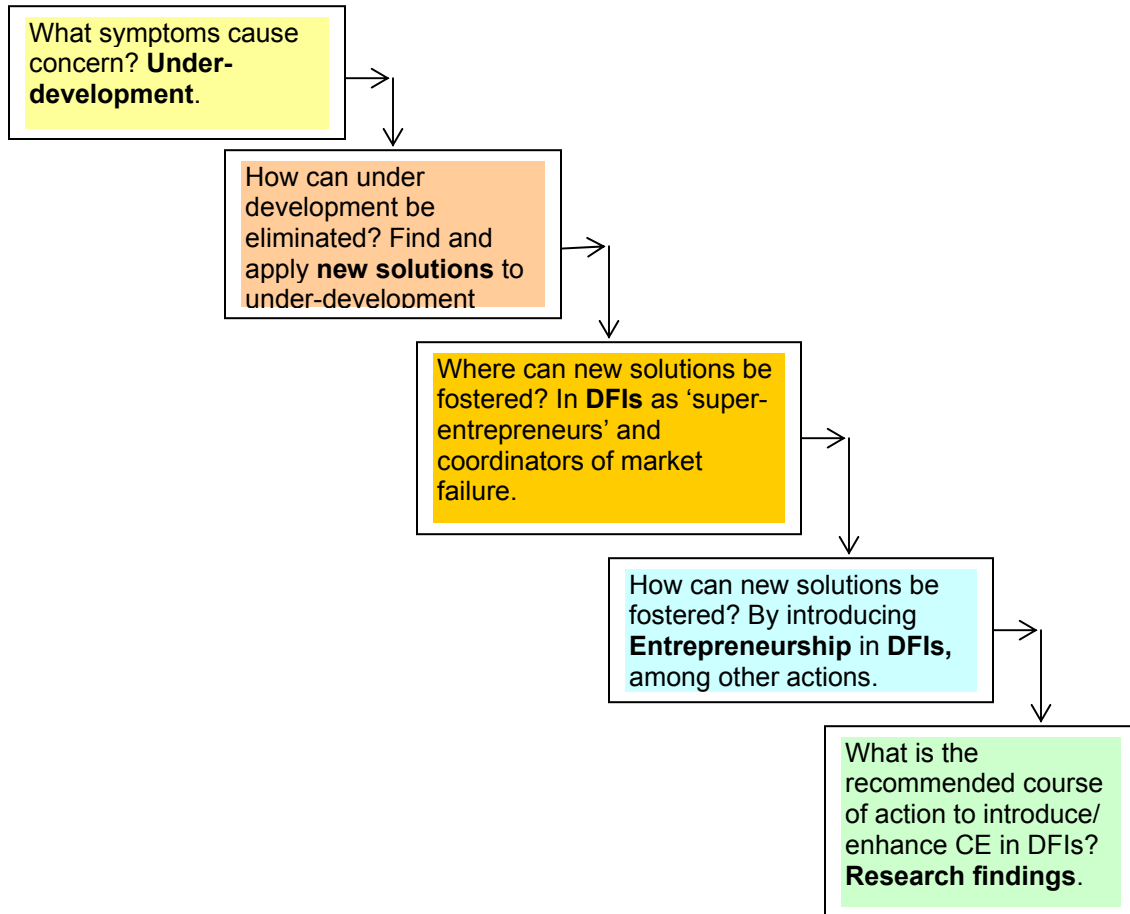


## Management-Research Question Hierarchy

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# **PART I**

## **RESEARCH ORIENTATION SECTION**

## **Chapter 1: Introduction**

### **1.1 Introducing the Corporate Entrepreneurship construct**

Corporate entrepreneurship (CE) is a holistic view of the organisation that infuses creative strategic processes throughout the organisation (Morris, Lewis, & Sexton, 1994). In literature, the corporate entrepreneurship label has been given to multiple and sometimes distinct organisational phenomena such as entrepreneurial management (Stevenson & Jarillo, 1990); entrepreneurial orientation; firm-level entrepreneurship; entrepreneurial posture (Covin, 1996); and pioneering-innovative management (Khandwalla, 1987). Schindehutte, Morris and Kuratko (2000) refer to a concept of 'entrepreneurial thinking' in organisations and suggest infusing 'the institution with innovative behaviours' as a mechanism to achieve such thinking. Morris and Kuratko (2002) refer to this infusion as corporate entrepreneurship. Simon, Houghton and Gurney (1999) call it a managerial approach that will stimulate innovation and 're-energise employees'.

