coordinated by the University's Marketing and Communication Division in order that they conform to the University's corporate image.

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3.2.3. The *Hoop Kaart*: The UWC future experience.

The *Hoop Kaart* is the proposed UWC student debit card (see sample in appendix 1).

Darries (2003) affirms that UWC has started a policy of student debit card some years ago when it had allowed some dining halls on the main campus to utilize a card-based point-of-sale (POS) system for servicing meals to students. Prior to be serviced, students have had to deposit money in their meals account at the university cashier. This system is however not showing the success initially as expected, as it is not expanded to various take-aways where students may be served a variety of meals available. Beside this, high prices of items, observed at these points of sale (Chris Hani Residence and Hector Petersen Residence) are not of the nature of encouraging students to utilize the system, their enthusiasm for it collapsed and consequently the general perception of the usefulness of the system collapsed also.

However, Julies (2003) affirms that the University's computer network system may technologically support a reasonable connection of point–of-sale devices (readers, controllers, monitors, etc), which may support a fully-featured debit card. This guarantees the technological capability of UWC's computer network to inter-link via on-line and cable numerous card-readers and reader-controller at

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the different take-aways, cafés, vending machines, bookshop, printing services, and other various retailers on-campus and off-campus.

Darries (2003) adds that the best idea to expand on is the smart card, as technologically, it does not make regular recourse to the network. In addition, it bears its own operating system and related software, which enable an off-line activation at the point-of-sale.

The fully-featured debit card system may be realized on-campus by adding online or by cable, readers and controllers at the specific point-of-sales using the magnetic stripe on the student card, and outside the campus by using the smart-chip on the student card.
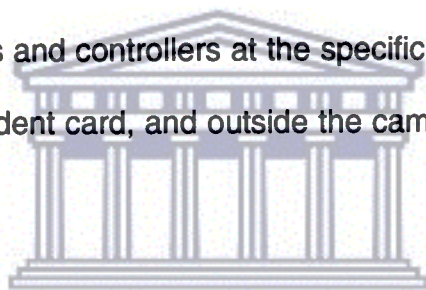
The University is currently envisaging purchasing from Smart Centric Technologies International Ltd. in Dublin, the Smart City system[7], a turnkey smart card-based e-purse application that also provides a multi-application development platform and tools to systems integrators. The Smart City solution includes hardware, software, training and systems integration for card issuers, operators, processors, merchants and cardholders. Ireland is generally well-known for its inexpensive but quality computer systems and programmes, it is

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[7] There exists many others systems which can be utilized and that cost relatively the same as the Smart City system. However, the advantage with this system will be the possibility to see, for the particular case of the University of Western Cape, the software be given for free and only the hardware be purchased, that could bring the price of the system to half of its actual value which is R1 100 000 (Darries, 2003). This possibility will not be taken into account in this study as it was still under study by Smart City Systems, affirm Darries (2003) pursues.

largely perceived as having a comparative advantage in computer systems programmes developpement (Norro, 1996).

Smart City's core components are a full range of software components required for an end-to-end smart card solution, which supports specialized core software components. Its core components are card issuing and cardholder management, security management, transaction management, and merchant/device management.

Darries (2003) affirms that although a definitive study is not yet done on the project, it can be stated that the funds necessary for the project arise as follows:

- R600 000 for the acquisition of the Software[8]
- R500 000 for the acquisition of the hardware

The financial feasibility analysis (see chapter 4) and the distribution aspect of the marketing mix (see chapter chapter 5, par. 5.6) expand on these aspects.

3.3. STUDY OF THE MACRO-ENVIRONMENT AND THE MICRO-ENVIRONMENT OF THE PROJECT.

Czinkota, Kotabe and Mercer (1997) state that no organization is completely self-contained in various aspects of its business. Each organization is embedded in an environment composed of federations, associations, government agencies,

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[8] Costs of other systems bought by the university of Stellenbosch and the Northeastern University were not obtained. These costs would have been useful for purpose of comparison with the system to be eventually bought by UWC.

customers, suppliers, and competitors. Most organizations' bottom-line profits are dependent more on the vagaries of external environment events than on how well their internal operations are managed. Moreover, this external environment is not only changing, it is changing rapidly. As a result of this quickening pace, the impact of environmental change has become more unpredictable. Organizations, corporate and project managers must therefore spend an increasing amount of their time on matters external to the firm and try to understand their effects on the company. This involves a close scrutiny of societal, cultural, demographic, technological, economic, political and legal factors. Kotler and Armstrong (2001) regroup these factors into two major categories: the macro-environment (factors outside the enterprise and its industry) and the micro-environment (factors within the enterprise and the industry). In view of the above explanation, each of these environements will be discussed in the context of the *Hoop Kaart* project.

3.3.1. **The Macro-environment of the Hoop Kaart Project.**

3.3.1.1 The demographic environment

The demographics of UWC is constituted mainly of students, but also includes staff, future students and possibly, UWC's alumni. The 13 375 students of the University of Western Cape are from all the races, religions, economic backgrounds, age distributions, with most students having either no work or part-time work (*UWC*, 2003).

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3.3.1.2. The economic environment

On average, the purchasing power of a student is low, whereas their parents might be low, middle or high-income earners. The spending patterns incorporate expenditure on take-aways, pay phones, textbooks, printing and photocopying charges and transport fares. Students might be able to afford a cellular phone, but probably cannot spend too much money on cellular phone calls, forcing them to use phone cards. It could also be that they have a car, but cannot afford to spend too much on fuel, so have to use public transports (such as Metrorail trains). The *Hoop Kaart* project will have to take into account in its various policies these realities affecting the purchasing power of students in order to succeed.
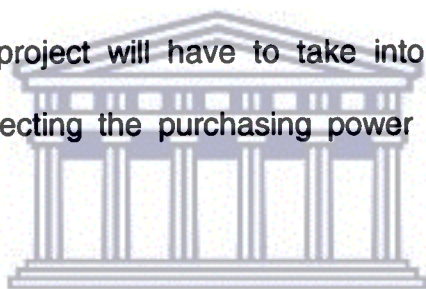
3.3.1.3. The natural environment

The natural environment has not really been taken into account by magnetic stripe and the smart-chip technologies. The public is well aware that litter is a real problem in the world today, especially in South Africa. For this reason, the *Hoop Kaart* project is proposing not to have withdrawal slips or plastic wrappings for the new student debit card. The efforts to make the card out of natural and biodegradable material, while remaining competitive, may sensitively contribute to less harm for the natural environment.

3.3.1.4. The technological environment

The technological environment, and its quickening pace, plays a vital role in magnetic-stripe, smart-chip technologies and in the technology involved in creating and maintaining applications such as the multiple purpose student debit/access cards. Magnetic stripe cards, card readers, reader controllers and other point-of-sale machines all require the use of the latest technology to ensure maximum security, efficiency and reliability. The *Hoop Kaart* will have to take this into consideration to ensure its effectiveness.

3.3.1.5. The political and legal environment.

These forces may influence The *Hoop Kaart*'s market indirectly through changes in both the political, the economic and legal issues that could possibly cause customers to change their spending patterns by either increasing or decreasing their consumption and savings, consequently increasing or decreasing the recharge of their debit cards. These forces may also affect the *Hoop Kaart* in the case that new legislation, amending the Banking Act, is passed. This could allow organizations such as universities to exercise banking and related activities. The constraining role of banks in the *modus operandi* of the student debit card will therefore be minimized or eliminated. Thus, universities may keep the full student debit card operation and their various financial outcomes in their hands.

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3.3.1.6. The cultural environment

The cultural environment in South Africa is extremely diverse and this does not change when it comes to UWC. The proposed *Hoop Kaart* is one that would breach all cultural barriers. UWC has many different cultures, clubs and events and the *Hoop Kaart* promotes an image of a technological, modern society where cultural gaps are bridged.

3.3.2. The Micro-environment of the Hoop Kaart Project.

In the context of the controllable features of the project, the following is discussed:

3.3.2.1. The project itself

It is suggested that the management of the *Hoop Kaart* be given to an autonomous unit. This unit will operate administratively under the Information and Communication Service of the University. The actual management of the Information Technology and the computer network directions (within the Information and Communication Service of the University) being its heading structure. Therefore, this unit, acting autonomously will not only manage the technological aspects of the card, relating to student registration, card replacement, operational and strategic collaboration with the bank and the on-

campus and off-campus retailers, but also planning and organizing all marketing and strategic aspects related to this card.

3.3.2.2. Marketing intermediaries

There are many marketing intermediaries involved in the implementation, selling and distribution of a student debit card, as the case of the American Northeastern University showed.

Benett (2001) affirms that the magnetic stripe and smart-chip technology has been well-established in South Africa since they came on the market. Enterprises such as Softcon, a subsidiary firm of an international card-systems supplier, have branches in all provinces in South Africa. Many other international firms such as MasterCard and Visa Card are also well established. They have been producing debit and credit cards for major corporations for many years now. Banks, such as Standard Bank, have been closely cooperating with universities, particularly with the University of Stellenbosch in underwriting student debit and credit cards operations. Many security and access control companies have also been supplying services to corporate and universities in South Africa. These organizations present a large pool of intermediaries for the *Hoop Kaart* project.

3.3.2.3. Customers

The *Hoop Kaart*'s primary customers are undergraduate students. Secondary customers are post-graduate students, staff members, alumni and future students and staff members. This means that most potential clients will be between the ages of 18 and 20. A client can be any student who does not like carrying cash, or does not want to carry a wallet with many different cards. The *Hoop Kaart*'s customer is also the student who would like to feel special in the way that he (or she) has his own debit card, icon of social and financial upliftment. In the same understanding, the card also separates owners from the crowd, as it will be seen as an image, symbol of ennoblement *vis-à-vis* the rest of the students.
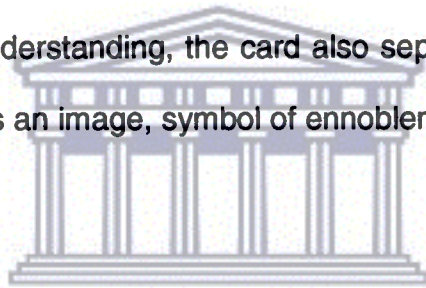
However, realities show that postgraduate students (the majority being either employed, funded or part-time working) and the University staff constitute a very important niche market as it has a far better purchasing power than the undergraduate students. Studies have to be expanded into this direction aiming at determine the ways and means of servicing profitably that niche market of the *Hoop Kaart* in the future.

