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**EVALUATING HOW INDUSTRY COLLABORATION AFFECTS GROWTH OF
BUSINESS INCUBATORS IN NAIROBI COUNTY**

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MBA/2408/12

Submitted in partial fulfilment of the requirements for the degree of
Masters of Business Administration at Strathmore University

Strathmore Business School

Strathmore University

Nairobi, Kenya



JUNE, 2016

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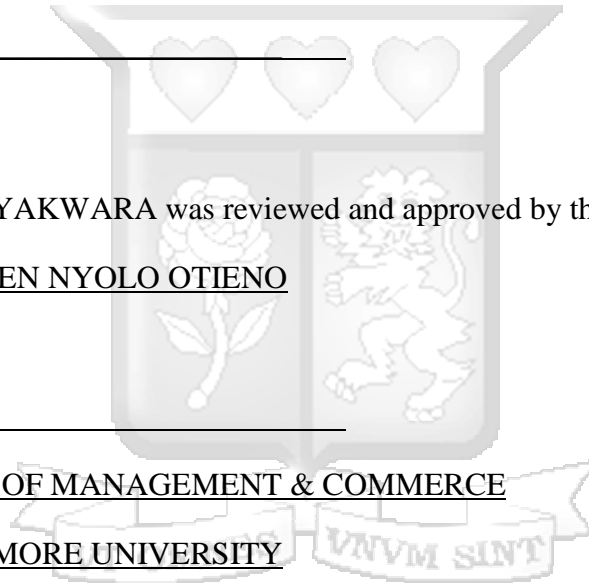
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ABSTRACT

Business incubators play a great intermediation role that enable SMEs to thrive and meaningfully contribute to economic growth. Business incubators like other firms go through a process of growth moving from a formative to a transcendental stage where they greatly impact the society and industries they serve. This process of growth of the firms is influenced by a myriad of factors, among them is the level of collaboration between players in its industry. While the impact of collaboration on the growth of firms has been documented in Europe and the America's this has not been articulated within African and/or Kenyan environment and in particular in the incubation industry context.

The study objective was to establish both the forms of growth of business incubators within Nairobi and the nature of collaboration practiced by these incubators in order to evaluate the effect of collaboration on the growth of these business incubators. This study utilised a qualitative design and data was collected through structured interviews to gain an in-depth knowledge and understanding on how incubators were collaborating and the impact this had on their businesses. A total of 20 participants were contacted and data was collected from 17 respondents which corresponds to an 85% response rate.

Through qualitative data analysis the study established that indeed collaboration was yielding growth for business incubators through the transfer of knowledge and capacity building, the creation of strategic alliances allowing incubators to diversify products and markets, to reduce cost of operation and increasing awareness of business incubations which has attracted resources to the industry.

The immediate implications of these findings is the need to develop a clear and concise strategy that will promote business incubation as an avenue for socio-economic development enabled by the expansion of the operating environment further accelerating growth of business incubators.

Keywords: Business incubation, growth of the firm, collaboration,

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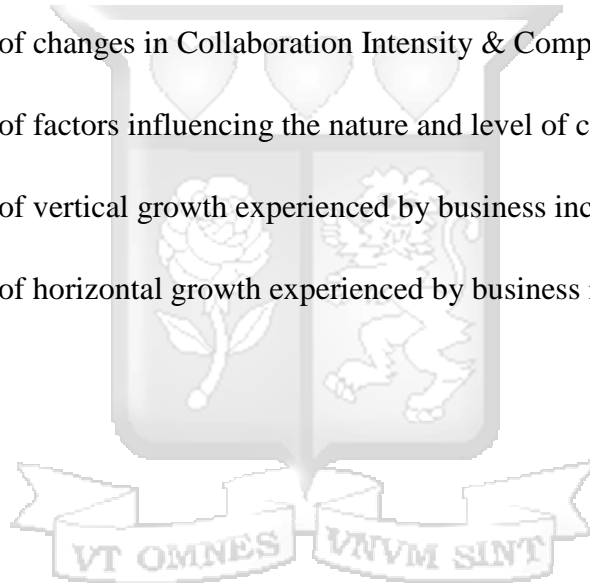
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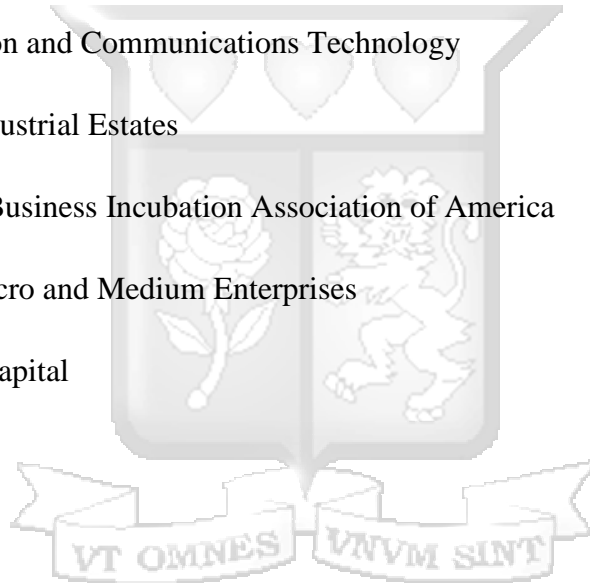
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ABBREVIATIONS / ACRONYMS

BIAK	-	Business Incubation Association of Kenya
EBIA	-	European Business Incubation Association
EPC	-	Export Promotion Council
EU	-	European Union
GoK	-	Government of Kenya
ICDC	-	Industrial Credit and Development Corporation
ICT	-	Information and Communications Technology
KIE	-	Kenya Industrial Estates
NBIA	-	National Business Incubation Association of America
SME	-	Small, Micro and Medium Enterprises
VC	-	Venture Capital



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CHAPTER ONE

INTRODUCTION

1.1 Background

There is no common definition of business incubation (Hamdani, 2006), some describe it as an enterprise development strategy aimed at accelerating the process of formation, development and survivability of new enterprises (Abduh, D'Souza, Quanzi, & Burley, 2007), others see it as an innovative and evolving organizational form that creates value by combining the entrepreneurial drive of a start up with the resources generally available to large firms (Hamdani, 2006), still others define incubation as a mechanism of providing to entrepreneurs an array of targeted resources and services especially managerial guidance, technical assistance and consulting tailored for young and growing companies (Abduh, D'Souza, Quanzi, & Burley, 2007). The dominant definition is advanced by The European Business Incubation Association (EBIA) and the Nations Business Incubation Association of America (NBIA) (Struwig & Meru, 2011). The NBIA defines business incubation as support process that accelerates the successful development of start-up and fledgling companies by providing entrepreneurs with an array of targeted resources and services, usually developed or orchestrated by incubator management and offered both in the incubator and through its network of contacts (NBIA, 2013).

The common elements of business incubation encompass the provision of a comprehensive and integrated range of support mechanisms including; physical spaces, facilities and infrastructure, entrepreneur development, business assistance programmes, clustering and networking opportunities and business development within a controlled environment (EU-CSES, 2002; Struwig & Meru, 2011). The main goals of business incubators are to produce successful firms that will leave the program financially viable and freestanding and with the potential to create jobs, revitalize neighbourhoods, commercialize new technologies, and strengthen local and national economies (NBIA, 2013). Through the 'One Stop' concept in the provision of services and reduction of overheads, business incubators can significantly improve the survival and growth prospects of start-ups and small firms (EU-CSES, 2002). Incubators also provide psychologically supportive environments where entrepreneurs can nurture their ideas amidst other entrepreneurs and the incubator management staff (Khalil & Olafsen, 2009).

The role incubators play can be seen through the services they deliver to client firms during their tenancy (Bozotto, 2003; EU-CSES, 2002). They add value through the diagnosis of business needs, the selection and monitored application of business interventions, linkages to and provision of financing, channelling requisite resources to accelerate growth and facilitating access to the incubator networks (Hackett & Dilts, 2004a), they provide managerial guidance, consulting and technical assistance tailored to young growing companies (NBIA, 2013) while containing the cost of failure through linking incubates with the necessary resources (Hackett & Dilts, 2004a; Bozotto, 2003) and harnessing entrepreneurial synergies to develop a business consultancy networks (Duff, 1995). Business incubation accelerates the growth and development of the incubated firms more than could be achieved in the external 'natural' environment (Hannon, 2004). The value added from incubator operations lies increasingly in the type and quality of business support services provided to its clients (EU-CSES, 2002).

There are four main types of incubators; university-based incubators, government owned incubators, non-government/not-for-profit entities and private sector companies (Khalil & Olafsen, 2009; Hackett & Dilts, 2004a). The basic structure of an incubator facility is determined by the ownership attributes (Zablocki, 2015). Like any industrial firm, business incubators should be viewed as composed of an interrelated series of processes that obtain supply of resources (inputs), a conversion process (throughput) and the production of objects - outputs (Meru & Struwig, 2011; EU-CSES, 2002). Inputs are provided by stakeholders including projects by entrepreneurs, financing, management and advisory resources, which are converted through the processes of selection, orientation, coaching and finally the outputs are the successful commercialization of business ideas and technologies. Taking this systems approach implies that business incubation should be nurtured within the broader scope of entrepreneurship development and not as a stand-alone policy (Lee & Osteryoung, 2004; Adegbite, 2001).

Business incubation should be nurtured through linkages with industrial firms and large scale enterprises (Adegbite, 2001), supported by the right mix of Public-Private Partnerships (Timm, 2012). Business incubators achieve these linkages and partnerships with other stakeholders in the business incubation industry through the process of collaboration. Collaboration can be defined as the mechanism under which autonomous or semi-autonomous entities interact through formal and informal negotiations, jointly creating rules and structures governing their relationships and how

they act or decided on the issues that bring them together, through a process involving shared norms and mutually beneficial interactions (Thomson, Perry, & Miller, 2009). The intent of collaboration is to form positive relationships and find ways to realize the mutual goals of the concerned parties (Sorenson, Folker, & Brigham, 2008; Woodland & Hutton, 2012) and to achieve something that could not be done in isolation (Woodland & Hutton, 2012).

The concept of collaboration can be disaggregated into three interrelated dimensions, namely; information sharing (the timely capture and dissemination of information for planning and control), decision synchronization (joint decision making in planning and operations aspects) and incentive alignment (extent to which collaborators share costs, risks and benefits) (Simatupang & Sridharan, 2004). Woodland & Hutton (2012) posits that collaboration takes place within complex open systems, is developmental in nature and evolves in stages over time and varies in terms of levels and degrees of integration. According to Gurdegan & Gurdegan (2002) performance in partnerships is driven by the nature of the decision making and implementation processes of the partners, these are in-turn affected by two external influences; the setting within which the partnerships is occurring and the characteristics of the partnership itself (Gudergan & Gudergan, 2002).