According to Covin (1999), the following three phenomena are among the most common situations that can be viewed as examples of corporate entrepreneurship: an established organisation entering a new business; an individual or individuals championing new product or service ideas within an established organisation and an 'entrepreneurial' philosophy that permeates the entire organisation's outlook and operations. The last example is a situation where entire firms, rather than individuals or parts of firms, act in ways that generally would be described as entrepreneurial.

### **1.2 The importance of corporate entrepreneurship**

Conventional wisdom indicates that corporate entrepreneurship leads to superior firm performance. In literature, it has long been established that corporate entrepreneurship is a potentially viable means of promoting and sustaining

corporate competitiveness. Schollhammer (1982), Miller (1983), Khandwalla (1987), Guth and Ginsberg (1990), Naman and Slevin (1993), and Lumpkin and Dess (1996) have all noted that corporate entrepreneurship can be used to improve competitive positioning and transform corporations, their markets, and industries, as opportunities for value-creating innovation are developed and exploited. According to Zahra and Covin (1995), empirical evidence exists to justify the proposition that corporate entrepreneurship leads to superior organisational performance. However, it still remains something of a mystery why such a causal relationship exists, and whether or not corporate entrepreneurship can yield similar results when applied to socio-economic development institutions (Covin, 1999).

Consequently, there is an increasing interest in understanding the antecedents and consequences of the entrepreneurial orientation (EO) in established organisations. There is also considerable theory to be found concerning EO causal relationships, but few empirical studies have been done on the 'corporate entrepreneurship-performance' relationship in development finance institutions.

### **1.3 Problem statement**

The recent performance of the African economy has been impressive. Real GDP in Africa as a whole exhibited the following real growth rates: 3.7 percent in 1997-2003; 5.3 percent in 2004; and 4.9 (estimate) in 2005 (AfDB/OECD, 2006). The AfDB/OECF (2006) report, projects an acceleration of Africa's growth to averages of 5.8 percent in 2006 and 5.5 percent in 2007.

However, this impressive continent-wide average economic growth outlook masks considerable disparities among individual countries, particularly stark differences between oil and mineral exporting countries on the one hand and other African countries on the other.

Despite the recent gains on the economic front, the general consensus today, in 2006, is that Africa is still lagging behind other continents in its progress towards

the Millennium Development Goals (AfDB/OECF 2006: 35). Africa faces a multidimensional socio-economic crisis; it is the poorest continent on earth, with half its population living on less than US\$1 per day (DBSA, 2003). Todaro and Smith (2003) in their definition of development, begin to explain why. They posit that economic growth is a necessary but not a sufficient condition for development. They go on to assert that development encompasses shelter, education, health, culture, basic human rights and freedoms, etc.

Among the key agents of development as defined, the Development Finance Institutions (DFIs) could play a pivotal role as they have a reputation of being knowledge, finance and partnership brokers for development (DBSA Vision 2004, 2014). From their individual and collective extensive knowledge base, innovative solutions to the challenges of underdevelopment and poverty are expected. In fact, they are generally regarded as super entrepreneurs or catalysts for development. They are seen as key to addressing both the market failure and the public failure that result in underdevelopment. Market failure is a situation where private sector players or agents would act in a manner that minimises positive externalities or that produces negative externalities. Public failure on the other hand, occurs when neither the market nor public sector provides goods and services required to provide basic needs.

The persistence of development challenges in Africa is a clear indication of the market and public failure that continues and, by implication, the failure of DFIs to be the super entrepreneurs that they are supposed to be. It can therefore be hypothesised that there is a dearth of entrepreneurial orientation and innovation, or simply 'entrepreneurial thinking', in DFIs, which partly accounts for their failure to meet expectations.

Thus, there is a need for an improved understanding of what the current state of entrepreneurial orientation is within these *catalysts of development*, the DFIs. There is also a need to determine the extent to which efforts to infuse

entrepreneurial culture and behaviours can positively influence DFI entrepreneurial orientation and new venture creation.