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3.3.2.4. Competitors

There are not many direct competitors who can offer the same functions as the *Hoop Kaart*, but there are many other options that the *Hoop Kaart*'s targeted customers can choose.

The first main competitor, even though it is not an actual product, is "cash". If people prefer using cash, they will not be interested in a debit card. Others competitors, include various on-campus and off-campus retail service providers. Some of these (even though sponsoring and working in conjunction with the *Hoop Kaart*) are already using debit, credit and fidelity cards, a new debit card from the university may just be seen as another debit card, and therefore not being accepted by students. Efforts on promotion will therefore have to make the difference (see chapter 5, par. 5.6.3.).

3.4.   THE EMPIRICAL SURVEY.
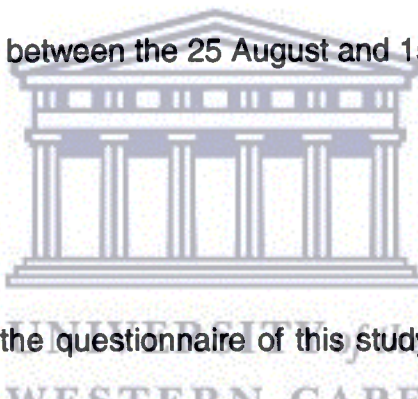
A survey has been conducted in order to establish whether or not the *Hoop Kaart* is a feasible product in the student market. This survey aimed to determine either the students required the functionality that the *Hoop Kaart* offers. Further more, a price and market positioning for the *Hoop Kaart* needed to be determined. As far as a price chosen by the students and a positioning emanating from them, rather than from the University are more desirable.

The survey also has to determine whether one segment of students was more in favour of the *Hoop Kaart* than any other segment.

Martin, Loubser, and Van Wyk (2002) postulate that convenient samples are useful tools in the exploratory phase of a research project, a phase in which people's ideas, opinions and insights on preferences, attitudes and interests are more important.

In view of the above postulation, a convenient sample of 300 students has therefore been interviewed between the 25 August and 15 September 2003.

3.4.1. The questionnaire.

As Proctor (1999) shows, the questionnaire of this study (see Appendix 3), is a data-collection instrument that sets out the way in which the research questions of its interest should be asked. In order to make it successful, its introduction has been made persuasive, and has qualified the respondent as someone who belongs in the sample. Its body or content consists of questions that cover information needed to solve the problem. The range of its topics covers facts, knowledge, opinions and attitudes, motives and possible future behaviour.

The questionnaire was developed following three major parts, namely:

1. The general information of the respondent: covering his or her faculty and year of study.

2. The biographic information: covering the respondent's gender, race and age.

3. The specific: covering the respondent's use of the actual student card system facilities and his or her preferences for the new debit card system.

As the sample was a convenient one, students were asked to fill in the questionnaire on basis of their availability.
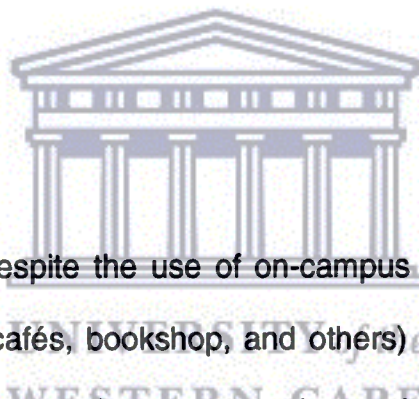
3.4.2. Findings

The findings show that, despite the use of on-campus services (photocopying, printing, take-aways and cafés, bookshop, and others) on an occasional basis, 65% of students have accepted to carry and use the proposed all-purpose student debit card, the *Hoop Kaart* to access retail services on and off-campus (see Table 3.1).

Table 3.1: Conclusion of the findings.			
15 Acceptance to carry the all-purpose student debit card: the *Hoop Kaart*.	Yes	195	65%
	No	105	35%
	Total	300	100%

A breakdown analysis of the findings explains this clearly.

3.4.2.1. The respondents' general information.

General information covers the faculty and the year of study of the respondent.

As Table 3.2 show, first year students from the Faculty of Economic and Management Sciences constitute the majority part of *the Hoop Kaart* market. This gives for example a clear idea on how the marketing mix policy (mainly the product, the price and the promotion) should be oriented. As this part of the market is constituted by people starting university studies, efforts will have to be made in the design of the card, to make it fun; in the price of the card, to make it less expensive and in the promotion of the card, to make it well understood by this particular category of students, freshly coming from high school and yet behaving in high school subculture, which can be depicted as full of inexpensive and well understood fun.
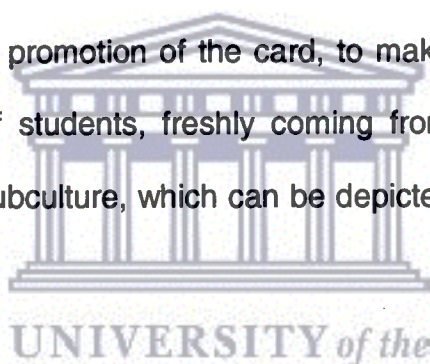
Table 3.2: Results of the survey by faculty and year of study of the respondents.				
Question Number	Substance of the question	Answer Frequency		Percentage
16	Faculty.	Arts	48	16%
		Com&Health	36	12%
		Dentistry	19	6%
		Education	27	9%
		EMS[9]	88	29%
		Law	31	10%
		Science	51	17%
		Total	300	100%

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[9] Faculty of Economic and Management Sciences.

2	Year of study	1st Year	92	31%
		2nd Year	66	22%
		3rd Year	51	17%
		4th Year	30	10%
		Honours	25	8%
		Masters	27	9%
		PhD	9	3%
		Total	300	100%

3.4.2.2. The biographic information.

These questions cover the respondent's gender, race and age.

As table 3.3 show, Coloured female students, aged 18-20 years will constitute the majority part of the *Hoop Kaart* market. This information is important, when combined to the biographic information it helps not only to define the target market of the *Hoop Kaart* project (see par. 5.4.) but also to clearly set appropriated elements of the marketing mix.

Although the 18-20 years aged bracket constitutes 32% of the students and consequently the majority part of the *Hoop Kaart* market, the groups between 21-25 and +26 constitute respectively 30% and 37% of the part of the market. The definition of the marketing strategies related to various aspects of the project (see chapter 5) has taken into account that reality, as well as similar realities on race and gender.
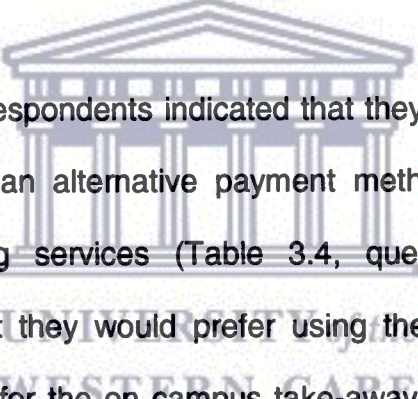
Table 3.3: Results of the survey by gender, race and age of the respondents.				
Question Number	Substance of the question	Answer	Frequency	%
1	Gender	**Female**	**157**	**52%**
		Male	143	48%
		Total	300	100%
3	Race	Blacks	96	32%
		Coloured	**109**	**36%**
		White	18	6%
		Indians	47	16%
		Others	30	10%
		Total	300	100%
4	Age	Under 18	25	8%
		18-20	**97**	**32%**
		21-25	89	30%
		26-30	38	13%
		31-35	29	10%
		35 +	22	7%
		Total	300	100%

3.4.2.3.   Specific questions relating to the *Hoop Kaart.*

These questions cover the respondents' views on various aspects of the student card system facilities currently in use and their preferences for the new debit card system.

As Table 3.4 shows, students are occasionally using services available on campus such as printing, photocopying and bookshop (see Table 3.4, questions 1,2,4) at the exception of the food services (see Table 3.4, questions 3), which is used more regularly. The same trend is noticed for the use of these services by utilizing the student card system for paying at various dining halls where point-of-

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sales devices are installed. The above information combined with the fact that the majority of students (51%) never possessed a debit card (this argument is supported by the results obtained from the answers to question 14 from Table 3.4) becomes useful in determining both the price, promotional and even the distribution strategies (all elements of the marketing mix) that will enable students to be attracted by the *Hoop Kaart* that they prefer to use as an alternative paying method for on-campus and off-campus various services (this argument is supported by the results obtained from the answers to questions 5, 6, 7, 8, 9, 10, 11, 12 and 13 from Table 3.4).

For example, 69% of the respondents indicated that they would prefer using the proposed *Hoop Kaart* as an alternative payment method for the on campus photocopying and printing services (Table 3.4, question 5); 64% of the respondents indicated that they would prefer using the proposed card as an alternative paying method for the on campus take-aways and cafés (Table 3.4, question 6); 67% of the respondents indicated that they would prefer using the proposed card as an alternative paying method for the on campus bookshop (Table 3.4, question 7); 60% of the respondents indicated that they would prefer using the proposed card to access financial facilities such as banks ATMs on campus (Table 3.4, question 8); 61% of the respondents indicated that they would prefer using the proposed card to access other retail stores facilities outside UWC (Table 3.4, question 9); 57% of the respondents indicated that they would prefer using the proposed card to access other fast food facilities outside

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UWC (Table 3.4, question 11) and 55% of the respondents indicated that they would prefer using the proposed card to access other financial services facilities such as banks ATMs outside UWC (Table 3.4, question 12).

This analysis of the findings of the survey highlights serious challenges for the management of the *Hoop Kaart* as failing to manage properly the price, promotion and distribution aspects may lead to the same results as those observed with the existing card system. Chapter 5 expands on these aspects and strategies.