Growth and performance of business incubator can be impinged upon by a multiplicity of factors including; the business environment (Struwig & Meru, 2011), availability and access to different forms of resources (Somsuk, Wonglimpiyarat, & Laosirihongthong, 2012), their level of service focus and nature of sponsorship (Ali-Mubaraki & Wong, 2011), achieving financial sustainability and achieving an adequate 'deal flow' to secure viability (Khalil & Olafsen, 2009; Adegbite, 2001), access to resources and especially finding and retaining management teams with the right skill sets (Somsuk, Wonglimpiyarat, & Laosirihongthong, 2012; EU-CSES, 2002).

In order for incubators to be successful and to grow, all parties in the incubation ecosystem must closely work together so as to achieve synergies from the cooperation (Ali-Mubaraki & Wong, 2011). Successful incubation requires the creation of an entire ecosystem that encompasses networks linking; governments, businesses, universities, trade associations, entrepreneurs, service providers and financial institutions (Chandra & Chao, 2011; Hackett & Dilts, 2004b).

Collaboration and the active formation of new relationship has been demonstrated to have an impact on the success, innovativeness and growth of the firm (Sorenson, Folker, & Brigham, 2008; Ge, Hisrich, & Dong, 2009; Gilbert, McDougall, & Audretsch, 2006; Kalm, 2012). The concept of growth denotes both a change in amount and the process by which the change is attained and growth can manifest along several dimensions, in a variety of ways and with varying degrees of regularity (Davidson, Achtenhagen, & Naldi, 2010; Penrose, 1959).

According to Penrose (1959) firms grow mainly in two ways; organic growth (growth from within through the expansion of the existing business) or acquisitive growth (growth from acquiring external businesses). Davidson et al (2005) argue that young and small firms tend to grow organically whilst as firms become larger and more established an ever larger share of their growth is achieved through acquisitions. Davidson et al (2005) extended this argument to delineate four ways of achieving growth namely; entering into new or non-overlapping product markets that are related to the firms technological or marketing skill base, integrating parts of the value chain that were previously contracted outside, entering a new product market which is unrelated to the firms technological and marketing skills base or by focusing on exploiting the existing product market combinations..

Delmar et al (2005) argue that patterns of firm growth are not random but rather a function of the characteristics of the firms and those of their environments. Growth can thus be looked at as occurring through four avenues namely improvements by getting better, faster or cheaper in functions the business is carrying out, innovation by learning and doing things that are new to the organization, scaling by doing more of what is working well and strategic acquisitions of new geographies, customers, segments, products or capabilities (Hess, 2012).

1.1.1 A Historical Perspective of the Growth of Business Incubators in Kenya

The Business Incubation industry in Kenya can trace its roots to 1967 when the Industrial and Commercial Development Corporation (ICDC) established the first incubator Kenya Industrial Estates (KIE) with the mandate to provide financing, work spaces, business development services and promotion of subcontracting linkages to foster the development of indigenous industries across Kenya (KIE, 2013; Meru & Struwig, 2011). In 1990, the Government of Kenya established the export processing zones through the Export Promotion Council (EPC) in co-operation with KIE, with the objective of creating a new breed of exporters from local high potential start-ups or by

converting existing firms into exporters (EPC, 2013). Other types of incubators followed this move with the establishment of virtual incubators, incubators without walls including some NGOs and Churches, Incubators with walls like the International Finance Corporation's SME Centre in 2005, Kenya Kountry Business Incubator (KeKoBI) in 2004 (Meru & Struwig, 2011). The adoption of computing technologies and the growth of internet use has seen acceleration in the number of technology based incubators since 2010 with the setup of iHub in 2010, Nailab, iLab in 2011 and University based incubators like the Chandaria Business Innovation and Incubation Centre at Kenyatta University, AfriLab at University of Nairobi in 2011 and the iBizAfrica centre at Strathmore University launched in 2013.

Business Incubation Association of Kenya (BIAK) was launched in 2006 with the objectives of promoting co-ordinating and facilitating business incubation support services by providing a forum to harness and disseminate business incubation management skills to incubator managers and other SME business development services (Kenya, 2013). In 2007, the government of Kenya (GoK) under the Vision 2030 master-plan recognized the role of science, technology and innovation in the creation of wealth, social welfare and international competitiveness and has therefore committed to increase funding for the science, technology and innovation sector and the setting up of SME parks across the country (MoPND, 2007).

1.2 Statement of the Problem

In a study of client satisfaction with business incubation services in Kenya, Abduh et al (2007) found out that although clients placed high importance on counselling and business assistance services (referrals, counselling & mentoring, access to external people, peer networking and access to external information & resources), there were high levels of dissatisfaction with the performance of incubators. They recommended that these deficiencies can be overcome by developing business networks and alumni associations to foster collaboration between graduates, current clients and external parties. Meru & Struwig (2011b) in their study to evaluate entrepreneur perceptions of business incubation services in Kenya, found out that although entrepreneurs attached great importance to business incubation services, the actual services offered fell short of their expectations. To address this gap they recommended in-depth analysis of the effect of networking on the growth of business incubation.

Although the influence of collaboration on firm growth has been demonstrated in various studies, some within the business incubation ecosystem (Ahmad & Ingle, 2011; Ackomak, 2009; Austin & Seitanidi, 2012; Timm, 2012; Tamasy, 2007), majority of these studies have been located in Asia, Europe and North & Latin America. A search of the literature only yield a handful of studies on business incubation within the African context e.g. Meru & Struwig (2011), Abduh et al (2007), Adegbite (2001) and Buys & Mbweni (2007). These studies however mainly focused on three areas: perception of business incubation services, success factors of business incubation and challenges facing business incubation in sections of the continent.

This study therefore sought to build on the recommendations of Meru & Struwig (2011) and Abduh et al (2007) and evaluated the influence of industry collaboration on the growth of business incubators within the Kenyan context and specifically in Nairobi County.

1.3 Research objectives

The overall objective of this study was to evaluate the influence of collaboration on the growth of the business incubators within Nairobi County, aiming;

1. To establish the forms of growth of the business incubators in Nairobi County over the past 10 years
2. To describe the nature of collaboration by the business incubators in Nairobi County over the past 10 years
3. To evaluate the effect of industry collaboration on the growth of business incubators in Nairobi County.

1.4 Research Questions

In order to address the above stated objectives the study sought to answer the following specific questions;

1. What is the nature of growth of business incubators in Nairobi?
 - a. How have business incubators in Nairobi grown over the past 10 years?
 - b. What factors have influenced the growth of business incubators in Nairobi over the past 10 years?
2. How has the nature of collaboration in the business incubation industry changed over the last 10 years?

3. How has industry collaboration influenced the growth of business incubators in Nairobi?

1.5 Significance of the Study

The findings of this study will be of significance to a number of stakeholders

Business incubators will gain through an improved understanding of the forms and levels of collaboration in addition to how collaboration in the industry can influence their growth. This will enable them to tailor their approach in order to reap maximum value from participating in collaborative efforts. By understanding the dynamics of growth, it is hoped that the business incubators will also re-assess their entity strategies and structure them in a way that will attract the most viable of clients thence enhancing the going concern of the incubators themselves. Understanding the nature of collaboration can also provide a yardstick against which incubators can benchmark their services and practices in the industry.

Incubation clients will also benefit from an understanding of the forms and levels of collaboration in the industry and how these are likely to impact the nature of support they get during incubation. This will enable them fine tune their search criteria in shopping for a business incubator so that they can match the services on offer and their requirements to create value for themselves.

The academic world and researchers in business incubations will also benefit through increased understanding of the current business incubation ecosystem together with its linkages and the challenges of establishing collaborative relationships. This will enable them to better design frameworks and strategies to localize business incubation models that will realize industry growth thus enhancing the survivability of business incubation centres as well as the client firms they support.

Entities that provided services to incubators e.g. consultants, lawyers, accountants and trainers will also benefit from understanding on how collaboration within the business incubation industry will impact demand for their services. Furthermore service providers will also get to understand the role they play in creating a more collaborative industry and how this will influence the way they structure their products and services to increase the value created for themselves.

To policy makers and other incubator stakeholders the study will help highlight the forms and levels of current collaboration in the industry and hence form a basis for enacting appropriate policies and measures aimed at growing business incubation in Kenya.

1.6 Scope of the study

This study focused on formal business incubation centres and which actively promote their services to the public and which are situated within Nairobi County. The study focused on Nairobi County because of the higher concentration of Incubators and accessibility to the research as compared to other parts of the country. The study also focused on the development of the business incubation industry during the period 2004 to 2014.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter combines a review of theoretical concepts and frameworks as well as that of empirical evidence as it relates to the research objectives. It is organized in three sections; First a review of the theoretical constructs to distil relevant concepts and frameworks relating to growth and collaboration, Second a review of empirical studies to develop an understanding of the work of other researchers as it relates to the study objectives and thirdly the development of a conceptual framework based on the theoretical and empirical reviews.

2.2 Theoretical Framework

This first section will discuss two sets of theories. The first set relating to the growth of commercial firms and especially the process of growth. This study will delved into threes such theories namely: the Penrosian theory of the growth of the firm, Grener's Stages of Growth theory and Behavioural theory of firm growth. The second set of theories relate to the concept and process of collaboration between industry actors. This study looked at Porters Competitive Advantage of Nations theory and The Social Network Theory

2.2.1 Penrosian theory of the growth of the firm

The Penrosian theory affirms that the continued growth of the modern firm can be viewed as the extension of the range and nature of activities undertaken by the organization implying an increase in size or an improvement in quality as a result of a process of development (Penrose, 1959). Penrose (1959) posited that firm growth is a function of all the productive opportunities that entrepreneur sees and can take advantage of, therefore growth is limited to the extent that the firm does not see opportunity for expansion, or is unwilling to act upon them, or is unable to respond to them. She further argued that this expansion does not occur automatically, on the contrary, the composition and extent of the expansion program as well as its execution has to be planned

Penrose (1959) opined that a comprehensive theory of growth must explain several qualitatively different kinds of growth and must take into account not only the sequence of changes created by a firms own activities but also the effect of changes that are external to the firm and that lies beyond its control (for example in the Political, Environmental, Social, Technological, Economic

and Legal aspects). She identified internal growth factors as managerial and entrepreneurial capabilities; entrepreneurial capabilities are a function of visioning and imagination while managerial or administrative capabilities are more concerned with the execution of ideas (Penrose, 1959).

The Penrosian theory informed this study as it explained the concept of growth, delineated the forms of growth that firms experience as well as explaining the process through which such growth occurred and the factors that can impact on the growth of firms – both internal and external.

2.2.2 The Stages theory of firm growth

Greiner (1972, 1998) asserts that organizations develop through a series of five stages each of which are influenced to varying degrees by the age of the organization, its size, stages of evolution, stages of revolution and the growth rate of the industry. As an organization evolves through these stages; organizational practices changes and some get institutionalized, managerial practices and structure tend to change influenced by turbulence in the environment. Further the speed with which an organization experiences changes is related to the market environment of its industry.