#### **1.4 Management question**

The resultant management question is: 'How can corporate entrepreneurship be introduced within DFIs?' The management dilemma of underdevelopment and the apparent under-performance of DFIs, as described in the problem statement, demand 'ground-breaking disequilibrating actions' (Schumpeter, 1934; 1942) or continuous innovative actions by DFIs to enhance their effectiveness in delivering on their developmental mandates.

#### **1.5 Research questions**

The study will deal with the following research questions:

- Why is corporate entrepreneurship (CE) important for DFI performance?
- What is the status quo of corporate entrepreneurship and innovation in DFIs?
- What are the barriers to corporate entrepreneurship in DFIs?
- What differences exist within and between DFIs regarding entrepreneurship and innovation orientation?
- How successful can corporate entrepreneurship training be in DFIs?

Of relevance to finding answers to these research questions will be Zahra's (1991) integrated approach, which stresses the importance of formal and informal activities in established organisations aimed at enhancing corporate performance and creating new business through product and process innovations and market developments, as well as strategic renewal. These activities can take place at the corporate, divisional, unit, functional, or project level, with the unifying objective of improving an organisation's effectiveness, competitive position and business performance.

## **1.6 Aim and importance of the research**

It is of crucial importance that an 'entrepreneurial mindset' (McGrath & Macmillan, 2000) should be fostered in development corporations in order for them to enhance their contribution to the financing for development in this 'African' millennium. This study draws from the existing body of knowledge on entrepreneurship, and captures and applies from it what is of relevance for corporate entrepreneurship in DFIs. The success stories of entrepreneurs and the passionate innovation and creativity that are embedded in the entrepreneurial approach can also be a performance driving force in DFIs.

The aim of the study is to create entrepreneurially-minded managers and senior professionals to act as the leadership group in an experimental initiative in a DFI; they would be more attuned to new development market opportunities and would stimulate a more innovative and risk-taking culture. The hope is that the resultant change in the leadership group's behaviours and entrepreneurial orientation would eventually cascade to the rest of their respective business units.

The approach is to teach the leadership group to be corporate venturers themselves, and also to spur more opportunity focus and orientation within the rest of the DFI environment. Therefore, the goal was for these leaders to act as catalysts and coaches for more entrepreneurial thinking and acting. This approach is supported by a study by Pearce II, Kramer and Robbins (1997), which has shown that managers who adopt more entrepreneurially-focused behaviours, such as encouraging the destruction of red tape or encouraging staff to try new ways of doing their work, can have an impact on employee satisfaction as well as the company's bottom line.

The aim and importance of the literature section of this thesis is to collect from the entrepreneurship and corporate entrepreneurship literature those principles and concepts that could be refined, developed and used in DFIs to foster a new entrepreneurial organisational climate aimed at finding innovative solutions to the persistent problem of underdevelopment.

The empirical research uses a South African DFI as an experimental case study to assess the entrepreneurial orientation of DFIs; establish whether or not there are statistically significant differences between entrepreneurial factors within and between DFIs; and to demonstrate the success or failure of targeted interventions to promote entrepreneurship in DFIs. Using a diagnostic instrument and an experimental research design, key entrepreneurial factors and areas that require attention if DFIs are to encourage entrepreneurial activities are identified and fostered.

Recommendations are made on how to enhance DFI performance through the infusion of an entrepreneurial spirit.

## 1.7 Propositions

**A. For the literature part of the study (Part II, chapters 3 and 4), the following proposition is formulated:**

H<sub>0</sub>:A1 Entrepreneurship and corporate entrepreneurship principles are **not** applicable to organisations that pursue non-profit motives, such as DFIs; and **cannot** enhance their performance.