Table 3.4: Results of the survey on the specific questions relating to the *Hoop Kaart.*				
Question Number	Substance of the question	Answer	Frequency	Percentage
1	Use of the on-campus photocopying services	Daily	80	27%
		Weekly	97	32%
		Occasionally	123	41%
		Total	300	100%
2	Use of the on campus printing services	Daily	71	24%
		Weekly	87	29%
		Occasionally	142	47%
		Total	300	100%
3	Use of the on campus take-aways and cafés.	Daily	116	39%
		Weekly	80	27%
		Occasionally	104	35%
		Total	300	100%
4	Use of the on campus bookshop	Daily	70	23%
		Weekly	92	31%
		Occasionally	138	46%
		Total	300	100%

5	Preference for using the student card as an alternative paying method for the on campus photocopying and printing services	Yes	207	69%
		No	93	31%
		Total	300	100%
6	Preference for using the student card as an alternative paying method for the on campus take-aways and cafés.	Yes	192	64%
		No	108	36%
		Total	300	100%
7	Preference for using the student card as an alternative paying method for the on campus bookshop.	Yes	200	67%
		No	100	33%
		Total	300	100%
8	Preference for using the student card to access financial facilities such as banks ATMs on campus.	Yes	181	60%
		No	119	40%
		Total	300	100%
9	Preference for using the student card to access other retail stores facilities outside UWC.	Yes	182	61%
		No	118	39%
		Total	300	100%
10	Preference for using the student card to access telephone facilities outside UWC.	Yes	189	63%
		No	111	37%
		Total	300	100%
11	Preference for using the student card to access other fast food facilities outside UWC.	Yes	171	57%
		No	129	43%
		Total	300	100%
12	Preference for using the student card to access other financial services facilities such as banks ATMs outside UWC.	Yes	166	55%
		No	134	45%
		Total	300	100%

13	Extra money to pay for additional functionality of the new student debit card	Nothing	95	32%	
		R 10.00	116	39%	
		R 10.00 +	89	30%	
		Total	300	100%	

14	Previous use of a debit card.	Yes	148	49%	
		No	152	51%	
		Total	300	100%	

3.5. SUMMARY OF THE CHAPTER.

The objective of this chapter was to give a brief analysis on the technological feasibility of the idea of turning the student card into a debit card. The experience of The *Husky Card* at the Northeastern University in Boston (USA) and of Stellenbosch University Student Debit Card in South Africa showed that the technological feasibility of the project is certain. These experiences, combined to the analysis of the UWC's current computer network system, and its expansion possibilities gave way to conclude that the UWC's *Hoop Kaart* future experience is technologically feasible.

The chapter analyzed also, the macro-environment and the micro-environment of this project, where it has been showed that demographic, economic, natural, technological, political, cultural trends will play a crucial role in the success of the *Hoop Kaart,* which will have to be managed in an autonomous service. Its intermediaries, customers and competitors being watched carefully as they may present a threat or an opportunity for the new student debit card, consequently for the UWC students welfare or not.

A survey has been conducted in order to establish whether or not the *Hoop Kaart* is a feasible product in the student market, this chapter presented the findings of this survey. It showed that Black, Coloured and Indian students are supporting the idea of the student debit card.

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CHAPTER 4. STUDY OF THE FINANCIAL FEASIBILITY OF THE PROJECT.

4.1. INTRODUCTION

The chapter commences by giving an idea on the current debate around the questioning of the traditional techniques of evaluation of the profitability of a project. Secondly, the question relating to the incomes being able to be generated by the advertisements on the student debit card is assessed.Thirdly, the financial profitability of the project by using the capital budgeting techniques, such as the Net Present Value, Internal Rate of Return, and the Payback Period will be analysed as well.

Possible sources of financing the project are also highlighted. The chapter concludes by presenting a provisional income statement and balance sheet of the project.

4.2. INVESTING IN INFORMATION SYSTEMS: QUESTIONING TRADITIONAL TECHNIQUES FOR INVESTMENT APPRAISAL.

Willcocks (1996:38) affirms that recent surveys have indicated that the issue of appraisal of Information Technology[10] (IT) investment is currently an area of concern to senior management of most large organizations (being at a tertiary

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[10] Information technology is taken to refer to the convergence of computers, telecommunications and electronics and the resulting technologies. The term IT focuses attention on equipment and technique.
Information systems (IS) is a related term referring to how designed information flows attempts to meet information needs of the organization. It may be more or less IT based (Willcocks, 1996).

education institution level or at any other organization, in South Africa as well as outside South Africa). Wilcocks(1996) underlines that various sources are claiming that no link between IT investment and business has been established. The underlying reasons for this apparently disappointing performance are currently unclear. However, mismeasurement of inputs and outputs when dealing with IT, lags between costs and benefits which make short term results look poor and the inappropriate management of information and technology could be factors underlying this characterization of IT investment performance.

Willcocks (1996:38) also shows that there is a broad agreement in the literature that traditional methods of investment appraisal which presuppose financial quantification of costs and benefits may be misleading when applied to IT investments. Since there are as yet no clearly established alternatives to the traditional methods, IT investments may often be misplaced, resulting in poor value to the organization. Similarly, misapplication of traditional appraisal methods may result in poor perceptions of investments that are in fact performing well.

However, these traditional techniques (generally, the Net Present Value, the Internal Rate of Return and the payback period) that aim to quantify the wealth created by a given project (and collectively termed Réturn on Investment) are still important as they offer standard, well-understood ways of analysing numeric information.

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4.3. THE REVENUES OF THE *HOOP KAART*.

The *Hoop Kaart* is expected to generate revenues from both the advertisements that will be put onto the student card, the purchase of the card by students at the beginning of each academic year and the revenues from the underwriting banking institution, as outcomes of its operations with various on-line and mainly off-line retailers transacting with students by using the *Hoop Kaart*. The existence of others avenues of revenue can be investigated in later studies.

Each of the above potential avenues of revenue is analysed below:

4.3.1. Revenues from the advertisements on the student debit card.

As it has been the case with many American universities that introduced the student debit card programme, revenues from the new student debit card will be a critical issue, as it may lead to either the rejection or the adoption of the card programme by the tertiary institution, namely UWC.

Surveys carried out informally (on-campus services providers, Absa, Vodacom, MacDonalds)[11] showed that business from various horizons, such as those in the communication industry (Telkom, MTN, Vodacom); the automobile industry (Volkswagen); the fast food industry (MacDonalds, Steers); clothing industry (Markhams, Foschini), supermarkets industry (Pick'n Pay, Shoprite-Checkers);

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[11] Informal interviews conducted with officers and workers of the UWC bookshop; the UWC Printwize; Absa bank, Rondebosch; Vodacom, Cape Town and MacDonald, Rondebosch.

banking industry (Absa Bank, Standard Bank) and others, are willing to support and to sponsor the Hoop Kaart by putting their advertisements on the proposed card. This will help promote their product and (or) services and make them appealing to youth in tertiary education institutions. Already education bursary funds and education projects from many of these companies show their interest to contribute to the promotion of education in this country.

a) If it is assumed that 13 375[12] students cards are making a 6m x 4m portrait outdoor (at a rate: R5 000 per day, as indicated in Table 4.1) and that 10 advertisers agree to share the front and back space on the *Hoop Kaart*, while paying individually the above-mentioned rate.

This generates a potential annual income of:

R5000 x 10 advertisers x 200 days of academic year. = R10 000 000 of annual revenues.

Table 4.1 : Standard rates of outdoors-renting from advertising companies		
Prime position/ township position	9m x 6m portrait	R7 250 per day
96 Sheet Billboard - Standard	3m x 12m landscape	R2 900 per day
48 Sheet Billboard - Standard	3m x 6m landscape	R1 450 per day
Consumer Ad (12 Sheet)	1,5m x 3m landscape	R650 per day
Store Facias	1,8m x 6m landscape	R675 per day
Super Six (Double-sided 6 Sheet)	1,8m x 1,2m portrait	R400 per day
6 x 4's	6m x 4m portrait	R5 000 per day
Source: Primeoutdoor. 2003. *Outdoors rates*. (Online). http://www.primeoutdoor.co.za/rateindex.htm 15 July.		

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[12] The current UWC number of students is of 13 375 (UWC, 2003).The study dealt with the total number of UWC students as far as each and every student has to "buy" the student debit card , this being the student Identification Card (and or not a debit card).

b) If it is assumed that sponsors on the card agree to only pay the lowest rate possible of an outdoor, in this case the Super Six (a double-sided, 6 sheet, 1.8 m x 1,2 m portrait, rate: R400 per day, as indicated in Table 4.1).

This makes an annual income of:

R400 x 10 advertisers x 200 days of academic year = R800 000

Scientific prudence recommending that the researcher puts less chance on his side, the second case is retained. Also, in order to avoid what Willcocks (1996) termed as "mismeasurement of inputs and outputs, particularly the swelling of figures when dealing with IT, a factor underlying the apparently disappointment performance of IT investments", it is suggested that the retained probability of realisation of these revenues be of 50% of the above mentioned figure only, meaning R400 000 instead of R800 000.

4.3.2. Revenues from the purchase of the student debit card.

As the survey indicated, most of the students are willing to pay R10 extra for the new student debit card. This added on the R40, retained as price of selling (to be directly added on the student account) or the cost of replacement of the current student card, in case of lost or of any other damage, makes a price of R50 for the *Hoop Kaart.*

This makes an annual income of:

R50 x 13 375 students =R668 750

4.3.3. Revenues from the underwriting banking institution and others.

These include particularly the funds from the future banking underwriting institution (as a share with the university) of the benefits gained from banking charges on retailers, particularly those off-campus, which will have to transact with students by using the *Hoop Kaart*.

If it is assumed that from the lot of items bought by each UWC student per year from off-campus supermarket retailers, only the minimum of 5 kg of rice (R6) and one small box of washing powder (R6) represent the amount of money that the university will be perceiving as part on the floats of money between the off campus supermarket retailer and the underwriting bank.

This gives R12 x 13 375 = R160 500. Deducted of various fees (a given amount), this may be brought to R150 000.

As an exploratory investigation, this study has not expanded deeply on this aspect, as the underwriting bank can not be known presently and even if it was known, the modalities of sharing the outcomes from the transfer of money (between the retailer, the bank, and the student accounts) is generally an agreed decision between the tertiary institution and the bank than something else (Darries, 2003).

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Later studies may expand on so as to determine the exact envelope of money that this avenue may generate for UWC, this will certainly be by far, important than the above R150 000.

The minimum total of all the incomes indicated above may be summarised in the table hereafter.

Table 4.2 : Minimum totals of the revenues from the student debit card.		
Type of revenue	**Amount of money.**	**Reference**
Advertisements on the *Hoop Kaart*	R400 000	See par. 4.3.1.
Hoop Kaart purchases	R668 750	See par. 4.3.2.
Revenues from the underwriting bank	R150 000	See par. 4.3.3.
Total	R1 218 750	

These avenues of revenue show that the *Hoop Kaart*, will generate a minimum of R1 218 750 yearly for the University. It therefore can be regarded as a financially profitable project.

The current student card is generating less, as its income is only derived from the purchase of the student debit card (less than R40 per unit) and the card replacements (R40 per unit).

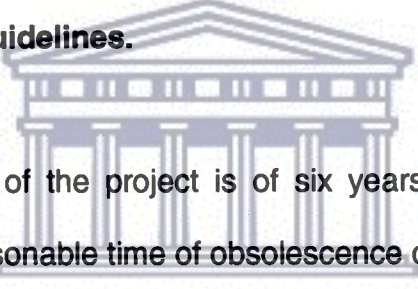## 4.4.   THE CAPITAL BUDGETING.