The five stages of growth are each characterized by a dominant managerial style during the evolution phase (periods of steady growth) and a dominant managerial problem during revolution phase (periods of turbulence when the status quos is challenged) (Greiner, 1998). The five phases in Greiner's growth model are; the creativity phase where the emphasis is on creating both a product and a market for it, the direction phase where capable business managers are in place aided by a functional organization structure, robust control systems and formal communication channels, followed by the delegation phase when organizations resort to decentralization of decision making and the use of incentives to coordinate activities, then the coordination phase characterized by the use of more formalized mechanisms to achieve greater coordination including restructuring, planning systems, budgetary controls, centralized staff function and use of organization wide projects and lastly the collaboration stage where spontaneity in management action through teams and skilful confrontation of interpersonal differences are encouraged to a more flexible and behavioural approach to management. The stages of growth are illustrated in fig 2.1 below

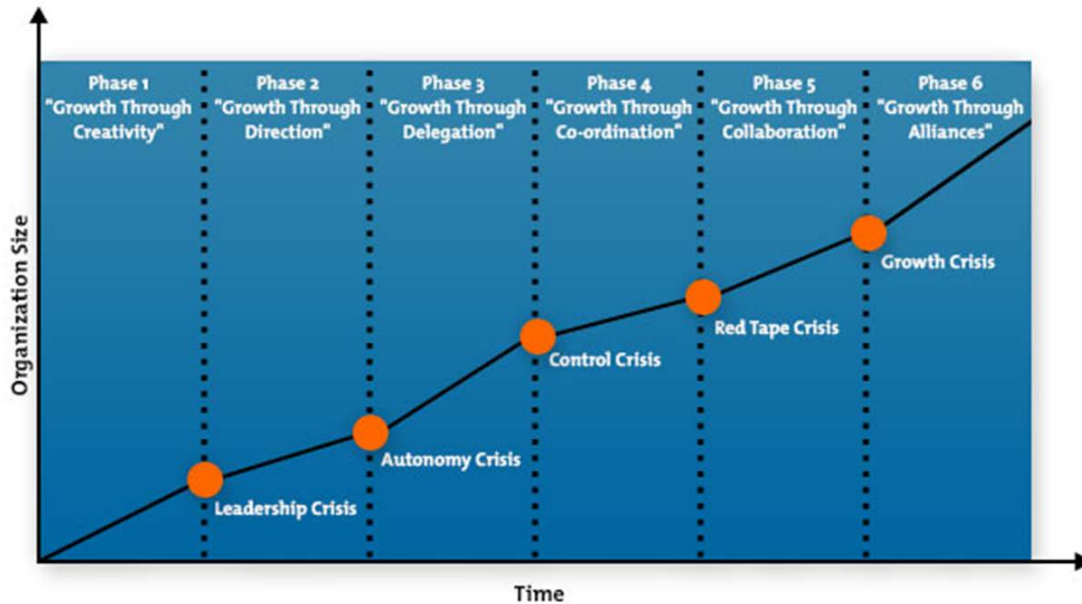


Fig 2.1 Stages of Growth model (source: Harvard Business Review- Evolution Revolution as Organizations Grow by Larry E. Greiner, May 1998)

The stages of growth theory is in direct opposition to Penrose (1952) who contested the notion that firms have a life cycle view of growth. Penrose argued that implicit in the life cycle argument was the idea that there are laws governing the development of firms akin those in nature in accordance to which organisms appear to grow and that the different stages of developments are a function of age (Penrose, 1952). Furthermore Penrose argued that whereas organisms do not determine their course of development but is dictated by natural laws, firm on the other hand can determine their course of growth through the decisions taken by individual men and that are constrained by their environment and the capacity of the men making the decisions.

Grener's Theory informed the present study by highlighting the process through which firms and industries grow, describing the forces that influence on firm/industry growth and especially calling out the influence of collaboration on firm growth. The fifth and last stage of this theory is aptly named the 'Collaboration stage' whereby firms grow by exploiting team dynamics, establishing norms and mutual relationships as well as embedding a behavioral approach to management. This theory lent to the study a lens through which to evaluate and map the maturity of the business incubation industry in Nairobi and therefore make recommendations on actions required to progress on that maturity continuum based on findings of the study.

2.2.3 Behavioural theory of the firm

The behavioral theory of the firm posits that managers pursue multiple goal variables that ensue from internal bargaining and that they compare realized performance levels with aspirational levels to determine organizational actions and as a result failure to reach the aspirational level of a goal variable motivates management to initiate problemistic actions that may result in outcomes above the aspirational level (Greve, 2008). When there is uncertainty on the relationship between organizational performance and firm size, managers make such decisions without clear economic guidance and will therefore use aspirational levels (smallest outcome that will be deemed satisfactory) formed through social comparison with similar organizations that are easily available and relevant sources of information for judging the firm size.

According to Greve (2008) Aspirational levels of size are founded on managerial beliefs that size affects organizational efficiency and legitimacy, therefore size goals are important because of their potential influence on firm strategies. According to Cyert and March (1963) as quoted in Greve (2008) once an aspirational level of size has been set, failure to reach it triggers problemistic search that leads to attempts to grow. As a result social comparisons affect managerial expectations of firm size and affects behaviors such as pursuit of mergers and acquisitions in pursuit of the 'ideal' firm size (Greve, 2008).

The behavioural theory informed the study by outlining how managers make deliberated decisions that result in the growth of the firms. It further highlights in the propensity of managers to adopt a competitive or collaborative approach and how these choices can impact growth of the firm. Furthermore the behavioural theory highlights how behavioural motivations can lead to product and service choices through peer benchmarking and this could create scale in the industry further propelling growth.

2.2.4 Social Network Theory

An organization strategic actions are influenced by the social context within which it is embedded. Social network theory views social relationships in terms of nodes and ties, nodes are the individual actors within the networks, and ties are the relationships between the actors. There can be many kinds of ties between the nodes. Social networking theory emphasizes the relationships between nodes in contrast to attributes of the nodes hence renders itself useful for explaining many real world phenomena. Social networking theory can be extended to examine how companies interact

with each other in networks that provide ways for companies to gather information, deter competition, and even collude in setting prices or policies (York-University, 2014)

The social network theory provided to this study a lens for evaluating how growth sprouts through the interactions of actors in the business incubation industry. It forces us to consider not the characteristics of the actors themselves but rather on their interactions.

2.2.5 The Competitive Advantage of Nations Theory

In the Theory of the Competitive Advantage of Nations Porter (1990) argued that firms, industries and nations achieve competitive advantage only through innovation and productivity. Innovation in its broadest sense is taken to mean new technologies and new ways of doing things, while competitive advantage refers to the productivity with which a firm or industry or nation's labour and capital are employed (Porter, 1990). He further theorised that firms based in certain nations gain competitive advantage because of the playing field that nations establish and operate for their industries. This playing field constitutes of four broad attributes that individually and as a system must work together to confer advantages namely; Factor conditions, demand conditions, related and supporting industries as well as firms' strategy structure and rivalry. The theory and the relationships between the main cardinal factors is illustrated in fig 2.2 below.

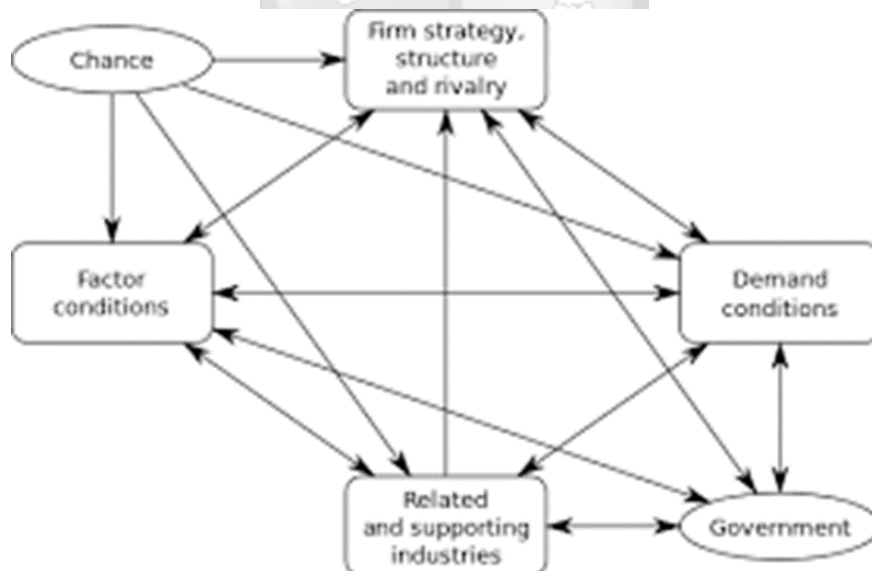


Fig 2.2 Porter's Competitive Advantage of Nations Diamond (source: Free Press, 1990)

Porter (1990) argues that related and supporting industries confer advantages in several ways; by providing cost-effective inputs in an efficient, rapid and sometimes preferential way, by acceleration of innovation and upgrading an advantage based on close working relationships, short lines of communication, constant flow of information and an ongoing exchange of ideas and innovation. Supporting and related industries also increase the likelihood that firms will embrace new skills.

Porter (1990) further argues that although the interactions are mutually advantageous and self-reinforcing they do not happen automatically but rather firms have to work to create these networks. These views are consistent those of Penrose (1959) who argued that growth or firm expansion does not occur automatically, on the contrary, the composition and extent of the expansion program as well as its execution has to be planned and is reinforced by the findings of Austin and Seitanidi (2012) who argue that collaborative relationships grow through the deliberate decisions, actions and inactions of collaborators.

The competitive advantage of nations' theory lent to this study a lens on how collaboration can result in growth, an understanding on the forms and levels of collaboration that must subsists between an industry and its related and supporting firms for them to realize mutual value creation and the advantages that accrue to a firm or industry as a result of collaborating with other actors.

Following this theoretical review this study relied on the two theories in developing the conceptual framework; i) Greiner's stages of growth theory which articulates the processes of growth dominant characteristics evident at each stage of growth and ii) Porter's competitive advantage of nations theory which illuminates on the importance of related and supporting industries in the realization of growth by firms/industries and that such growth can be harnessed through a deliberate process of collaboration.

2.3 Empirical review

In this section the study focused on review of empirical studies relating to the concept or growth and the concept of collaboration. Further the study examined what literature says with regards to the interaction between business growth and industry collaboration.

2.3.1 Forms of Firm Growth and Growth of Business Incubators

The concept of growth denotes both a change in amount and the process by which growth is attained. Growth manifest along several dimensions and can be achieved in a variety of ways and with varying degrees of regularity (Davidson, Achtenhagen, & Naldi, 2010; Penrose, 1959). Further patterns of firm growth are not random but rather a function of the characteristics of the firms themselves and their environments such as their age, size and industry affiliation (Delmar, Davidson, & Gartner, 2003). Firms grow in two main ways; organic growth or growth from within through the expansion of the existing business or acquisitive growth or growth from acquiring external businesses. (Penrose, 1959). Further growth can be achieved through entering into new or non-overlapping product markets that are related to the firms technological or marketing skill base, integrating a part of the value chains that was previously contracted outside, entering a new product market which is unrelated to the firms technological and marketing skill base or by focusing on exploiting the existing product market combination (Davidson, Achtenhagen, & Naldi, 2005).