**B. For the pre-intervention empirical part (O<sub>1</sub>) of the study (Part III, Chapter 6), the following propositions are formulated:**

There **is not** a significant difference between the pre-intervention corporate entrepreneurship opinions of the following experimental DFI employee categories:

1. *Managers* (executives, middle managers and project managers) and other staff (specialist or professional staff and other staff);
2. *Male* and female;
3. Age category ranges 20 to 30 and 31 to 40 and 41 to 50 and 51 to >61;



4. Service years ranges *0 to 4* and *5 to 9* and *10 to 14* and *15 to >20*;
5. Education levels *less than matric* and *matric* and *post matric* and *graduate* and *post graduate*

regarding the following Corporate Entrepreneurship Constructs:

- H<sub>0</sub>:B1 Management support for CE
- H<sub>0</sub>: B2 Work discretion.
- H<sub>0</sub>: B3 Rewards / Reinforcement
- H<sub>0</sub>: B4 Time availability
- H<sub>0</sub>: B5 Organisational barriers
- H<sub>0</sub>: B6 Innovation organisational support
- H<sub>0</sub>: B7 Innovation portfolio management

**C. For the true-experiment (O X O Control groups) part of the study (Part III, chapter 8), the following propositions are formulated:**

- H<sub>0</sub>: C1-C7 There **is not** a significant difference between the corporate entrepreneurship opinions of the study observation groups (pre-, post-, and control groups) regarding the *above-mentioned Corporate Entrepreneurship constructs*.
- H<sub>0</sub>: C8-C14 There **is not** a significant change in the corporate entrepreneurship opinions of the above-mentioned employee stratification groups from the pre- to post-intervention groups regarding the *above mentioned Corporate Entrepreneurship constructs*.

**D. After the corporate venturing and entrepreneurship training intervention,**

**H<sub>0</sub>: D1** There **is not** a significant increase in the number of new ventures that are indicative of a corporate entrepreneurship culture.

All the propositions (null hypotheses) set out above state that there **is not** a real (as opposed to random) difference between the opinions of the various employee stratification groups of the DBSA, or that there is **no** real change due to the effect of the CE training intervention on the CE perceptions and practices.

The alternative proposition, also known as the research hypothesis, states that there **is** a real difference or a real change in the opinions or practices of the underlying population.

The basic strategy of the study is therefore to try to support the alternative proposition by showing that the results of the empirical research are highly unlikely assuming the propositions; and more likely assuming the alternative propositions (Hildebrand & Ott, 1996: 248).

## **Chapter 2: Research design and methodology**

### **2.1 Research design classification**

This research is designed as a formal case study (Cooper & Schindler, 2003). This is supported by the researcher's more than ten years of practical experience and insights gathered during his employ in national and international development finance institutions. Such insights are complemented by pre-PhD exploratory studies comprising graduate level coursework on entrepreneurship, development economics, innovation and creativity, international business and research methodology. The exploratory studies culminated in an academic research paper entitled: *Identifying entrepreneurship concepts for private and public sector development corporations to enhance their effectiveness*. The academic research paper was presented at a colloquium hosted by the School of Economic and Management Sciences, Department of Business Management, the University of Pretoria on 1 July, 2004. Some of the findings of the exploratory studies and insights, especially those that pertain to DFIs and development effectiveness, were also presented and debated at a World Bank Seminar hosted by the Carleton University in Canada on 7 July 2004, under the title: 'Raising the stakes in evaluation: A key to Africa's Renaissance?: A DBSA perspective" (Gantsho, 2004).

This formal study is designed to answer scientifically the research questions raised under section 1.4, and to test the corporate entrepreneurship hypotheses/propositions listed under section 1.7 in Chapter 1.

### **2.2 Purpose of the study**

For many years DFIs have been run according to bureaucratic principles, as extensions of the civil-service machinery. Corporate entrepreneurship in DFIs is a new phenomenon that must first be validated with a literature study on entrepreneurship in corporates generally, and in public and quasi-government

organisations in particular. The aim and importance of the literature section are to collect from the entrepreneurship and corporate entrepreneurship literature those principles, concepts and constructs that could be refined, developed and experimentally applied to DFIs for the enhancement of their corporate culture and internal capacity to find new solutions for development challenges.

The empirical study section seeks to answer the questions of *who, what, when, where or how much* of entrepreneurship in DFIs. It is aimed at measuring selected entrepreneurial factors or constructs, and demonstrating statistically significant relationships between such entrepreneurial factors within and between DFIs. This aspect of the study is therefore *descriptive* in nature (Cooper & Schindler, 2003: 149)

Furthermore, the study has involved interventions by the researcher beyond those required for measurement. The interventions were made at a national DFI and were in the form of a corporate-wide change management programme that included entrepreneurship communication, leadership, corporate entrepreneurship training and innovation management system redesign. The corporate entrepreneurship training component was designed to manipulate the following factors or constructs as independent variables: managerial support for CE; work discretion; rewards/reinforcement; time availability; organisational boundaries, barriers and bureaucracies; innovation organisational support; and innovation portfolio management. It was then observed how the interventions affected the perceptions and practices of managers, professionals and staff on corporate entrepreneurship and innovation as dependent variables.