Hartley, et al. (2001) underline that the capital investment decision is arguably one of the more critical that an operating manager takes in the context of a project. The implication therefore is that, the firm is hereby set on a specific

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direction for the future. It is for this reason that proposed capital investment has to be put under a microscope and rigid rules for planning need to be applied. As such, capital budgeting is one of them. It proposes to assess if the future cash flow from operations will be enough, not only to recover the capital expenditure, but also to provide an adequate profit as reward for the capital investment.

However, clear guidelines, setting the planning of operations is a critical element for a better capital budgeting. For the *Hoop Kaart* project, these guidelines are:

4.4.1 Capital budgeting guidelines.

1. The duration of the project is of six years, corresponding to the minimum reasonable time of obsolescence of the student debit card software and hardware to be implemented. The project requires the purchasing of student smart-card system (R600 000 of software and R500 000 of hardware) and annual fixed costs of R300 000 (see Guideline 3 below). Thus a total of R1 400 000.

2. The initial investment for the project is: R1 400 000

   40%[13]: R560 000, contribution of UWC

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[13] The university can also decide on any equity-debt ratio, all will depend on its perception of the ideal cost of capital. It may therefore contribute for 40%, 60%, 20% or any other amount of the total investment of the capital, the rest is to be obtained from other sources, mainly banks, see details in 4.5.

60%: R840 000, long-term debt to be obtained from a financial institution, the potential underwriter bank of the *Hoop Kaart* for example . The fixed annual interest rate for this debt is 10.0%[14] (R84 000). The annual service of the debt includes the interest and the principal (R140 000), thus R224 000.

The weighted cost of capital is argued to be the same as the interest rate, meaning 10.0%. As it is the case in many organizations, the Required Rate of Return for any investment made is equivalent to the premium rate of interest in many local banks, averaging 13.50% in South Africa at current rates (*South Africa Reserve Bank*, 2003).

The benchmarking period in IT investments is on average for a shorter duration than the duration of the life of the good.

3. Annual costs are of R300 000.

These costs are divided into the following:

- R150 000 for salaries and wages

- R100 000 for consumables

- R50 000 for other charges.

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[14] The rate of interest of any bank may be retained for calculations, or the interbank rate of the location of the project, however in this project the Reserve Bank of South Africa published rate of interest prevailing in banks was retained (*Reserve Bank of South Africa*, 2003).

According to the analyses of the National Statistics Office, costs are expected to escalate at the Consumer Index Price (CPI), which is expected to average 9.3% per annum, during the six years of the duration of the project (*South Africa Reserve Bank*, 2003).

4. The strategic plan of the University caters for 14 000 students. However, the study assumes that the University will consider adjusting this figure in the future in order to attract more student. It is also assumed that the increase in volume will be of the same value as the CPI (9.3%) each year from the initial value of 13 375 students retained for the first academic year of the project implementation (the year 2004).

5. The software and hardware to be acquired will cover all the needs in readers, controllers, card stocks, design of the card and various other devices related (Darries, 2003).

6. As it is the case for many similar projects in Northern America, it is assumed that the project is free of income tax for its personnel (in this case the *Hoop Kaart* unit personnel), and for the benefits to be realized by the project (in this case the *Hoop Kaart* unit benefits). However, the issue of income tax has not been investigated in this project.

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4.4.2. Capital budgeting calculations.

4.4.2.1 The Net Present Value

As Table 4.3 indicates, the present value of the *Hoop Kaart* project 's future cash returns discounted at the market interest rate of 10.00%, minus the present value of the cost of the investment, is positive. It is of R2 324 302. This shows that the *Hoop Kaart* project will be able to pay back the money obtained for its realization (the UWC funds and the financial institution loan), it will also be able to pay interest to the Bank at the agreed interest rate and remunerate the university capital to the required rate of return of 13.50%. Beyond these obligations, the project will generate a financial surplus equivalent to the NPV, this means, R2 324 302. Before concluding on whether the project should be accepted or rejected, the conclusions of the two other techniques require further analysis.

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Table 4.3: Capital budgeting calculations

	Year 0(2003)	Year 1 (2004)	Year 2 (2005)	Year 3 (2006)	Year 4 (2007)	Year 5 (2008)	Year 6 (2009)
Initial investment	-R 1,400,000.00						
Expected sales (*Hoop Kaart* purchases)		R 668,750.00	R 730,943.75	R 798,921.52	R 873,221.22	R 954,430.79	R 1,043,192.86
Expected revenues from adv. on the card		R 400,000.00	R 437,200.00	R 477,859.60	R 522,300.54	R 570,874.49	R 623,965.82
Expected revenues from the bank		R 150,000.00	R 163,950.00	R 179,197.35	R 195,862.70	R 214,077.93	R 233,987.18
Total contribution		R 1,218,750.00	R 1,332,093.75	R 1,455,978.47	R 1,591,384.47	R 1,739,383.22	R 1,901,145.86
Fixed costs		-R 300,000.00	-R 327,900.00	-R 358,394.70	-R 391,725.41	-R 428,155.87	-R 467,974.37
Earnings before interests and taxes (EBIT)		R 918,750.00	R 1,004,193.75	R 1,097,583.77	R 1,199,659.06	R 1,311,227.35	R 1,433,171.50
Interests due (bank debt service)		-R 224,000.00	-R 224,000.00	-R 224,000.00	-R 224,000.00	-R 224,000.00	-R 224,000.00
Earnings after interests and taxes (EAIT)	-R 1,400,000.00	R 694,750.00	R 780,193.75	R 873,583.77	R 975,659.06	R 1,087,227.35	R 1,209,171.50

CPI	9.30%
Cost of Capital	10.00%
Required rate of return	13.50%

Year 0(2003)	Year 1 (2004)	Year 2 (2005)	Year 3 (2006)
-R 1,400,000.00	R 694,750.00	R 780,193.75	R 873,583.77

Calculations done by using Microsoft Excel spreadsheet

4.4.2.2. The Internal Rate of Return (IRR)

Ross, et al. (1996) show that the basic rationale behind the IRR is that it tries to find a single number that summarizes the merits of a project. That number constitutes an answer to the question: "what must the discount rate be, to make the NPV of the project equal to zero?"

The IRR is that rate that causes the NPV of the project to be zero. The implication of this exercise is very simple in that calculations aim at identifying the discount rate for which the project will make it possible to:

- payback the invested capital (debt and owner's equity).
- pay the interests of the debt to the interest rate, and
- remunerate the owner's equity to the required rate of return without generating a financial surplus.

Therefore, if the discount rate is greater than the IRR, the project should be rejected, as it will be worth less than to deposit the money in a bank for example in order for it to generate high income, and vice-versa.

In the *Hoop Kaart* project's case, the IRR is 54.37%, which is far greater than the the required rate of return of 13.5%. The project should thus be accepted.

4.4.2.3. The payback period.

Hartley, et al. (2001) define the payback period as the length of time taken to recover initial investment from the net cash flows of the project. It measures how long the funds are at risk.

The payback period of a project is acceptable if it is less than a benchmark specified by management. In all the cases projects with shorter payback periods are preferred to projects with longer payback periods.

Table 4.3 indicates that the *Hoop Kaart* project will be able to payback the total amount of the money invested during the second year. This is a shorter period of time in comparison with both the duration of the life of the project and the benchmarking period observed in IT investments.
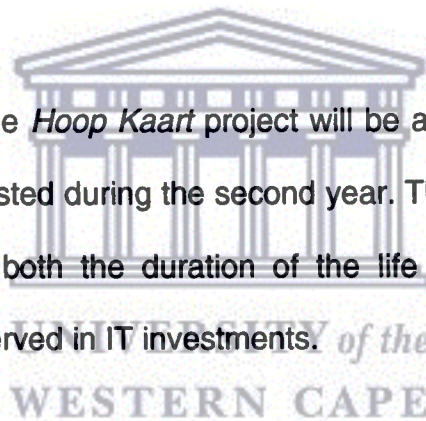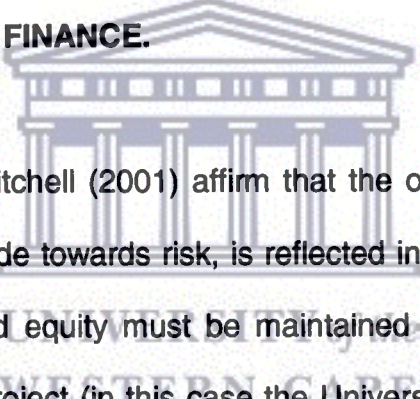
On the basis of the above analyses, the project is thus financially feasible and may be accepted.

The three traditional techniques of analyzing the financial feasibility of a project are showing positive outcomes. It can therefore be concluded that the projectis profitable and should be accepted rather than rejected.

A summary of the results of the capital budgeting calculations shows that the *Hoop Kaart* project displays a positive Net Present Value of R2 324 302 (see par. 4.4.2.1.); an Internal rate of return of 54.37%, far greater than the required Rate of Return which is 13.5% (see par. 4.4.2.2.); and a payback period of two years, shorter, in comparison with the duration of life of the investment and the benchmarking period of six years in the IT industry (see par. 4.4.2.3.).

The *Hoop Kaart* project is therefore financially feasible and should be accepted.

4.5. THE SOURCES OF FINANCE.

Roos, et al. (1996) and Mitchell (2001) affirm that the optimal capital structure, which moderates the attitude towards risk, is reflected in a balanced debt-equity ratio. The mix of debt and equity must be maintained at a level whereby the equity of the owner of a project (in this case the University of Western Cape) is maximized by minimizing the cost of capital.

There is a wide range of capital sources, running from simple bank borrowings to highly specialized securities like convertible bonds or warrants. The *Hoop Kaart* project may decide to raise money, using the two primary ways of doing so, which ensure a balanced financial risk and a comprehensive return, namely, owners' equity and debt.

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Owner's equity consists herein of funds that UWC will make available for investment in the *Hoop Kaart* unit activities,i.e. R560 000.

Debt consists of the R840 000, to be obtained from a financial institution, the potential underwriting bank for example, as a long-term debt, at 10.00% interest rate compounded annually.