In their review of literature on small firm growth, Davidson et al (2005) identified a number of internal and external factors that impact business growth as enumerated in table 2.1 below.

Table 2.1 External and Internal determinants of growth

Nature	Cluster	Manifestation
	Entrepreneur related factors	Motivations, Skills, Industry and entrepreneurial experiences, Learning propensity, Size of the founding team, managerial capacity of the team
Internal Factors	Structural characteristics of the Firm	Age (resources & relationships), Size, Legal form,
	Factors related to Firm Strategy	Technological sophistication, market positioning, new product introduction, industry collaboration
External Factors	Demand conditions, actions of competitors, industry innovativeness, industry dynamism	

Various measures have been used to study growth including sales, employment and capital accumulation (Davidson, Achtenhagen, & Naldi, 2005; Delmar, Davidson, & Gartner, 2003). Davidson et al (2005) observe that although the most common indicator is sales, these measures will often work in combinations of varying strength across different firms and a study of only one indicator could result in weak and distorted outcomes. Acknowledging the lack of consensus on the one best measure or one best composite measure of firm growth among scholars, Delmar et al (2003) opine that using multiple measures of firm growth would likely provide a more complete picture of any empirical relationships as well as provide a way to test the robustness of any theoretical models of dependent and independent variables.

The Business Incubator Life Cycles proposed by (Allen, 1988) identified three distinct stages of growth summarized as; the Start-Up phase where the focus is the establishment of physical facilities, adoption of a tenant model and the main client selection criteria is ability to pay rent. This stage comes to an end around the time the venture achieves break even. Next is the Business Development phase during which attention is directed towards nurturing of new businesses, developing business advisory and marketing services, encouraging of inter-firm networking and assisting firms to procure capital and lastly the Maturity phase where the incubator spreads its span of influence over its region while it faces excess demand for tenancy than the available space and therefore becomes choosier in the entry criteria and considerations for newer operating models take centre stage e.g. taking equity in tenant firms or sub-contracting some services. Well-established incubators are likely to contribute more value to their clients than early stage incubation programs (Hamdani, 2006).

In contrast to the three phase construct of Allen (1988), empirical evidence from elsewhere suggests that growth happens in two phases (Ackomak, 2009; Chandra & Chao, 2011). However researchers align on the characteristics of the first phase - basic, physical infrastructure services pursuing a landlord incubation model, government involvement in the establishment and growth of the incubation industry, low levels of collaboration with industry players resulting in slower pace of growth. In the second phase incubators evolved into more specialized service providers targeting specific industries with value added services e.g. consultancy, innovation, networking, they had multiple sponsors, collaborated with a spectrum of industry players and tended to provide a range of services to suit the different life cycle needs of their clients.

In their pursuit for growth business incubators also face a number of challenges including lack of sponsorship, inadequate facilities that sometimes are not technologically advanced and lack of awareness of incubation services that hinders their horizontal growth (Lose & Tengeh, 2015).

2.3.2 Forms and levels of collaborations

The intent of collaboration is to establish positive relationships and achieve the mutual goals of the involved parties by sharing information, reduced operating costs, accelerate the exchange of resources and ideas in the pursuit of mutually beneficial activities (Sorenson, Folker, & Brigham, 2008; Porter, 1990). Collaboration can be conceptualized as encompassing three dimensions; Information sharing (capturing and disseminating timely information to decision makers), decision synchronization (joint decision making in planning and operational contexts) and incentive alignment (sharing of costs, risks and benefits) (Simatupang & Sridharan, 2006).

Some of the factors pushing organizations and managers into collaboration include; devolution of decision making authority, rapid technological changes, scarce resources and rising organizational interdependencies (Thomson, Perry, & Miller, 2009). Dietrich & Heimburger (2012) synthesized some of the benefits emanating from collaboration as including; customer retention through developing customer intimacy thus improving service provision, long term cost efficiencies, management of business risks and uncertainties, goal alignment between the service provider and the customers, growth of the learning and development capabilities.

Collaborations form around shared purposes, occur simultaneously at the inter-organizational, intra-organizational and inter-professional level within a complex open systems environment. They involve predictable stages of development, happen at varying degrees of integration and entails cycles of enquiry that encompass dialogue, decision making and action around the shared purpose (Woodland & Hutton, 2012).

Austin (2000) recognized that collaborative relationships are dynamic and develop in stages, though the stages are not discrete points and hence proposed a collaborative continuum with four stages thus; philanthropic stage with unilateral transfer of resources from a donor organization to a recipient one, the transactional stage with reciprocal exchange of more valuable resources through more specific activities. Third, the integrative stage where missions, strategies, values and activities experience organizational integration and co-creation to deliver value and finally the

transformational stage focused on creating transformative change at the societal level (Austin & Seitanidi, 2012). Fig 2.3 shows the collaborative continuum.

	<u>Stage I</u>	<u>Stage II</u>	<u>Stage III</u>	<u>Stage IV</u>
NATURE OF RELATIONSHIP	<i>Philanthropic > Transactional > Integrative > Transformational</i>			
• Level of Engagement	<i>Low ← ----- → High</i>			
• Importance to Mission	<i>Peripheral ← ----- → Central</i>			
• Magnitude of Resources	<i>Small ← ----- → Big</i>			
• Type of resources	<i>Money ← ----- → Core Competencies</i>			
• Scope of Activities	<i>Narrow ← ----- → Broad</i>			
• Interaction Level	<i>Infrequent ← ----- → Intensive</i>			
• Trust	<i>Modest ← ----- → Deep</i>			
• Internal change	<i>Minimal ← ----- → Great</i>			
• Managerial Complexity	<i>Simple ← ----- → Complex</i>			
• Strategic Value	<i>Minor ← ----- → Major</i>			
• Co-creation of value	<i>Sole ----- → Conjoined</i>			
• Synergistic value	<i>Occasional ← ----- → Predominant</i>			
• Innovation	<i>Seldom ← ----- → Frequent</i>			
• External system change	<i>Rare ← ----- → Common</i>			

Fig 2.3: The collaboration continuum (Source: Sage Publications, 2000)

According to Austin & Seitanidi (2012) collaborative relationships do not automatically move from one stage to another, in either direction, but rather movement is a function of the decisions, actions and inaction of the collaborators.

It is not always the case that collaboration results in desirable outcomes. In the early stages of existence, proximity and the consequent identification of common problems solutions and challenges are useful to entrepreneurs, however as firms mature entrepreneurs change focus from mutuality to individuality and protecting market shares resulting in reluctance to share ideas, problems or solutions in the wider sense (McAdam & Marlow, 2007).

2.3.3 The influence of collaboration on growth of the firm

Studies have demonstrated a link between the level of collaboration and organizational growth and performance, with collaborators seeking opportunities to improve overall performance (Simatupang & Sridharan, 2006; Ang, 2008; Singh & Mitchell, 2005). It has been argued that the quality of collaboration determines the scale, the scope, frequency and ultimately the effectiveness

of the business incubation process, aided specifically by the voluntary and active participation of client firms (Ahmad & Ingle, 2011).

Gilbert et al (2006) observed that a venture's connections to outsider competences are beneficial to the firm's growth. The high propensity to develop collaborative networks among small businesses contributes to business success because it likely increases the resources and business opportunities obtained through developing relationships (Sorenson, Folker, & Brigham, 2008). McAdam and Marlow (2007) observe that networks of external professionals and advisors were valued by entrepreneurial firms while Duff (1995) asserts that one effective approach that incubator management use to supplement their own skills and field of knowledge is networking to others who hold greater expertise in a particular area.

In the other hand, collaboration can improve local institutional capacity to support small business development through developing a common understanding of issues, finding solutions to structural gaps, efficient use of local resources and even the generation of new ones (Olsson, 2008; Buys & Mbewana, 2007).

2.3.4 The influence of industry collaboration on the growth of business incubators

Universities have played a vital part in the establishment and growth of business incubators as was observed to be the case in Brazil, China Turkey and India (Timm, 2012; Ackomak, 2009). Some of the advantages accruing to incubators through linkages to universities included; in-house technology development and commercialization, faculty engagement fostering innovation and in some instance access to low cost facilities, (Timm, 2012; Ackomak, 2009), association with a universities image leading to improved brand positioning for the incubators (Akcomak & Taymaz, 2004).

Business incubators benefited from the provision of linkages and networking with angel investors and venture capitalists (Maital, Ravid, Seshadri, & Dumanis, 2008). Watkins (2010) observed that the value of collaboration between firms and Venture Capital firms (VS) was strong particularly in the early stages of investment selection and the late stages of investment exit. Collaborations with firms ensured deal flow for the VC firms by enabling them to positions themselves within the VC syndication networks and building investment capacity and reputation (Watkins, 2010). However providers of finance in the developing world are risk averse and therefore they have not

fully addressed the risk/growth financing needs of early stage ventures, this has necessitated that governments step in with various seed capital schemes in partnership with private enterprises as is the case in Brazil, China, India, Chile and Malaysia (Chandra & Chao, 2011; Maital, Ravid, Seshadri, & Dumanis, 2008; Timm, 2012). EU-CSES (2002) observed that public support for the establishment of business incubation would remain a crucial component of their development.

Hamad & Ingle (2011) found that active brokerage behaviour by the incubator management that facilitates linking up of clients individually or in groups to un-related outside agencies has the potential to enhance client co-operative behaviour leading to tangible economic benefits for the incubators. Furthermore incubator clients admit benefiting from participation in the incubator community because they are able to share experiences and business specific problems and interests which ultimately lead to success for their enterprises (Totterman & Sten, 2005). As such EU-CSES (2002) advocates that post-graduation firms should be encouraged to remain within the area of incubation and retain linkages to the incubator and other graduate firms in order to secure long term benefits for local economies and to insure against vulnerabilities experienced during the post-graduation period. However McAdam & Marlow (2007) observed that although the incubators facilitated networking, which was valued by clients there were suspicions about networking with fellow entrepreneurs given the vulnerability of intellectual property and fragile relationships with investors.