This research approach follows prior research that 'examined the determinants of firm-level entrepreneurship by uncovering those variables that enhanced companies' willingness to be entrepreneurial' (Kuratko & Welsch 2001: 369).

The extent of the existence of statistically significant relationships between perceptions of stratification groups of development workers, and between entrepreneurship training and an entrepreneurially supportive environment and

new venture creation was observed, tested and documented. This aspect of the study is still descriptive, and not *causal*, in nature, as only correlational relationships were proved by inductive reasoning and inferences drawn (Cooper & Schindler, 2003: 149)

Conclusions and recommendations are drawn from: the results of statistical significance tests of relationships between perceptions of DFI different staff groups regarding entrepreneurship and innovation factors; and on how entrepreneurship training is a statistically significant correlate of new venture creation (Kuratko & Welsch, 2001).

### **2.3 Method of data collection**

For the empirical study the method of data collection was interrogative or communicative. The researcher questioned the subjects and collected their responses by means of an Innovation and Corporate Entrepreneurial Assessment Instrument (ICEAI) questionnaire instrument adapted from the Corporate Entrepreneurial Assessment Instrument of Hornsby, Ireland & Kuratko (1990). The questionnaire was designed to diagnose the supportiveness of the DFI corporate culture and capture the degree of entrepreneurship, and also the underlying organisational dimensions of corporate entrepreneurship and innovation in DFIs. Statistically significant differences of CE orientation within and between DFIs were assessed (refer to chapters 6 and 8).

Evidence of entrepreneurial *acting* was secured through assessing items such as completed new venture plans; new product ideas; paper selections; presentations and the like (refer to Chapter 7).

### **2.4 Topical scope (breadth and depth) of study**

The study is a hybrid of *statistical* and *experimental case study* designs.

The statistical design aspects capture the DFI entrepreneurial characteristics by drawing inferences from the characteristics of the population elements at a local

DFI, and from a sample drawn from comparative international DFIs. Hypotheses are tested quantitatively, and generalisations about the findings are presented based on the strength of the instrument factor analysis, the statistical significance of the relationships, and the validity of the design (Cooper & Schindler, 2003: 150).

The experimental case design aspect of the study is an in-depth contextual analysis and synthesis of conditions in a local DFI and their interrelations. While the administering of the ICEAI questionnaire has characteristics of an *ex post facto* research design, where a researcher interviews respondents to determine what is or what has been (Cooper & Schindler, 2003: 424), an experimentation design was added to allow the researcher to administer a *stimulus* (in the form of entrepreneurial skills development) and then test for changes in attitudes and behaviours and the resultant statistical significance of the observed differences, if any.