4.6. SUMMARY OF THE CHAPTER.

This chapter highlighted the key points of the current debate around the questioning of the traditional techniques of evaluation of the profitability of a project. It showed that today, there is a broad agreement in the literature that traditional methods of investment appraisal which presuppose financial quantification of costs and benefits may be misleading when applied to IT investments. However, these traditional techniques (generally, the Net Present Value, the Internal Rate of Return, the payback period) that aim to quantify the wealth created by a given project are still important as they offer standard, well-understood ways of analysing numeric information, no matter how uncertain the information used.

The chapter also examined the question relating to the incomes being able to be generated by the advertisements on the student debit card, the purchase of the

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student debit card, and other revenues. It concluded that R1 218 750 will be generated from these sources.

The financial profitability of the project was analysed by using the capital budgeting techniques, such as the Net Present Value, Internal Rate of Return, and the Payback Period.

The analysis concluded that the *Hoop Kaart* project displays a positive perspective in terms of :

- Net Present Value (R2 324 302)

- Internal Rate of Return (54.37%) far greater than the Required Rate of Return (13.5%) and

- A shorter payback period (two years), in comparison with the duration of life of the investment and the benchmarking period (six years).

The *Hoop Kaart* project is therefore financially feasible and should be accepted.

Possible sources of finances for the project were also highlighted. The chapter concluded on the necessity to ensure a balanced financial risk and a comprehensive return. It proposed then if the *Hoop Kaart* project were to decide to raise money, the two primary ways of doing so may be used, namely: owner's equity and debt. Owner's equity will consist of R560 000 that UWC will make

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available for investment in the *Hoop Kaart* unit activities (40% of funds) and debt consists of R840 000 (60% of funds) to be obtained from a financial institution. Finally, a provisional income statement and balance sheet of the project were presented, and a positive retained income of R776 000 after the first year of activities of the *Hoop Kaart* unit is showed.

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CHAPTER 5. MARKETING STRATEGY FOR THE *HOOP KAART.*

5.1. INTRODUCTION.

Chapter 5 presents the strengths, weaknesses, opportunities and threats of the *Hoop Kaart.* It also analyses how the market segmentation may be operated in order to realize the success of the product. The target market and the positioning of the new student debit card are also examined. The chapter concludes by examining thoroughly the marketing mix of the *Hoop Kaart*, meaning the product itself, its pricing; its distribution policy and its promotion.

5.2. THE SWOT (STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS) ANALYSIS OF THE PRODUCT.

The *strength* of the *Hoop Kaart* lies in the additional functionality that is being provided. Students no longer have to carry so much cash with them or other credits and debit cards. The *Hoop Kaart* works as a "one card doing all", from a UWC's student center café to a clothing retailer for example, in Century City (Cape Town), or Sandton (Johannesburg) or a mall in the West Virginia State (USA).

For security reasons, students will need to enter their personal identification number (PIN) whenever they use the *Hoop Kaart*, in order either to pay for

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transactions realized or to put credits onto the card, off-line as well as on-line. The above may constitute a summary of the strengths of the *Hoop Kaart*.

As with all products, there are always certain *weaknesses*. In today's highly technological environment, the success of the *Hoop Kaart* depends on the UWC's management willingness to adopt it as a new technology device. Having a card that enables students to utilize all facilities at UWC and outside UWC would require the university to accept to update itself to the latest technological advances. Although having all the added functionality in one card is a strength, it is also a major weakness, as the card is so dependent upon computer network and computer systems technologies, which today with the Internet boom, are really exposed to unscrupulous surfers on a daily basis, trying to intercept users debit cards numbers, or invade systems for espionage or sabotage. Relevant solutions relating to the above dangers will be proposed later on in this study.

There are many *opportunities* available to add to the *Hoop Kaart* and which may be studied separately from this work, loyalty programmes (with various reductions and rebates, and other advantages in purchases), collaboration with government services and many others are sets of examples.

The foreseeable threats are that the *Hoop Kaart* will only be successful if the technology becomes available at UWC. Darries (2003) shows that obtaining funds to finance such project constitutes the key threat for this idea. UWC as a

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previously disadvantaged university has many other priorities aiming at correcting the imbalances of the past and that are competing also for funds. The technology includes also machines, cables and various devices to be installed on campus and off-campus; this needs certainly a strong support for the UWC's top management. This support is coming, but unfortunately at its own speed.

Based on the SWOT analysis the segmentation of the market, the target market and the positioning of the product are drawn.

5.3. THE SEGMENTATION OF THE MARKET.

Kotler (2000) shows that generally, a market segment consists of a large identifiable group within a market with similar wants, purchasing power, geographical location, buying attitudes, or buying habits.

Kotler (2000) and Czinkota, et al. (1997) explain that marketing segmentation becomes a process of dividing the total market for a good or a service into several smaller, homogenous groups. Its essence is that the members of each group are similar with respect to the factors that influence demand.

In the specific case of the *Hoop Kaart* project the market segment that it will target is primarily UWC students. The *Hoop Kaart* caters for specific functionality that suits the demographics and psychographics of the UWC's students niche market. This means students who purchase food, drinks, books, clothes, and so

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forth from on-campus and off-campus shops, take-aways and cafés and so forth and who are "technophiles", conscious of the financial rationality of using one debit card, and who are also highly conscious of the needs for security for both their personal details and their funds, as the crime rate is on the increase around the country, and consequently on campuses. The *Hoop Kaart* hopes to fill the needs of this particular segment.

This student debit card as the university student card will not be focusing on any specific culture or race, but will instead try to unite cultures and races under one product, which will appeal to all. Although this will be no easy task, the *Hoop Kaart* does have the advantage of fulfilling needs that all students have, be they safety or image.
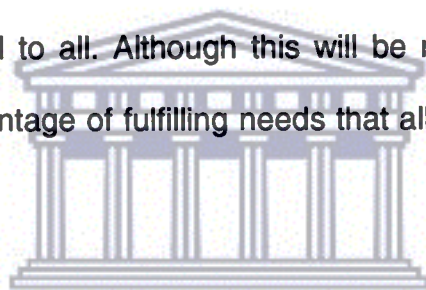
5.4. THE TARGET MARKET.

The primary market for the *Hoop Kaart* will be the undergraduate student. Undergraduate students constitute 82% of the university student population (*UWC*, 2003). For example, most students in UWC's student residences are undergraduates. They are the prime users of on-campus printing and photocopying services; take-aways; cafés; the bookshop and other sports facilities. As living on campus, they also regularly purchase food, clothes, and other items from off-campus neighbouring or distant retailers. The *Hoop Kaart*

therefore caters perfectly for undergraduate students, as its functionality will include cashless payment at these vendors' places.

Postgraduate students form the secondary market for the *Hoop Kaart*. They constitute 18% of the university population (*UWC*, 2003). Although many postgraduate students are not staying on campus, this card will appeal to them as it offers functionality that will enable them to transact both at their work place, in the areas neighbouring of their work place, at the university and possibly outside the borders of South Africa, where many of them are from. The emphasis on "a one and unique cashless functionality device" fulfills the need for security from postgraduate students experiencing the vibrating life of a student-worker, or a foreign student. It has also to be understood that postgraduate students in contrary to undergraduate students have a higher purchasing power.

5.5. THE PRODUCT POSITIONING.

Positioning as emphasized by Kotler (2000) and Czinkota, et al. (1997), is the act of designing the project or the company's offering and image to occupy a distinctive place in the target market's mind. The end result of positioning is the successful creation of a market focused-value proposition, a cogent reason why the target market should buy the product.

In the same line, the *Hoop Kaart* has the potential to positions itself as a premium student card. It has more functions than the standard UWC's student card and it is priced higher. The *Hoop Kaart* is a cashless form of payment for services inside and outside the campus, it is a solution to students' needs. Students need a cashless and secure debit card, a card with multiple functionality, a card appearing as an icon of the entry in the technological era, a card with a design appealing to youth, with somewhat a sexy design and sponsored by trustful brand names.

5.6. THE MARKETING MIX.

5.6.1. Product.

The *Hoop Kaart* is a feasible suggestion to replace the UWC student ID card, as it contains all of the same functionality as well as additional functionality. It includes the functionality of access to secure UWC areas, the purchase and use of photocopying credits, the purchase of printing credits, taking out library books, and identification, as the old student card does, but the *Hoop Kaart* has the added functionality of replacing cash when paying for vending machines, cafés, take-aways, shops, supermarkets, withdrawing money from ATMs, and so forth both at UWC, within South Africa and outside the country. These functionalities constitute the core benefit of this product.

The *Hoop Kaart* will use magnetic stripe and smart-card technologies to enable working as a debit card. Magnetic stripe and smart-card technologies ensure safety, as the credits stored on a magnetic stripe and on a chip processor will be made accessible only when the owner twice keys his or her PIN number. Cash will be debited and credited onto and off to the *Hoop Kaart* via specialized devices, linked on-line to the University computer network (magnetic stripe card) or off-line by using the information stored in the processor of smart card-chip. These point-of-sale devices will be situated around campus at strategic locations, as it will be showed later in this study (see par. 5.6.4.). This constitutes what authors refer to in marketing as the "augmented product" (Kotler, 2000).

As the *Hoop Kaart* uses magnetic stripe and smart chip technologies, new functions can be added to existing cards by merely updating the encoding on the magnetic stripe and on the smart chip. Opportunities for the student debit card include its uses as a debit card in popular students gatherings, as portable reader devices exist. On campus and off-campus loyalty systems that will issue bonus credits to frequent users, the connection with the governmental services for employment, for various licences and for social services may also be considered. Students spending can also be monitored and spending limits be set (for example by parents) for different or all the areas.

Receivables and bad debts may also be reduced, as money is paid up-front. As explained earlier, money will also be earned on the " floats" . The *Hoop Kaart* will

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make "charge slips", a thing of the past. The handling of paper slips will not be needed anymore. This will save labour costs, not to mention sanity.

The *Hoop Kaart* has a design that displays profitably its sponsors and supporting companies logos and images. Optional accessories may be included such as a special wallet and a protective card cover.

Branding is an important aspect of any new product policy. Kotler (2000), Kotler and Armstrong (2000) show that in the past, most products went unbranded[15]. However, in some cases, there has been a return to "no-branding" of certain consumer goods and pharmaceuticals, that have been consequently seen as offering standard or lower quality at a lower price than the advertised brands.

Today, pursue the authors, branding is such a strong force that hardly anything goes unbranded. The individual name as branding policy, offers an advantage, the organisation does not tie its reputation to the product's. If the product fails to deliver or appears to have low quality, the organization name or image is not hurt.