Literature further underscores the importance of collaboration between industry players and government actors because of the broad impact that government can have on the development of the industry. In China, the government was instrumental for the growth of business incubation providing physical facilities, financing and managerial capability. (Chandra & Chao, 2011). While in India the business incubation industry stagnated in its formative years because it lacked government support (Ackomak, 2009) and similarly in Malaysia the government had crowded out private sector players in the formation and funding of incubators such that incubator growth is limited only to sectors affable to government (Timm, 2012). Inconsistent government policy and as well as the public muscling out private sector participation in business incubation were found as the leading contributors to the non-viability and lack of growth of business incubators in Nigeria (Adegbite, 2001). In Kenya Meru and Struwig (2011) found that lack of an incubation policy to guide stakeholders on incubator goals, roles and outcomes, spearheading the financing of business

incubators and stipulating clear guidelines on the provision of business incubation services was hindering growth of the industry. Buys and Mbewana (2007) urge that government policies should be aimed at creating and sustaining environments that are conducive to business incubation much as these efforts will differ from one government to another. In India for instance some of the policy efforts that have been instituted to promote business incubation include; providing seed monies, tax exemptions on services provided by incubators, access to capital in the financial markets and supporting the establishment of incubators on certain sectors (Ackomak, 2009). While in Chile incubation has experienced fast growth as a result of the support it received not only from government but also with universities thereby creating ‘a triple helix relationship’ geared towards diversifying economic activity (Chandra & Chao, 2011)

Business incubators need to take into account the needs of communities in playing their roles as a catalyst for economic development and job creation (Al-Mubarak & Busler, 2010). Alignment with local and national cultures is important in order to reinforce those aspects of culture that positively help incubators achieve success while mitigating those that act negatively or lead to failure. Community cultural orientation plays an important role in the prosperous growth of enterprises (Maital, Ravid, Seshadri, & Dumanis, 2008). Maital et al (2008) observed that in Israel start-up ventures tend to succeed egged on by a culture of risk taking and embracing uncertainty which permeate through the social fabric in contrast to India where society encourages young people to obtain employment with established brand names thus stifling the entrepreneurial spirit and limiting a constant supply of entrepreneurial projects that incubators rely on for growth. In Kenya on the other hand socio-cultural factors have had a negative impact on the growth of entrepreneurship and business incubation (Struwig & Meru, 2011).

Successful incubation requires adaption of global models to local needs as well as the creation of an entire incubation ecosystem that encompasses networks linking government, businesses, universities, trade associations, entrepreneurs, service providers and financial institutions (Chandra & Chao, 2011). A case study of an incubator in South Africa concluded that a successful incubator is one located in an enabling environment characterised by; access to science and technology expertise & facilities, financial resources and sustainability, quality of entrepreneurs, support from stakeholders, supportive government policies, partner networks and availability to competent and motivated managerial team (Buys & Mbewana, 2007).

2.4 Gaps in Research

Business incubators can significantly improve the survival and growth prospects of start-ups and small firms (EU-CSES, 2002). Yet business incubators in isolation do not have the capacity to meet the product and service needs of their clients. To do so business incubators have to tap into the resources and capability of others players in the incubation industry for instance other incubators, government agencies, universities and research institutions and other services providers. Gilbert et al (2006) observed that a venture's connections to outsider competences are beneficial to the firm's growth.

The above review of empirical literature has underscored the benefits accruing to incubators from collaborating with other players in the incubation ecosystem. However these studies are domiciled in Asia, Europe and The Americas. Abduh et al (2007) together with Meru and Struwig (2011) have recommended that researchers investigate how formation of networks and collaborating can enable incubators to grow and meet the service expectations of their clients.

2.5 Conceptual Framework

Following from the review of the literature this study proceeded below to develop a conceptual framework. A conceptual framework can be defined as a network or plane of concepts that support each other and together provide a comprehensive understanding of a phenomenon (Jabareen, 2009). The main concepts in this study have been delineated as 'collaboration' and 'growth'. This study synthesized the nature of collaboration between firms along two dimensions; first the frequency with which collaboration took place and secondly the complexity of such collaborative efforts. Growth was conceptualized as happening along two planes over time, namely; horizontal growth and vertical growth.

Collaboration frequency was defined as how often the parties in the collaborative relationship interacted in pursuit of mutual objectives. Woodland and Hutton (2012) argued that the most effective inter-professional collaboration entails ongoing cycles of inquiry that includes; dialogue, decision making, action and evaluation around shared values. Furthermore they posited that high functioning teams have a higher degree of these cycles of inquiry than low performing teams (Woodland & Hutton, 2012). This study presents the hypothesis that there exists a direct positive relationship between the frequency of collaboration and the growth of business incubators.

Collaborative complexity was defined both in how collaboration is formed and how it is operated. Woodland & Hutton (2012) observed that collaborative relationships are often characterised as falling across a continuum, exhibiting various degrees of separation or levels of integration between organizations, agencies and persons and the level of integration is directly related to the purpose of the partnership. Complexity was synthesized in terms of the number of parties involved in the collaborative initiatives and the degree to which these parties are involved. This study posits therefore that collaborative efforts that are more complex will result in a higher degree of growth than simple collaborative initiatives.

Whereas horizontal growth is conceptualised as the extent to which a firm increases the coverage of its existing portfolio of product and services by reaching new markets or new clients, vertical growth was seen as denoting the degree to which the structure of a firm's portfolio of products and services changes for instance to offer new product/services or to offer the existing portfolio in a different way (speed, format, etc.) or a change in the processes of producing and offering those products/ services or a combination of these changes. In addition growth was conceptualized as being multi-directional and that it happened in phases where each successive phase is greater or lesser than the preceding phases.

In summary therefore a cyclical relationship is presumed between collaboration in the business incubation industry and growth of business incubators. The premise of this conceptualization is that through industry collaboration, business incubators will acquire knowledge, capabilities and resources that enable them to deliver products and services at an activity level greater than previously attained hence they will realize an expansion in their operations and in turn as business incubators grow they will require to collaborate more often with industry players and will they will need to increase their level of information sharing, decision synchronization and incentive alignment which will lead to further growth. Figure 2.4 below graphically depicts this relationship.

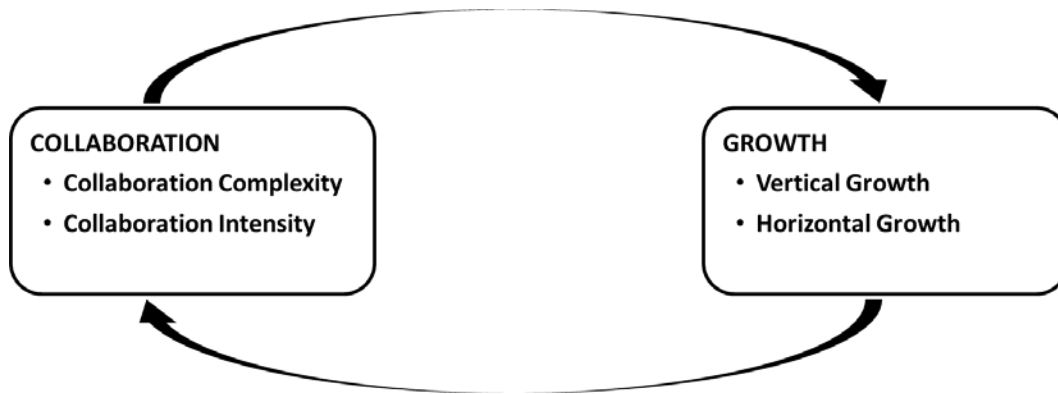


Fig 2.4: The Conceptual Framework (Source: Researcher's Analysis)

2.6 Operationalizing of variables

At the heart of the deductive approach is the process of operationalization of variables which facilitates the construction of clear and specific instructions about what and how to observe that which we are investigating, the outcome of which is the ability to test the theoretical and hypothetical assertions (Gill & Johnson, 2010). Two sets of variables were measured; independent variables and dependent variables. Independent variables are those that are measured to determine their impact on other variables while dependent variables are those that change in response to changes in other variables (Saunders, Lewis, & Thornhill, 2012).

In this study 'Collaboration' has been identified as the independent variable being that its existence has been conceptualized to influence the trajectory of business incubator growth. Collaboration was measured from two perspectives;

- i. Collaboration Intensity – the frequency with which parties engage in collaborative efforts. Frequency here denotes the level of activity within a given time period and will be measured on a periodic basis e.g. daily, weekly, monthly, quarterly with the objective of establishing the modal frequency of collaboration.
- ii. Collaboration Complexity – denoting the extent to which multiple parties are involved in the collaborative activities. Collaborative activities involving four parties will be deemed more complex than those involving three parties which will in turn be considered more complex than those involving two parties.

These operationalization is congruent with the view of Perkmann et al (2011) who in developing a measurement system for university-industry alliances urged that the collaboration process be measured in terms of the level of involvement of participants in joint objective setting and secondly the periodic interactions between the partners (Perkmann, Neely, & Walsh, 2011).

In this study ‘Growth was conceptualized as the dependent variable since its form and extent was seen as being influenced by changes in collaboration. Growth was measured along two dimensions;

- i. Horizontal dimension – A firm will be said to have grown horizontally if it has increased its coverage of the product portfolio since startup, to reach new markets or new clients. This variable was measured by tracking the change in geographical coverage and changes in the number of clients served.
- ii. Vertical dimension – denoting the degree to which the structure of a firm’s portfolio of products changes to included new offerings and changes in the delivery of the existing product portfolio (e.g. speed, format, etc.) or even a combination of both. This variable was measured by tracking changes in the composition of the product portfolio since inception and changes in methods of delivery of those products.



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section explains in detail how the actual research was conducted and expounds on the research design, target population and sampling procedures, the methods of data collection and how the resultant data was analysed and presented.

3.2 Research design

This research was designed as an exploratory qualitative research, following an inductive approach.

According to Saunders et al (2012) an exploratory study is a valuable means to ask open questions to discover what is happening and gain insights about a phenomenon while a qualitative design is one in which the researcher collects open ended, emerging data with the intent of developing themes from the data (Creswell, 2003), further the researcher makes knowledge claims based on multiple meanings of individual experiences or meanings socially and historically constructed with the aim to develop a theory or pattern. An inductive approach data collected is used to explore a phenomenon, identify themes and patterns and to create conceptual frameworks (Saunders, Lewis, & Thornhill, 2012). Using the inductive approach the researchers intent it to interpret the meanings others have about the world, rather than starting with a theory inquirers develop a theory or pattern of meaning (Creswell, 2003).

Creswell (2003) argues that if a phenomenon needs to be understood because littler research has been done on it, then a qualitative approach is best suited and especially where the topic is new or has not been addressed within a certain sample or group of people. The present study sought to evaluate the influence of industry collaboration on the growth of business incubators in Nairobi, which phenomenon has not been study going by the review of available literature.

The study employed an interview strategy. In a survey the data is collected, analysed and conclusions drawn thereof to suggest possible reasons for any particular relationships between variables and to produce models of these relationships (Saunders, Lewis, & Thornhill, 2012). Surveys use a cross sectional design in which data is collected predominantly by questionnaire or

structured interviews from more than one case, capturing data at a given point in time and in connection to two or more variables which are then examined to detect patterns of association (Bryman & Bell, 2007).

3.3 Population of the study

The target population of the study was all business incubators in Nairobi County that are formally registered as offering business incubation and related services and that actively promote the use of such services to the general public. Details of the available incubators was collected from BIAK which yielded 7 incubators. This was augmented through a snowball method where incubators were asked to refer the researcher to incubators they knew about. Through this process the population of business incubators in Nairobi County was estimated at approximately 20 firms. This population was compared to the findings of Meru & Struwig (2011) identified 25 firms through checks with BIAK, but later narrowed down to 12 firms that could be classified as business incubators. Nairobi County was chosen because of ease of accessibility of incubation firms and the smaller dispersion distance wise thereby reducing to an extent the time and cost implications of data collection.