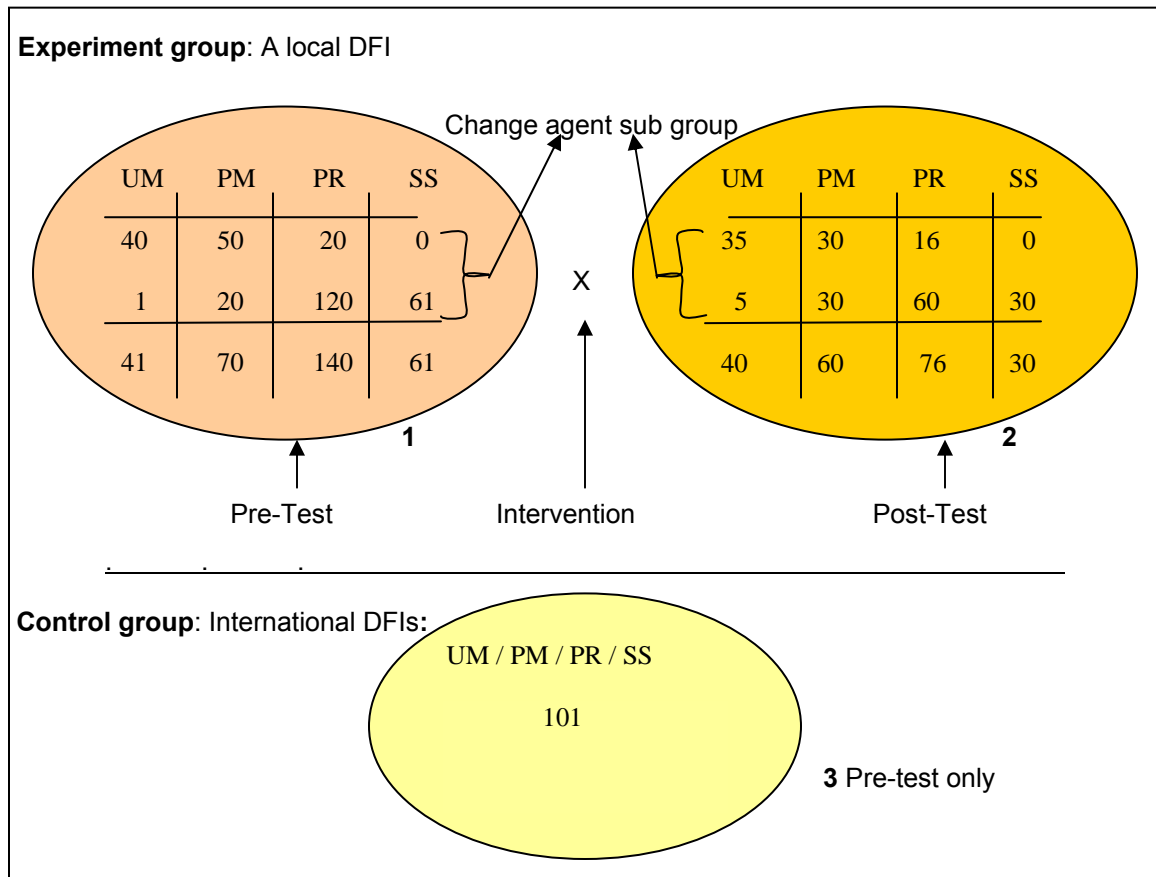
The experimental design used is analogous to a *True Experimental Design* (Cooper & Schindler, 2003), in which two groups of participants are sampled. The first group sampled in this study is an experimental group whose participants consisted of the staff population of a local DFI. More than 60% of this group's population was pre-tested; and then more than 40% of the same group's population was post-tested. A substratum of the first group, the 'change agent' sub-group, comprising management and senior professionals, was given a higher-level stimulus than the rest of the experimental group. The second group in the study is a comparative control group of participants chosen from ten international DFIs, and pre-tested only.

After the initial pre-test measurement of entrepreneurship in both groups, the local DFI was subjected to an organisation-wide change management programme for almost a year. The change management programme entailed an intensive formal 'innovation and corporate entrepreneurship' training intervention for the 'change agent' subgroup of the experimental group, venturing exercises,

organisation-wide workshops, innovation circles, CEO innovation awards, quick wins celebrations, and constant communication about corporate entrepreneurship. The experimental group was then post-tested after the training intervention period. This type of design is analogous to a *Pre-test – Post-test Control Group Design* (Cooper & Schindler, 2003: 438). The use of a control group enhances the design by achieving true equivalence of groups. Maturation, testing and regression can also be handled well, as it can be expected that these would be felt equally in both the experimental and comparative control groups. Figure 2.1 depicts this experimental design.

The purpose of the experiment is not necessarily to prove *causal relationships* but to determine if the variables: corporate entrepreneurship training; the corporate entrepreneurial climate; and corporate venturing, are independent of (unrelated to) one another, and if they are not, then to determine the strength or magnitude of the relationship (Cooper & Schindler, 2003: 162).

**Figure 2.1:** Pre-test post-test control group design



**Sample size for  $O_1$  and  $O_3$**

- $O_1$  (Local DFI) Sample size = 312

(Unit Managers = 41; Project Managers = 70; Professionals = 140; Support staff = 61)

- $O_3$  (International DFIs) Sample size = 101

**Sample size for  $O_2$  (size and breakdown are near accurate estimations)**

- $O_1$  (Local DFI) Sample size = 206

(Unit Managers = 40; Project Managers = 60; Professionals = 76; Support staff = 30)

**Key:**

$O_1$  = Pre-testing (or pre-measurement), and **before X**, of knowledge, practice and climate of entrepreneurship concepts and constructs on Experimental Group participants (Observation 1). This will also serve as baseline research data;

**X** = Launch of innovation and corporate entrepreneurship change management programme, including training and imparting of entrepreneurial knowledge and practice (treatment or experiment), on Experimental Group participants.