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[15] A brand is a name, sign, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors. (Kotler, 2000; Kotler and Armstrong, 2000)

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"*Hoop Kaart*" has been chosen as the brand name of the proposed UWC student debit card. This brand name is the *Afrikaans*[16] translation of the English words "Hope" and "Card". *Hoop* (hope) is derived from the expression "*Kaap de Goeie Hoop*" (Cape of Good Hope), an expression that highlights the historical and cultural dimension of the City of Cape Town (the location of the University of Western Cape), known as the Cape of Good Hope. The explorer Bartholomeu Dias saw this land for the first time in May 1488, and baptized it under that name after he had searched for land in vain during 13 days. As it was the case for Bartholomeu Dias, The *Hoop Kaart* (the Card of Hope) will highlight the hope of the UWC student community to embed the future of technology or the technology of the future in their daily life. Technology should not be seen as remote, but should be translated into the daily life of people. The *Hoop Kaart* is an attempt to do so.
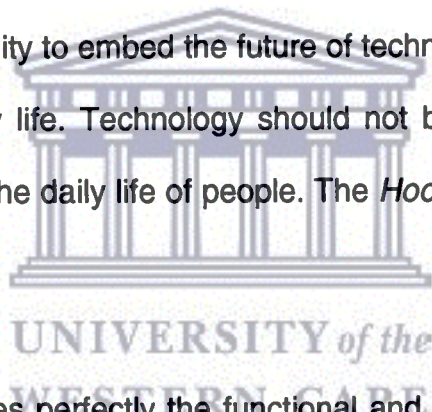
This brand name translates perfectly the functional and the emotional attributes and benefits of the new UWC student card.

5.6.2. Price

The *Hoop Kaart* offers a lot more functionality than the standard UWC student card. The survey conducted determined that 39% of students would be willing to pay an additional R10 and 30% would even be willing to pay more than an

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[16] Afrikaans is one of the most popular languages of South Africa. It is also the language of the primary target market of the UWC Student debit card, which is: female undergraduate coloured students aged 18-21, from EMS faculty.

additional R10 for the new UWC student card, while 31% of students would not be willing to pay additional money for the new student debit card.

From the above, it was determined that a price of R50 could be charged for the *Hoop Kaart*. This figure equates to a base price of R40, the replacement price of the UWC standard student card in case of lost of destruction, plus a mark-up of R10 for the additional functionality and colourful new design.

The additional R10 also ensures that the card will hold some prestige as a more exclusive item than the standard UWC student card.
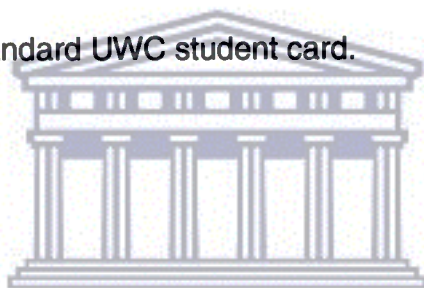
5.6.3. Promotion

New students can be introduced to the UWC student card on registration day and if possible earlier. Therefore any major form of promotion to new students for the *Hoop Kaart* should be on that day. Tools from all the aspects of the integrated marketing communications will have to be used for this finality. These tools are briefly analyzed below.

5.6.3.1   Communication

The prime method of communication for promoting the *Hoop Kaart* will be the registration hall, generally, the UWC's main hall, where the *Hoop Kaart* will be

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issued for each student (i.e. student's photograph, name, student number and encoding the card). The room will need enough computers, digital cameras and encoding terminals to ensure a short queue. Students standing in that shorter queue with nothing to do will have to be approached and briefly introduced to the *Hoop Kaart*, by well-trained students. The person registering the student will also take ten minutes to explain in very powerful communicative way, the functionalities of the *Hoop Kaart*. With the hall decorated *à la Hoop Kaart*, this first contact with the student debit card will be the first love of the new student or the student re-registering for the *Hoop Kaart*.

Events, posters, flyers, contests are powerful tools in advertising products or services (Belch and Belch, 2001). Events, posters, flyers, contests on campus during the registration and orientation week will further enhance awareness of the student debit card.

Students' residences will also be targeted as promotional areas where posters with clever wording and eye-catching designs will have to be stuck. Word of mouth can also be used to spread the word about the *Hoop Kaart*.
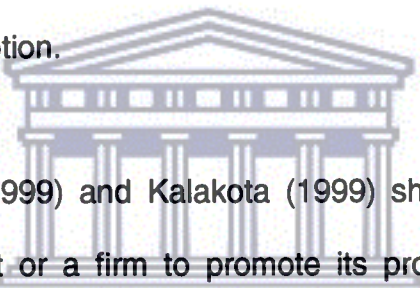
Local students media and the UWC Radio may have to be used.

Once the awareness has been created, very little advertising will be needed, even for future academic years, as the service should have built its good reputation.

5.6.3.2. Promotion.

Free coupons will have to be given by on-campus and off-campus vendors primarily during the registration and orientation week and in many occasions during the academic year. This will help making students into loyal and solvent customers both for the UWC and for the vendors, with as corollary, the increase on revenues from advertisements on the student card, from revenues from the underwriting bank and from new students debit cards purchased.
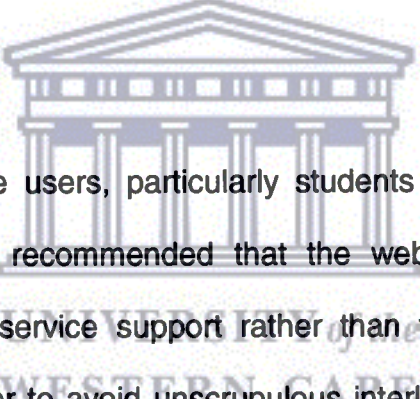
5.6.3.3. Electronic-promotion.

Kotler (2000), Timmers (1999) and Kalakota (1999) show that a website is a powerful tool for a project or a firm to promote its products or services. It is designed to bring prospects and customers closer to a purchase or other marketing outcomes. It might therefore include a catalog, shipping tips, and promotional features such as coupons, sales events, or contests.

It is proposed that the *Hoop Kaart* uses a website (such as www.uwc.ac.za/hoopkaart) in order to promote electronically its functionalities to the student community, which is getting more and more free access to internet. This website will have to be attractive on first view and interesting enough to encourage repeat visits. Graphics, texts, sounds, animations praising the functionalities of the *Hoop Kaart*, will have to be included in the website.

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Banner advertisements and pop-up windows on the *Hoop Kaart*'s website as well as on the advertisers and supports of the *Hoop Kaart*, and others, will have to be designed.

Tickers encourage students to send questions, suggestions and even complaints to the *Hoop Kaart* unit via e-mail will have to be encouraged.

On-line and ordinary customer service will have to be provided by the *Hoop Kaart* unit personnel.

However, as many on-line users, particularly students are more upscale and technically oriented, it is recommended that the website be used only for promotion and customer service support rather than transaction for the first year of the project, in order to avoid unscrupulous interlopers who will probably try to intercept students' debit card numbers, or to invade either the UWC or the other vendors, worst the underwriting bank's computer system for espionage or sabotage. For the next year codes though breaking measures will have to be taken. Both the university and the various vendors and the bank will have to subscribe to ethical provisions, aiming at protecting students' privacy and avoiding unauthorized use of information.

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5.6.4. Place (distribution).

The *Hoop Kaart* will be available, to be purchased, on registration days and thereafter at the *Hoop Kaart* Unit office, to be located preferably either in the student centre or in the main library. Readers will be installed at strategic areas, some of which are:

1. All the on-campus computer laboratories
2. All the residences laundrettes
3. B-Block kiosk
4. Belhar Sports Centre
5. Bookshop/ postal agency
6. Cashier Office (Admin. Building)
7. Chris Hani Residence dining hall
8. Coffee Shop Snack Bar
9. Community Health Building vending machines
10. Dadys Shop (Dos Santos Residence)
11. EMS vending machines
12. Hector Peterson Residence dining hall
13. Main Hall
14. Main Library level 4
15. Printwize
16. Student Centre dining hall
17. SVE dinning hall
18. The Barn
19. UDUBS Clothing
20. Unicaf
21. University Travel Services
22. UWC sports stadium
23. The *Hoop Kaart* Unit office.

For security reasons, the *Hoop Kaart* will be recharged only at the locations indicated below:

1. The existing Absa Bank, First National Bank or Standard Bank ATMs on campus.
2. The Main Library
3. The *Hoop Kaart* Unit Office

Mobile readers will be available at the *Hoop Kaart* unit for special events in the Student centre, in the UWC stadium and at the Belhar sport centers, or in various stadiums outside UWC.

Off-campus strategic vendors that will have to be consulted in order to contract for the use of the UWC *Hoop Kaart* are those mainly located at the commercial strategic places below:
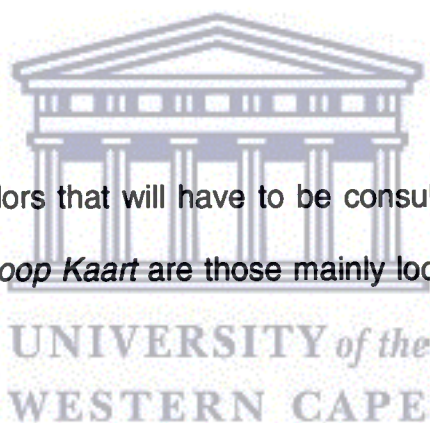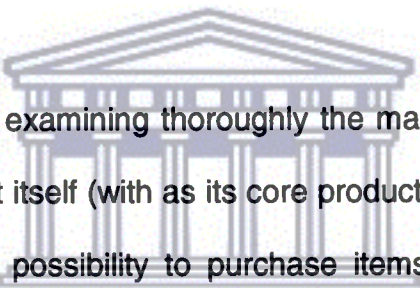
1. Shopping centres in Belleville
2. Shopping centres in the Cape Town commercial business district.
3. Cavendish Shopping Centre, Century City and V&A Waterfront.