The element of the study was each individual business incubator with data being collected from the Incubator manager i.e. the highest ranking person in charge of the day to day running of the business incubator.

3.4 Data collection

This section defines the data to be collected and measured as well as how it will be collected and handled.

3.4.1 Data used in the study

This study primarily collected qualitative data on the process of setting up the incubators, the forms of growth realized by the incubators, the nature of collaboration, products and services offered, challenges and barriers to growth and collaboration was collected. In addition some quantitative data on the age of the firms and frequency of collaboration was also collected.

3.4.2 Data collection instrument

Data was collected by means of a structured interview guide that was administered in face to face interviews conducted by the researcher. A structured interview helps the researcher to reduce error

due to researcher variability and also raises the accuracy and ease of data processing (Bryman & Bell, 2007). An interview guide is a list of questions or issues to be explored during the interview (Saunders, Lewis, & Thornhill, 2012). The interview guide contained both open ended and closed ended questions and was constructed in English. While closed ended questions are standardized, easy to administer and analyse, open ended questions allowed the respondents to answer in their own words and to give more details.

The questionnaire (see Appendix 1), sought to collect qualitative data that allowed the researcher to answer all the research questions.

3.4.3 Data Collection procedures

A database of business incubators in Nairobi County was developed together with their contacts and target respondents. Thereafter a phone call was placed to the organization introducing the study at a high level and requesting for access to the target respondents, incubator managers, in order to gain access for conducting the interviews. This was followed by an email in which the introductory letter accompanied by a copy of the interview guide / questionnaire was sent to the target respondents to explain the purpose, scope and benefits of the study as well as the timelines during which it will be conducted. In addition the letter formally requested for participation, highlighting the nature of the study in broad terms and provided assurances on confidentiality as well as clarifying that participation was voluntary. The researcher then obtained acknowledgement and confirmation of the logistics of the interview itself by follow up mail or phone calls.

Through this procedure the researcher managed to obtain confirmation from 17 out of the 20 identified and targeted firms. One declined to participate citing lack of confidentiality clearance from the governing board while two remained totally unresponsive to follow up attempts to contact. The interview guide was administered by the researcher, during face to face interviews at the premises of the respondents. The data was collected over a two month commencing July to September of 2015.

During the interview, the interviewer explained the objectives of the study and the questionnaire in overall and elaborated on the purpose of each section in the questionnaire as the interview progressed. Furthermore the interviewer clarified any inconsistencies in understanding the questions and recorded the responses of the interview alongside the questions in the guide.

Post the interview, the researcher recapped the responses, especially for open ended questions with the respondents to check for understanding and accuracy as well as give the respondent an opportunity to clarify any questions they may have had about the study.

3.5 Data Analysis and Presentation

The study collected qualitative data and some quantitative data utilizing both open ended and close ended questionnaires.

The open ended questions in the interview guide yielded qualitative data which was transcribed from the questionnaires with each response categorized in a table according to the corresponding question number. The transcription was done within 24 hours of the interview in order to capture contextual data and ascribe meaning to the data while the interview and the responses were still fresh. The data collected was then reduced and summarized into common themes according to the questions. These summarized data was then coded on the basis of the responses captured during the interviews for instances perceptions on incubation industry growth and also based on themes that had emerged in the review of literature for instance forms of incubator ownership (private or government or university).

These coded responses were then categorised and these categories were used to identify pockets of similarities or differences in the data. These categories were analysed further to generate inferences about the relationships that subsisted between the data in the categories and in the entire study. The data presented in chapter 4 below discusses the apparent relationships and seeks to explain the nature of the relationships between collaboration and growth of business incubators as well as seeking an explanation for outlier observations.

Descriptive statistics were also generated from the data in order to have clear view of any apparent relationships in the data. This was done by developing frequency tables and plotting histograms. Ranking of responses in some cases was done to establish importance attached to one class over the other for instance on factors influencing growth. The objective of this descriptive analysis was to gain an accurate profiles of the respondent and the events or situations.

3.6 Research Quality

According to Saunders et al (2012), reliability refers to whether your data collection techniques and analytical procedures would produce consistent findings if they were replicated on another

occasion or by a different research while validity is concerned with the extent to which the researchers measures actually measure what they are intended to assess.

In review of literature, Golafshani (2003) argues that reliability and validity in qualitative studies can be conceptualized as trustworthiness, rigor and quality. He further concurs with the argument of Denzin (1978) that the way to achieve reliability and validity of a qualitative research get affected from the researcher's perspective which are to eliminate bias and increase the researcher's truthfulness about a social phenomenon using triangulation (Golafshani, 2003).

Triangulation can be defined as a validity procedure where the researcher searches for convergence among different sources of information to form themes or categories in a study (Creswell & Miller, 2000). Triangulation may include multiple methods of data collection and data analysis, engaging multiple methods such as observation, interviews and recordings will lead to a more valid, reliable and diverse construction of realities (Golafshani, 2003).

The study collected data from multiple participants and from which data themes and categories were generated to give a representation of the realities before going through a multiple phases of triangulating responses to extract meaning and develop understanding of the responses. Further through record keeping and documenting the procedure, the data collected was preserved for future to assure of validity and reliability.

Furthermore to ensure validity and reliability of the findings a standard interview guide (see appendix 1) was used in all interviews, the purpose of the research was articulated well through the introductory letter and at the start of each interview to re-assure participants in order to get as accurate data as possible. Participants were also assured of confidentiality of their responses and the interviews were conducted in private one on one sessions with the intent of minimizing participant bias.

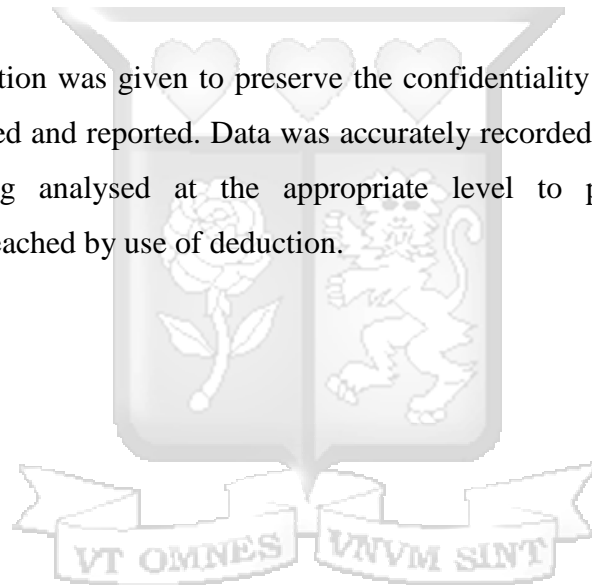
3.7 Ethical Considerations

Ethics refer to the standards of behaviour that guide the researchers conduct towards those who become subjects of the study or are affected by it (Saunders, Lewis, & Thornhill, 2012). Ethical

questions revolve around how we should treat the people on whom we conduct research and the activities that we should or should not engage in our relations with them (Bryman & Bell, 2007).

In collecting the data, the researcher requested for access through a formal introductory letter sanctioned by the university. The letter emphasized the purpose of the study as well as the intention which is furtherance of academic endeavours. The letter also gave a brief discussion on the methods of arriving at and the rationale for choosing the respondents and also addressed how confidentiality will be handled (Polonsky & Waller, 2011). The letter was sent to the respondents, highlighting that participation is voluntary and will specify a period within which a follow up with a telephone call, during normal working hours, will be made to get feedback on willingness to participate.

During coding consideration was given to preserve the confidentiality of the respondents in the primary data that collected and reported. Data was accurately recorded and counterchecked with respondent before being analysed at the appropriate level to prevent instances where confidentiality can be breached by use of deduction.



CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 Introduction

This chapter discusses the presentation and interpretation of the findings obtained from the field data collection in fulfilment of the objects of the study. Further in this chapter background information of the respondents is discussed. Descriptive statistics and content analysis have been used to discuss the findings of the study.

The study objectives were to establish the forms of growth realized by business incubators in Nairobi, to describe the nature of collaboration practised between incubators and other players in the business incubation industry and to evaluate how this collaboration was resulting in growth of business incubators.

In conducting this study, twenty organizations were contacted to participate in this study, of these 17 organizations responded in the affirmative and participated in interviews resulting in a response rate of 68%. In recommending a norm for response rates for behavioural science studies, (Baruch, 1999) suggested a norm that is one standard deviation from the average of other studies and recommended that this should be 36% +/- 13% for studies aimed towards top management and 60% +/-20% for studies aimed at other levels in the organization. This study was targeted at Incubator managers who represents middle management in these organizations and therefore the return rate of 68% was satisfactory to conclude that the study was representative.

4.2 Firm Characteristics

The study sought to investigate the characteristics of respondents including age or period of operation, the current ownership of each respondent, their locality including branches and size of the respondents.

In terms of ownership or sponsorship the study found that there was a fairly balanced mix of ownership between the three main classification of Government, Universities and Private Entities as summarised in Table 4.1.

Table 4.1: Incubator ownership type

Incubator Ownership	Frequency	Percentage
Government Sponsored	5	29.4%
University Sponsored	6	35.3%
Privately Owned	6	35.3%
Total	17	100.0%

The distribution above is however not indicative of market share controlled by each of these clusters.

The study found that most (59%) of the business incubators in Nairobi had been in operation for less than six years. Indeed over 40% of the respondents fell within the 1-3 years of operation cohort. Furthermore, about 30% of incubators are over 12 years old as illustrated in table 4.2 below

Table 4.2: Age of cohorts of business incubators

Age Cohort by Ownership	1-3	4-6	7-9	10-12	>12	Total	Share
Government & Govt. Agencies	2	1	0	0	2	5	29%
Private Entities	4	0	0	1	1	6	35%
Universities & Research Inst.	1	2	0	1	2	6	35%
	7	3	0	2	5	17	100%

The study found that 59% (10 out of 17) of the incubators in Nairobi were aged below six years and can be considered as young while about 30% of the incubators are relatively well established having been in operations for more than 12 years.

The study found that growth of the business incubation industry in Nairobi had gone through cyclic periods of booms and busts. There are two apparent growth spurts in the business incubation industry in Nairobi; the first before 2004 when about 41% of the firms were formed and the other

in the period between 2009 and 2011 when over 59% of the firms came into being. Indeed it can be noted that this later growth occurred broadly across all categories of ownership and could be an indication of partnerships between government, private entities and universities/research institution to develop business incubation in the country.

There is concentration of business incubators within Nairobi County with only 3 out of 17 participants (17.6%) indicating that they had a branch outside of Nairobi as depicted in table 4.3 below. A deeper dive shows that of those with branches outside of Nairobi, 2 out of the 3 incubators are government owned while one is University based.