$O_2$  = Post-testing (or post-measurement), and **after X**, of knowledge, practice and climate of entrepreneurship concepts and constructs on Experimental Group participants (Observation 2);



O<sub>3</sub> = Testing (or measurement) of knowledge, practice and climate of entrepreneurship concepts and constructs on other DFIs' Control Group participants, on which **no X** is performed.

UM = Unit Mangers

PM = Project Managers

PR = Professionals

SS = Support Staff

For the purposes of this study, the staff of the Development Bank of Southern Africa (DBSA), a South African DFI with international operations, formed the Experimental Group, while staff of the International Finance Corporation, a member of the World Bank Group, together with nine African development finance institutions, constituted the Control Group.

The questionnaire was administered to the entire population of the experimental DFI elements (540 elements). A 60% (312) response constituted a good sample and can be said to represent the characteristics of the population it purports to represent.

Regarding the control group, the represented organisations are in the same development finance industry. Questionnaires were administered to 28 (twenty eight) delegates attending a conference from nine African DFIs, then each delegate was asked to take back three more questionnaires for completion by colleagues in the respective organisations. Questionnaires were also administered to the entire local office of an international DFI. While responses from each organisation were small and cannot be regarded as representative of the perceptions of the populations in each DFI, the total response from all control group DFIs was acceptably large, at 101 (one hundred and one), for the design purposes of the present study.

## **2.5 Data analysis**

For the analysis of the quantitative data aspects of the questionnaires, the Statistical Analysis Systems (SAS. 1988) of the University of Pretoria's Statistics Department has been used. For comparative purposes, comparative statistical tools such as the Analysis of Variance (ANOVA), and Scheffe's S Test have been used to test the propositions made and to make statistical significance comparisons within the *pre-test - post-test group* and between it and the *comparative control group*, and wherever else possible (Cooper & Schindler, 2003).

## **2.6 Findings**

The findings are reported in this doctoral thesis as prescribed by the University of Pretoria. The main conclusions will be discussed with the relevant DFIs, their stakeholders and the development finance fraternity in general. It is also envisaged that the findings and conclusions will be reported in publications on entrepreneurship, development economics, innovation, development finance, and the like.

## **2.7 Recommendations**

The main conclusions of the research are about the acceptance or the non-acceptance of the propositions listed under section 1.7 in Chapter 1. The recommendations offer empirically tested ideas on how to foster corporate entrepreneurship, innovation, and new venture creation within DFIs in order to find new solutions for the challenges of underdevelopment.

## **2.8 Budget**

In view of the potential benefits of the study to the cause of development, some aspects of the research, such as the sourcing of the training service providers, were commissioned officially by the experimental DFI as part of its change programme. The researcher controlled the research design; data collection and

preparation; data analysis and interpretation; and the final research report writing. The monetary cost of the research to the researcher was negligible.

## **2.9 Future research**

For future research, it is suggested that corporate entrepreneurship constructs and their interrelations, within and between DFIs, should be assessed against DFIs' key development performance indicators (KDPIs), such as poverty reduction, wealth creation, and job creation. The intention may not necessarily be to prove causal relationships, but mainly to determine whether the variables, corporate entrepreneurship constructs and development effectiveness, are independent of one another, and if they are not, then to determine the strength or magnitude of the relationship (Cooper & Schindler, 2003: 162).

## **2.10 Conclusion**

This chapter presented the present study's research design and methodology and concludes a two chapter research orientation section. The experimental case study design of the study allows for in-depth contextual analysis and synthesis of conditions in a chosen development finance institution. This entails the pre-testing of subjects' opinions, the administration of a stimulus, the post testing of subjects' opinions and behaviours and the testing for statistical significance of the observed differences if any.

The next section, part II, is made up of chapters 3 and 4 presenting an overview of the literature on entrepreneurship and corporate entrepreneurship respectively.