5.7. SUMMARY OF THE CHAPTER.

Chapter 5 has presented the strengths, weaknesses, opportunities and threats of the *Hoop Kaart.* It has showed that additional functionality, technological security

issues, future functionality to be added onto the *Hoop Kaart* and the lack of funds for acquisition of the technology are the respectively the major strengths, weaknesses, opportunities and threats of the *Hoop Kaart*. The chapter has also analysed how the market segmentation may be operated in order to realize the success of the product. The target market and the positioning of the new student debit card were also examined. The chapter concluded that the *Hoop Kaart* while being a card for all UWC students should target primarily 18-20 years old female undergraduate students from the Faculty of Economic and Management Sciences.
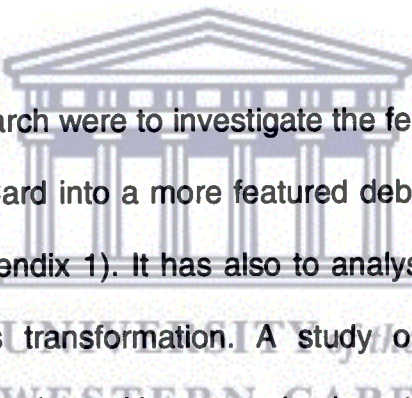
The chapter concluded by examining thoroughly the marketing mix of the *Hoop Kaart*, meaning the product itself (with as its core product the added functionality, such as the technological possibility to purchase items locally, nationally and worldwide by using the *Hoop Kaart*), its pricing (a premium student card, R50 per unit), its distribution policy and its promotion concentrated on specific locations on campus and in the City of Cape Town for the distribution and on effective communication during the registration and orientation week, incentives for loyalty and regular use and the designing of an appropriate website for the *Hoop Kaart* as promotional strategies.

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CHAPTER 6: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

6.1. INTRODUCTION

This chapter presents the conclusions drawn from the findings of the research project. It is also making on basis of the conclusions, some recommendations to the Management of the University of the Western Cape.

6.2. SUMMARY

The objectives of this research were to investigate the feasibility of consulting the current UWC Student ID Card into a more featured debit card, called the "*Hoop Kaart*" (see sample in appendix 1). It has also to analyse the technological and financial viabilities of this transformation. A study on the various ways of conducting marketing strategies, with an emphasis put on the new, diversified and improved electronic channels in order to assure the success of the *Hoop Kaart* product was done and presented.

The first chapter was an introduction that covered a short historic overview of the student debit card and explained the importance of the topic. The chapter also presented the research problem statement, the hypotheses and the assumption of the study. These were followed by the definition of the key terms and concepts that have been used in this project.

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Chapter 2 presented the literature survey, on both the student debit card technological and financial feasibilities. It also gave a literature review on the marketing strategies that can contribute to the success of the project.

In the third chapter, evidence of the technological feasibility and the feasibility of the product in the UWC student market were presented. In order to establish this feasibility, this chapter analyzed the micro-environment and the macro-environment of the project and presented the questionnaire, the survey and the findings of the market research of the product, namely the *Hoop Kaart*.

The fourth chapter studied the financial feasibility of this project and presented the capital budgeting, the source of finances, the avenues of revenues from the student debit card, the income statement, and the balance sheet of the project.

Chapter 5 highlighted the strengths, weaknesses, opportunities and threats of the project. The policies related to the product, price; distribution and to the promotion of the project were also presented.

The final chapter, Chapter 6, presented the summary, conclusions and recommendations from the study.

6.3. CONCLUSIONS.

Based on the findings of this research project, the following conclusions have been drawn:

The proposed UWC Student Debit Card, the *Hoop Kaart*, a features-added student card will be a feasible product for the UWC student niche market. It will offer the functionality of access to secure UWC areas, the purchase and use of photocopying credits, the purchase of printing credits, taking out library books; and identification, as the old student card does. It will also have the added functionality of replacing cash when paying at vending machines, cafés, take-aways, shops, supermarkets and withdrawing money from ATMs, and so forth both at UWC, within South Africa and outside the country.

The findings of the survey conducted in order to establish whether the *Hoop Kaart* could be a feasible product in the student market indicated a 65% acceptance by students to carry and use the proposed all-purpose student debit card to access retail services on and off-campus. These students are mainly female, aged 18-21 years, from EMS faculty.

The *Hoop Kaart*, a hybrid card combining both magnetic stripe technology and smart chip technology will be technologically feasible by connecting online (using a wireless connection) and off-line (using a wire connection) the on-campus and

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the off-campus point-of-sales to the UWC current computer network and to the computer system of the bank that will underwrite the operations. A smart card student system to be purchased such as the Smart City system and which includes software and appropriate hardware will allow the operability of both the existing functionality and the added ones.

The *Hoop Kaart* will be financially beneficial to the university, as it will generate substantial revenues for the university. These revenues will emanate mainly from:

1) The purchasing of the student card;

2) The advertisements on the student debit card; and,

3) The bank that will underwrite the process (this avenue of revenues includes particularly the shared funds from the benefits gained from banking charges on retailers, particularly those off-campus, which will have to transact with students by using the *Hoop Kaart*).

It has been estimated that R1 218 750 will be generated from these sources.

Results of the capital budgeting calculations showed that the *Hoop Kaart* which will require an initial investment of R1 400 000 (R560 000 as UWC owner's equity and R840 000, as a long-term debt to be obtained from a financial institution), displayed a positive Net Present Value of R2 324 302; an Internal rate of return of 54.37% (far greater than the required Rate of Return which is 13.5%); and a payback period of two years (a shorter period in comparison with

the duration of life of the investment and the benchmarking period of six years in IT industry).

The *Hoop Kaart* project is therefore financially feasible and should be accepted.

A proper application of marketing techniques will allow the *Hoop Kaart* to fulfill students' needs of an "one-in-all" debit card which, by progressively creating a cashless campus, will allow both a parsimonious use of student's funds and the enhancement of security on campus.

The proper application of marketing techniques will have to pass through a thorough examination of the marketing mix of the *Hoop Kaart*, meaning the product policy (with as core product, the added functionality initially mentioned); the pricing policy (a premium student card, R50 per unit), the distribution policy and the promotion policy. Promotion will have to focus on specific locations on campus and in the City of Cape Town. Effective communication during the registration and orientation week, incentives for loyalty and regular use, and an appropriate promotional website will allow to successfully achieve the objectives of this important policy.

6.3. RECOMMENDATIONS

Based on the findings and conclusions of this research project, the following recommendations can be made:

1) Implementing during the 2004 academic year a university *ad-hoc* technological and marketing commission which will further the findings of this study in order to establish on the basis of a broader inclusion of various variables and data, the final technological and marketing viabilities of the project as well as to determine the potential bank that will underwrite the process and the exact envelope of money that this avenue may generate for the University. This will have to be done prior to the implementation of the student debit card in 2005.

2) Introducing the *Hoop Kaart* as the UWC student debit card after conclusion of the ad-hoc technological and marketing commission referred to above.

As the *Hoop Kaart* project is financially a generator of revenues for the university in particular and for the national economy in general, it is recommended that the student debit card be introduced first to the UWC students, then in the following years to the staff, alumni and others on campus.

BIBLIOGRAPHY

Access control & Security Systems Integration. 2001. Single card access, decentralized control at Georgia Tech. 44(21): 24-27.

Bambenek, J.J. 2001. Virtual food service systems: Technology transforming university food service structure. *College student journal.* 35(1): 122-134.

Belch, E.G., Belch, A.M. 2001. *Advertising and Promotion: an integrated marketing communications perspective.* New York: Mc Graw-Hill/Irwin.

Benett, B. 2001. *Personal interview.* Manager of the University of Cape Town's computer network system. Cape Town, July 20.

Bergen 2003. *Introduction to technology.* (Online). http://www.bergen.org/technology/defin.html 22 February.

Brain, M. 2003. *Howstuffworks? How does a magnetic stripe on the back of a credit card work?* (Online). http://money.howsstuffworks.com/question503.htm 18 February.

Cova, B., Ghauri, R, Salle, R. 1999. *Project Marketing: beyond competitive bidding.* Chichester, England: Wiley.

Cray, D. 1997. Cashing in. *American School & University.* 69:32. February.

Curriculum Administrator, 2000. A universal student card. 36(1).

Czinkota, M., Kotabe, M., Mercer, D. 1997. *Marketing management: text and cases.* Cambridge, Massachusetts: Blackwell.

Darries, M. 2003. *Personal interview.* Information Technology Director, University of Western Cape. Cape Town. 10 October.

Education Technology. 2002. Debit card systems create a safer cashless environment!. Fall(1).

Elaine, L.2000. *Internet commerce: digital models for business.* Brisbane: Wiley.

Eltroncards. 2003. *Magnetic stripe encoding.* (Online). http://www.eltroncards.com/aboutcard5.htm 26 February.

Fickes, M. 1999. All-purpose cards include Master Card Debit Function. *Access Control & Security Systems Integration.* 42(6):22-24. May.

Florida Atlantic University. 2003. The Owl card, from business services at Florida Atlantic University. (Online). http://www.fau.edu/student/off_srvs/about.htm 26 February.

Gary, W. E.1998. *Corporate finance: principle and practices*. Reading: Addison-Wesley.

Gompers, J. 2002. Developing solutions interactively. *Access Control and Security Systems Integration*. November 1.

Haag, S., Cumming, M, Dawkins, J. 2000. *Management Information Systems for the Information Age*. Boston: McGraw Hill/Irwin.

Hale, J.L. 1999. Putting together the pieces. *American School & University*. February 1.

Hartley, C., Firer, C., Ford, J.2000. *Business Accounting and Finance*. Witswaterrand.

Hellevig, P. 1999. Chartiers-Houston allows students to use Debit cards for meals. *Nation's Restaurant News*. 33(34):18. August 23.

Jullies, G. 2003. *Personal interview*. ICS's Officer and Manager of the University of Western Cape's computer network system. Cape Town. October 10.

Kalakota, R. 1999. *E-business: roadmap for success*. Boston: Addison-Wesley.

Keenan, C. 2003. *Payments Evolution: The Ascent of Debit cards*. Community Banker. 12(3): 30-3. March.

Killian, T.M. 2003. *Credit versus Debit card* . (Online). http://credit.about.com/library/weekly/aa080400a.htm 07 March.

King, R.T. 1996. The company we don't keep. Wall Street Journal. November 18: 22-23.

Kotler, P., Armstrong, G. 2000. *Principles of Marketing*. Upper Saddle River: Prentice-Hall.

Kotler, P. 2000. *Principles of Marketing*. Upper Saddle River: Prentice-Hall.

Loyola University Chicago. 2003. *Campus Card*. (Online). http://www.luc.edu/sbo/campuscard.shtml 26 February.

Martin, J., Loubser, M., Van Wyk, J. 2002. *Marketing research: a South African approach*. Pretoria: Unisa.

Memorial University, 2003. *Our Services - MUN 1Card.* (Online).
http://www.mi.mun.ca/current_students/services/smcard/ 26 February.

Mitchell, J.A. 2001.*Corporate Finance course notes. Postgraduate Diploma in Management-Marketing.* University of Cape Town, Unpublished.

Moneta, L. 1997. The Integration of Technology with management of student services. *New Directions for student services.* 78:5-16. Summer.