Table 4.3: Business incubators location and branch network

Braches Outside HQ in Nairobi	Frequency	Percentage
Yes	3	17.6%
No	14	82.4%
Total	17	100.0%

However when asked if they had an expansion plan 14 out of 17 participants responded in the affirmative that they had expansion plans at various stages of roll out.

4.3 Forms of growth for business incubators in Nairobi County

In this section this study sought to identify how the business incubation industry had grown in the Kenyan context and specifically within Nairobi County.

4.3.1 Industry growth overview

Since the turn of the new millennium however there has been an acceleration in the setting up of incubation centres, with over 60% of the respondents having only been set up in the 3 year period between 2009 and 2013. Again post 2013 there is no recorded incidence of a new incubation centre pointing to a possible stagnation in growth. Majority of the participants (76%) exuded confidence that there was acceleration in the number of business incubation centres being set up in Nairobi driven primary by the increasing focus both by the government and by private sector players. One participant was quoted as saying “There has been growth in the industry over the past two years

with everyone shifting towards enterprise growth and innovation for instance there is an increase in innovation forums and competition and even partnerships with government”.

According to participant P17 growth in the business incubation space is on the cusp of accelerating again. She observed that “It takes about three years for the work we do to show results, just like the start-ups we work with which are starting to show positive cash flows at about year three. I therefore believe as we start showing these results there will be more people interested in the business incubation space. Furthermore as more and more devolved units initiate their own innovation and incubation centre, this space will grow pretty fast”. This argument collaborates with the data where it was observed that no new centres set up between 2013 and 2015 as the ecosystem needed tangible results from existing players before entering another growth phase.

4.3.2 Factors influencing the setting up Business Incubation centres in Nairobi

The main motives for setting up business incubation centres were categorised into the following four broad categories as summarized in table 4.4 below.

Table 4.4 Factors motivating the setting up of business incubators

Motivations	Government Owned	Privately Owned	University Owned	Nº of Reponses	Share
Create a triple helix partnership	2	0	0	2	11%
Assist SMEs overcome challenges	1	3	2	6	35%
Existence of a pool of talent	1	0	5	6	35%
Growth driven by parent firm	0	3	0	3	18%
	4	6	7	17	100%

The study found that the predominant motives for setting up incubation centres were the need to assists SMEs/Innovators overcome start up challenges as well as the need to tap into an existing pool of talented innovators (which was the main motives for university owned incubation centres) each cited by 35% of the participants. The other two motives were; the drive to create a triple helix partnership bringing together government, private entities and universities (which motivation was driven by government owned incubators). Among the privately owned incubators the main objectives was identified as being set up in order to meet the objectives of parent organizations.

The running threads throughout the history of Business Incubation in Kenya is the need to bridge the collaboration gap between government & public sector actors, private enterprises and universities & research institutions. As illustrated by P1 who reported that “The motivation for setting up was to bridge the gap between Academia, Government and Research and to commercialize the products that were being developed”. He further added “The incubation centre was set up through partnerships with the government in order to fuse university research into tangible products”.

Another participant, P16, set up in the mid-2000s said this when asked as to the motivation for setting up the incubation centre “The Incubator was set up through a partnership of 12 private and public agencies working together to leverage the world bank grant to introduce Business Incubation into emerging markets, it was set up through a partnership between the private and public sectors”.

Participant P3 describe the actors involved at setting up saying “The centre was set up by a consortium of four organizations, two were private businesses, one is Non-Governmental Organization (NGO) and the other a university where the centre is based”

The oldest incubation centre P11 noted that “the centre was set up as an aid to the vibrant economy right post independence for Kenya and the many businesses that were being set up and the need to facilitate knowledge transfer to the local level”.

Another reason proffered for setting up Business Incubators was the availability of a pool of talent with great ideas that could easily be tapped into. One university based participant P15 offered “The motivations for setting up the centre was majorly to commercialize innovation from the community, given the existence of areas of high potential especially mobile computing, the need to create alternative employment for students at the university”. Another participant P13 which is also university based noted that “realization of existing business ideas from students and the fact that they needed assistance in terms of financing and developing their ideas” was the driving force for setting up the centre. P4 noted that the centre was set up upon “Realization of existing business ideas from students and the fact that they needed assistance in terms of financing and developing their ideas” which agreed P12 who noted “the existence of a highly talented pool of students, staff and Alumni” as a great motivation at start up.

Thirty five percent (35%) of the respondents reported their main motivation for setting up as the need to assist Small & Medium Enterprises (SMEs) and innovators to overcome the challenges associate with commercializing ideas and early stages of entrepreneurship. P16 quipped "The main motivation was to help SMEs improve their survivability, it resulted from the experience of the founder who had started businesses before but had experienced failure. As such he realized the need to create a platform (a media centre) where small business could get assistance and collaborate to improve their chances of survival".

4.3.3 Horizontal Growth

About fifty nine percent (59%) of the respondents reported that they have not experienced horizontal growth as they were still situated at the location of first set up. Incubation centres that were older than 6 years seemed to exhibit more of horizontal growth driven by the need to tap into new markets and tap into more clients. One participant that was set up in 2004 responded to the interview question as to whether they had experienced horizontal expansion "No, the first location was housed at Upper Hill at a partner's premises but as we got more clients we the then moved into the CBD to a bigger facility where we are housed now". One of the older participants set up in 1990 noted "Yes, this is our original location which is the headquarters but we have branches in the other parts of the country, there are 40 gazetted official processing zones".

Although most of the participants had not experienced geographical growth, majority of them indicated as having ambitions to expand geographically both within and without Kenya. When asked on whether they had a geographic expansion plan, P3 responded "Yes, in the long run we plan to cover the whole of the African Continent". P7 also responded in the affirmative indicating that "Yes, we plan to expand to Mombasa, Nakuru, Kisumu and most parts of Africa". P15 noted that "Yes we have a growth strategy which is focused on building our capacity in areas of human resources, growing the services we offer, increasing the impact of the efforts we put in and delivering programs that have a far reaching impact on the continent". P17 noted that already it is activating the expansion plan noting "Yes, we are currently talking with County governments to set up to start setting up County innovation centres very soon".

There was a clear divide between older firms (>10 years old) which reported to have branches outside of Nairobi compared to younger firms which did not report horizontal expansion although most had a plan to activate this in the near future. Participants that were captured as not having an

immediate expansion plan attributed this on two main reasons; The need to focus on improving the current offerings, systems and process as captured by P15 who noted “For now not yet, the focus is on improving the current industrial hub” and P13 who responded that “We don’t have a plan to expand for now we are still perfecting the systems and processes”. The second reason was pointed as lack of credible partners who could support such an expansionist strategy as captured by p16 “We had an expansion plan and even rolled out branches in other parts of Kenya, however due to lack of commitment from some of partners and institutions we had to roll back these plans”.

4.3.4 Vertical Growth

Business incubators reported to have experienced vertical growth in the following ways; product diversification, growth in number of collaborators and collaborative initiatives, improvements in processes and growth in capacity to handle higher numbers of incubated clients.

Over 60% of the respondents reported that they have experienced vertical growth mainly in improvement of their existing products and services as a result of experiences gained in running the incubation. Furthermore they reported that they now offer new product and services compared to what they initially set out with. When asked how their product portfolio had changed over time; One participant P16 responded “we started off as an ICT incubator targeting companies that were using ICT to enable their business processes, however due to the type of service demands we were receiving we morphed into a hybrid business incubator and started offering physical space, business advisory and training as well”. This collaborated with the views of P3 who observed that “Initially we started by providing space and technological solutions and now we are venturing into education and research”, those of P2 who said “We started out with service oriented start-ups but now we have ventured into product development in the area of information technology”, and those of P16 a privately owned incubator that replied “Our products have not improved much though we have improved our traditional services which are consulting, training & membership to our Business Club” noted respondent P9 which is privately owned.

This growth in complexity of processes was also experience by P15 who noted as well “The portfolio has largely remained the same, but we have enhanced/seen growth in the services that we provide e.g. the portfolio of our mentors has increased, we now have more consistent delivery of training and development and there is more access to funding while we have grown the kind of exposure that we give to the start-ups”. Participants P17 also indicated a level of vertical growth

saying “we have also experienced growth in terms of number of graduating clients and in terms of survival rate of the graduates. We are now also attracting business in areas like Arts, Health and Education that we did not have the capacity to work with before”.

The youngest incubation centre from the set interviewed, P13, observed “our product offerings and processes have not changed much since the lab is still new”.

There is also acceleration within the incubation value chain with more presence of early stage incubators and accelerators. One participant, P17, noted “over the past two years more accelerators have set up shop and they are running more innovation challenges to pick up good ideas for acceleration”.

4.3.5 Barriers to growth

The study identified the following as the main barriers to growth faced by business incubators in Nairobi; lack of funding to support expansion of incubators and build capacity, lack of requisite human resource capacity to run incubation centres given that this was a nascent industry, low quality of ideas coming into the pipeline, mismatch between expectation between the potential clients and the products offered by incubators and lack of collaborative initiatives and industry forums to drive the incubation agenda

4.4 Nature of collaboration and how collaboration has changed over time.

In this section this study sought to understand how business incubators in Nairobi collaborate with other actors in the business incubation industry and how the practised collaboration had changed in the recent past

4.4.1 Growth in collaboration

The participants were asked to describe changes in the level of collaboration in the Business Incubation industry in Nairobi, 14 out of 17 participants perceived that the level of collaboration is generally growing. Participant P2 commented that “Collaboration is growing since more forums for engagement are being held” which views also aligned with those of participants P7 who said “Collaboration has improved in terms of sharing of resources & ideas and now there are more frequent meetings as compared to the past”. Participant P11 also observed that “more engagements are being held as opposed to the past due to increase in administrative areas brought about by devolution of services”

Participant P10 attributed this growth in collaboration to the growing business incubation industry saying “there is a high level of collaboration since more and more incubators are being set-up, thus the industry is expanding” This was collaborated by another participant who observed that the level of collaboration is “growing since many firms are coming up and incubation programs are becoming more popular as knowledge is improved in academia”.

Other participants attributed the growth in collaboration to the increasing awareness around business incubation and business incubation services in the country. P13 argued that “collaboration is improving since awareness of business incubation is increasing and more focus being directed into entrepreneurship”. Participant P15 noted that “We have seen a gradual increase in terms of collaboration and there is a lot more goodwill coming in now from industry players. I mean there is a general appetite for entrepreneurship and Kenya is becoming a global focal point with global players keen to participate in the emerging opportunity”.

One of the older participants P16 however had a contrary view on the growth of collaboration observing that “the level of collaboration has not improved significantly, initially there was good collaboration between Private sector, Public sector and Universities to create the triple helix partnerships however this deteriorated as government dragged its feet”. These views were also reinforced by participant P12 who also observed that the level of collaboration was “average reason being that there is room for a lot more collaboration between different players versus adopting a highly competitive approach.”