Morall, K. 1996. Smart cards signal a cashless society. *Bank Marketing.* 27:13-17. April.

Mount Holyoke. 2001. A card–carrying campus. *Access Control and Security Systems Integration.* March 1.

Norro, M. 1996. *International Trade course notes. 2nd Year undergraduate studies, Faculty of Economic Sciences.* Catholic University of Bukavu, Unpublished.

Odin. 2003. *Debit cards systems for schools.* (Online). http://www.odin-inc.com/debitcard.htm 28 February.

Partington, G. 1999. A centrally controlled electronic access system secures the university of Maryland. *Access Control and Security Systems Integration.* April 1.

Pennsylvania State University. 2003. *Comprehensive university ID card/transaction Card programme.* (online). http://wwwidcard.psu.edu/history.htm 15 March.

Primeoutdoor. 2003. *Outdoors rates.* (Online)
http://www.primeoutdoor.co.za/rateindex.htm 15 July.

Proctor, T. 200. *Essentials of marketing research.* Harlow, England: Financial Times/ Prentice Hall.

Reserve Bank of South Africa. 2003. *Economic and Financial Data for South Africa.* (Online).
http://www.resbank.co.za/Economics/zaflink1.html#REAL%20SECTOR 09 September.

Ross, A.S, Westerfield, R.W., Jordan, B.D. 2001. *Fundementals of Corporate Finance.* Roseville, Australia: Irwin/Mc Graw-Hill.

School link technologies .2000. *mycard@school and bridge applications: the turnkey solution for universally accepted photo identification cards in schools.* (Online). http://www.school-linktechnologies.com 28 February.

South Missouri State University. 2003. *Guide to evaluating information technology.* (Online). http://www.smsu.edu/oit/guide/administrativeexperience.htm   15 March.

Spoor, L.D. 1997. More than meets the eye. *American School & University.* July 1.

Stellenbosch University (SUN). 2001. *University identification, security and payment Smart Card System: Request for Business Proposal.* Stellenbosch. Unpublished.

Strum, E. 2003. *Arizona Summer Wildcat.* (Online). http://www.catcard.arizona.edu/visitorfaq/ 15 March.

Timmers, P. 1999. *Electronic commerce: strategies and models for business-to-business trading.* Chechester, England: Wiley.

Timmers, P.1999. *Electronic commerce: strategies and models for business-to-business trading.* Chechester, England: Wiley.

University of Houston. 2003. *University one card systems.* (Online). http://www.cougarone.com/info/sfinfo.jsp 15 March.

University of Kansas. 2003. *New debit card programme.* (Online). http://www.ur.ku.edu/News/98N/FebNews/Feb4?smartcard.html   15 March.

University of Pennsylvania State. 2003. Comprehensive university ID card/transaction Card Program. (Online). http://www.idcard.psu.edu/history.htm 15 March.

University of the Western Cape (UWC). 2003. About UWC. (Online). http://www.uwc.ac.za/ 23 September.

Whitaker, B. 1999. A debit card for students, with oversight for parents. *New York Times.* 149(51707):5.

Wikipedia Encyclopedia. 2003. *Debit card.* (Online). http://en.wikipedia.org/wiki/Debit_card   26 February.

Wikipedia encyclopedia.2003. Operating system. (Online). http://en.wikipedia.org/wiki/Computer_software 21 October.

Willcocks, L. 1996. *Investing in Information Systems: Evaluation and Management.* London: Chapman & Hall.
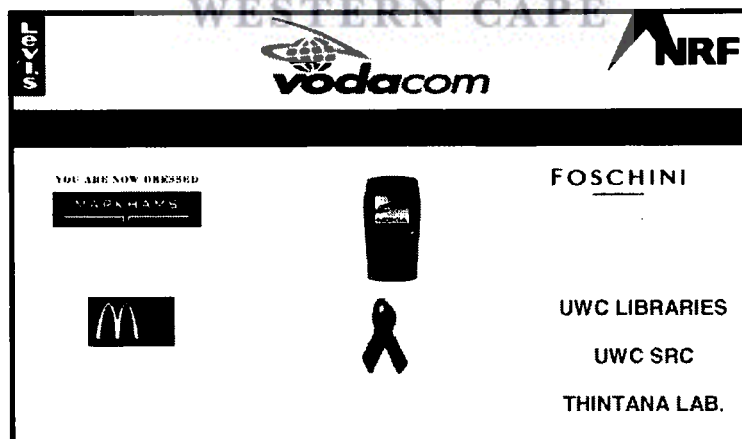
Appendixes.

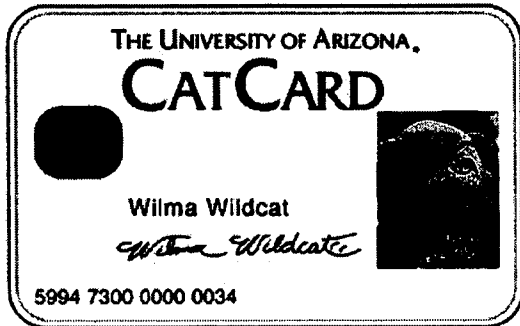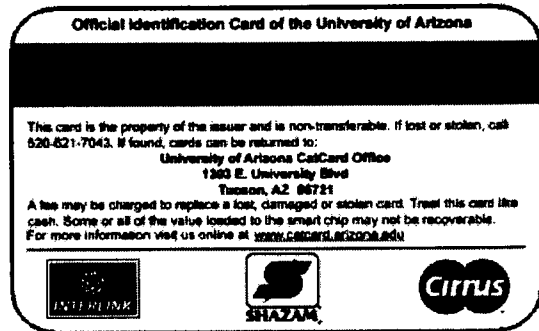Appendix 1: The proposed UWC student card: the *Hoop Kaart*
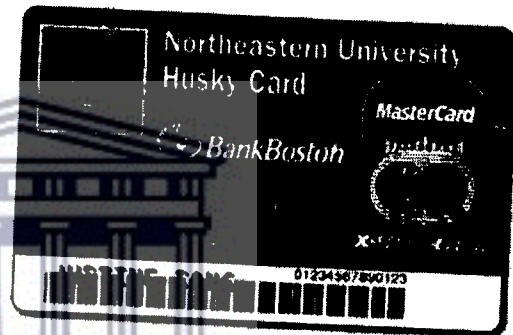
Front

Back

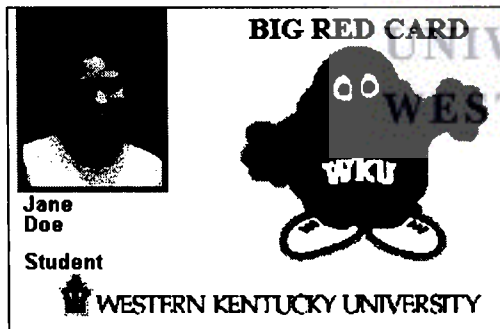## Appendix 2: Samples of student debit cards.

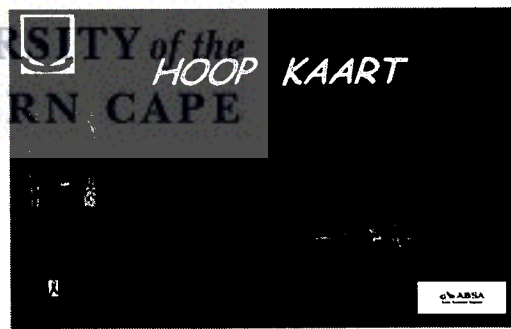The university of Arizona Student Debit Card

The University of North Texas Student Debit Card

The Northeastern University Husky Card.

The University of Western Kentucky Student Debit Card

The University of Western Cape proposed Student Debit Card: The *Hoop Kaart.*

Appendix 3: The survey questionnaire.

Dear Student,
A survey on the possibility of adapting the UWC student I.D. card into a debit card is being conducted. This is in partial fulfillment of requirements for the *Magister Commercii* Degree. It is humbly asked for your voluntary participation in the research because your answers will help understand the importance of a student debit card, which will serve as medium of payments for all your on-campus and eventually off-campus retail transactions. All questionnaires are completely anonymous. Please fill in spaces provided and choose where options are given by crossing the appropriate one.
Thank you for your co-operation and assistance.

1. How often do you use the on campus photocopying services?
Daily [   ] Weekly [   ] Occasionally [   ]

6. How often do you use the on campus printing services?
Daily [   ] Weekly [   ] Occasionally [   ]

7. How often do you use the on campus take-aways and cafés?
Daily [   ] Weekly [   ] Occasionally [   ]

8. How often do you use the on campus bookshops services?
Daily [   ] Weekly [   ] Occasionally [   ]

5. Would you prefer to use your student card as an alternative paying method for the on campus photocopying and printing services? Yes [   ] No [   ]

6. Would you prefer to use your student card as an alternative paying method for the on campus take-aways and cafés? Yes [   ] No [   ]

7. Would you prefer to use your student card as an alternative paying method for the on campus bookshops?
Yes [   ] No [   ]

8. Would you prefer if your student card could be used to access financial services facilities such as banks' ATMs on campus? Yes [   ] No [   ]

9. Would you prefer if your student card could be used to access other retail stores facilities outside UWC?
Yes [   ] No [   ]

10. Would you prefer if your student card could be used to access telephone facilities outside UWC?
Yes [   ] No [   ]

11. Would you prefer if your student card could be used to access other fast food facilities outside UWC?
Yes [   ] No [   ]

12. Would you prefer if your student card could be used to access other financial services facilities such as banks outside UWC? Yes [   ] No [   ]

13. How much extra would you be prepared to pay for this added functionality? (in the case that the currently student I.D. card costs R.40.00) Nothing [   ] R10.00 [   ] R20.00 + [   ]

14. Do you already use a debit card? Yes [   ] No [   ]

15. Would you prefer to carry this all purpose debit card instead of cash?
Yes [   ] No [   ]

16. Your Faculty: Arts [   ] Com&Health [   ] Dentistry [   ] Education [   ] EMS [   ] Law [   ]
Science [   ]

Optional :

1. Gender: Female [   ] Male [   ]

2. Year: 1st [   ] 2nd [   ] 3rd [   ] 4th [   ] Hons [   ] Masters [   ] PhD [   ] Other [   ]

3. Race: Black [   ] Coloured [   ] Indian [   ] White [   ] Other [   ]

4. Age: under 18yrs [   ] 18-20 yrs [   ] 21-25 yrs [   ] 26-30 yrs [   ] 31-35yrs [   ] +35 yrs [   ]

This concludes the questionnaire. Thank you for your time.