4.4.2 Nature of Collaboration

When asked to describe collaboration in the business incubation industry; P15 replied that “we have seen a gradual increase in terms of collaboration and there is a lot more goodwill coming in now. There is also a shift in the focus towards initiatives with common/social impact leading to an improving collaborative environment” The participant further added that “the emergence of new opportunities / challenges that required combined efforts from different players have nudged many to collaborative initiatives”. P13 described the nature of collaboration in terms of the communication efforts saying “communication is improving since there is increasing awareness on the incubation concept and there is more focus directed into entrepreneurship both by private and governmental players”. Another participant saw collaboration happening in different facets in the value chain saying” there is an exchange of inputs and raw materials, more sharing of

information and mentoring sessions and integration of value & activities” This tallied with the views of P4 who noted that “it started with transfer of smaller functions through outsourcing but as time passes, actual transfer of knowledge which exhibited by giving growing companies full autonomy to do the work”.

Table 4.5 below summarizes the frequency with which the participants interact with different groups of actors in the business incubation value chain. The modal frequency of interaction is monthly which is also consistent across multiple categories of players followed by daily interactions mainly with other incubators.

Table 4.5 Frequency of collaborative interactions

Industry player	Daily	Weekly	Monthly	Quarterly	Annually	Total
Government & Govt. Agencies	5	0	10	1	1	17
Private Entities	5	2	10	0	0	17
Universities & Research institutions	3	1	13	0	0	17
Total Responses	13	3	33	1	1	
Collaboration Freq.	25%	6%	66%	2%	2%	

As can be deduced from table 4.4 above, the study did not find significant differences in the frequency of collaboration exhibited by the three broad classification of industry players – Government, universities and private entities, with the modal frequency for collaboration for each category being ‘Monthly’.

Most of the participants perceived competition in the business incubation industry to be moderate in terms of intensity, some of the participants alluded to an adversarial stance adopted by other incubators who engage in highly competitive behaviours which is detrimental to the enhancement of collaboration in the industry. Participant P15 had this to say, “There is need for incubators to change the culture of trying to get the biggest slice of the pie but rather come together for greater output”. Participant P16 observed that “Incubators should stop looking at each other as competitors as there are very many firms in need of business incubation services. The problem

we have is one of a culture of being very competitive and not collaborative enough. Business incubators should be competing for instance on number of graduating firms and not the current lose-lose cut throat competition they practice”. Participant P3 alluded to the drivers of the high competition saying “The competition is high since more technology based incubators are coming up with more viable innovations and products”.

Table 4.6 below summarises high collaboration intensity and collaboration complexity have manifested following interactions between business incubators and other business incubation industry players

Table 4.6 summary of changes in collaboration intensity and collaboration complexity

Collaboration Intensity	Collaboration Complexity
<ul style="list-style-type: none"> • Increasing frequency of meetings & forums • Improving communication • Increased awareness leading to demand for business incubation services in Nairobi which is accelerating the rate of interaction between different players. 	<ul style="list-style-type: none"> • Increase in the sharing of information & resources and integration of value chains in symbiotic relationships. • More meetings and forums involving cross industry players. • Increased interactions between government, private sector and universities in pursuit of common objectives e.g. SME growth. • Multiple players are collaborating to solve common / social problems • Transfer of knowledge between player leading to capacity building

4.4.3 Factors affecting the nature and level of collaboration

This study sought to identify the main factors that affected the level and nature of collaboration within incubation industry in the Kenyan context. The participants mentioned a number of factors. These factors were classified into positive factors or those that facilitated collaboration and negative factors (those that inhibited collaboration) as discussed below.

Positive Factors

The following factors were identified as having contributed positively towards the growth of collaboration; the growth of information & communication technologies (ICT), increased funding coming into the industry, government support, a growing enabling environment and increased incidence of networking between different actors in the industry

Forty one percent (41%) of the participants observed that the changes in nature and level of collaboration was enabled by the growth of information and communication technologies (ICT). Participant P9 observed that “improvements in ICT have lowered the costs of doing business enabling incubators to communicate more and in different ways”. P4 attributed the “Implementation of technological systems and improvements in communications” as the most important factors enabling collaboration

Fifty Eight percent (58%) participants observed that improvements in the governance and political leadership also played a role in the changing nature and level of collaboration with participant P14 observing “good political leadership and support from non-government agencies, good economic growth in sectors such as agriculture, improved communication via internet and use of marketing tools such as advertising”. P8 added that improved “political leadership and support from governmental and non-governmental agencies” was critical for this growth. Participants P10, P11 and P17 pointed out that through devolution there were more opportunities to collaborate with other actors in the industry.

Participant P1 noted “through networking and other engagements we see now more sharing of innovations and functions in the value chain”. This was echoed by P7 who said “the frequent meetings and forums have created awareness and pools of resources have been made available to the incubators” which was also the view of P17 who observed that “collaboration has enabled us to work with others for instance we are at advanced stages of setting up an industry forum which will be a platform for showcasing Kenyan innovations to the world”

Negative factors

Factors that have negatively contributed towards the level and nature of collaboration included; lack of trust between participants, negative competitive spirit and incidences of corruption.

Participant P16 noted that “once our partner had acquired enough skills to run their own centre, they pushed us out by not renewing our lease contract and we found ourselves without a place to run our own centre. Because we had prepared a new centre we had to walk out without our clients and start all over again”

"Lack of positive win-win collaboration that has hampered the level of collaboration, corruption where people want to keep everything to themselves and culture of negative competition"

Table 4.7 Summary of factors influencing the nature and level of collaboration

Factors	Nature	Description
Growth of ICT	Positive	Developments in Information and Communication Technologies (ICT).
Increased Funding	Positive	Availability of capital that facilitates the setting up, running and propagation of business incubators as well as propagation of their clients.
Government support	Positive	Actions and policies of governments that enable and /or facilitate the development of any industry.
Enabling environment	Positive	The sum total of the actions of stakeholders that generally make it relatively easier for an industry to sprout & grow. These include Political, Economic, Social, Technological, Environmental and Legal (PESTEL) factors.
Incidence of collaboration	Positive	When players in the business incubation industry work together towards mutual goals.
Access to low cost facilities & technology	Positive	Lowering of the cost of access to critical resources and facilities that nascent firms need to grow and establish.
High Competition	Negative	Adoption of adversarial stance compared to other actors in the ecosystem resulting in non-cooperation for the common good.

Lack of trust	Negative	Absence of sincerity of dealings with other parties in the relationship which results in suboptimal outcomes.
Corruption	Negative	The Appropriation through fraudulent means of the results of mutual efforts or of public goods

4.5 How industry collaboration has affected the growth of business incubators in Nairobi

Through collaboration with other business incubation industry players, business incubators in Nairobi have experienced both vertical and horizontal growth, although the extent of horizontal growth was muted in comparison to the reported extent of vertical growth. The study found that growth of business incubators in Nairobi as a result of collaborative efforts emanated from; transfer of knowledge, forming strategic alliances, product and market development as well as building the capacity of incubators. These are discussed below.

i) Transfer of knowledge

Participants indicated that through the transfer of knowledge they have experienced both vertical and horizontal growth. When asked how collaboration had impacted on their growth P16 responded that “from our own experience, we collaborated with a leading international NGO which wanted to start business incubation. They had infrastructure while we did not and we had the know-how which they were struggling to build, this way were able to establish our centre and in the end we helped them build the expertise and know-how”. Furthermore P16 noted that “by collaborating with another institution of higher learning that also had the infrastructure but lacked the knowhow we were able to set up a branch outside of Nairobi”.

P3 noted that collaboration had contributed to growth in the Business Incubation industry “through transfer of knowledge and the sharing of functions in the value chain”. Similar sentiments were echoed by P12 who noted that “through collaboration we are able to have more training sessions which has increased our knowledge to offer our services and even new ones”. While P4 noted that collaboration “started with transfer of smaller functions through outsourcing but as time passed, actual transfer of knowledge was exhibited by giving the growing companies full autonomy over activities”

ii) Strategic Alliances

The study found that through the crafting of strategic alliances, participants were able to experience vertical growth in a number of ways. When asked how collaboration had impacted growth P16 observed that "From our own experience yes, we collaborated with a leading NGO which was seeking to start incubation as they had infrastructure while we did not and we had the knowhow which they were struggling to build and this enables us start up our centre"

Participant P13 proffered that "Collaboration had helped them build networks which in turn helped to reduce the costs of starting-up and doing business" which concurs with the views of P8 who observed that "collaborating with other universities, both local and international partners has increased our value addition through the sharing of functions".

Participant P17 further observed that "collaboration with different players at different levels in the ecosystem has increased awareness of our services and their uptake for instance when clients graduate we refer them to accelerators and when accelerators get idea stage inquiries they refer these back to us". This view was shared with P7 who observed that "the frequent meetings and forums have created awareness of business incubation, furthermore pools of resources have been made available to the incubators"

P4 observed that through collaborating with other players in the industry they had benefited via "the exchange of inputs and raw materials as well as the sharing of information and integration of value chain activities" enabling them to improve on their product offering.

iii) Product and Market development

Twenty three percent (23%) of the firms interviewed reported a change in the product mix as a result of collaboration. Participant P16 stated "we started off as an ICT incubator targeting companies that were using ICT to enable their business processes, however due to the type of service demands we were receiving we morphed into a hybrid business incubator. We started offering physical space, business advisory and training as well. We also had clients who offered their service to other clients in return we offset against incubation charges due from them". This view was tandem with that of P17 who noted that "we started off with a 'One Year' program but with time we realized that the clients were getting comfortable and have since reduced it to 6 months. We have also experienced growth in terms of number of graduating clients and in terms

of survival rate of the grandaunts. We are now also attracting business in areas like Arts, Health and Education that we did not have the capacity to work with before”

Participant P15 alluded that “our portfolio has largely remained the same, however we have enhanced/seen growth in the services that we provide e.g. the portfolio of our mentors has increased, we now have more consistent delivery of training and development and there is more access to funding while we have grown the kind of exposure that we give to the start-ups”

iv) Capacity development

When asked if collaboration had influenced the growth of their centre participant P15 responded thus “Yes, definitely a lot of initiatives have come from the collaborative efforts enabling more entrepreneurs to create jobs, take their products to market, improve their level of skills (both technological and business). Many avenues for research have also arisen from collaboration, more capacity building for products and tackling of common problems e.g. cybercrime. It has spawned new solutions to the way we operate”.

P16 observed “...furthermore by collaborating with incubated clients we were able to offer services hitherto we did not have capacity for e.g. business advisory services and expand our product offering. We found an innovative model whereby the incubated clients offered their services to peer clients on our behalf and we would offset the value of those services against their dues to the incubation centre”

P17 noted that “collaboration has enabled us to work with others for instance we are at advanced stages of setting up an industry forum which will be a platform for showcasing Kenyan innovations to the world. We have worked with government and other industry players and this will grow business incubation in Kenya”.

Participant P4 replied that “through collaboration we have benefited in the exchange of inputs and raw materials, the sharing of information and mentoring sessions and integration of value chain activities”.

Tables 4.8 and 4.9 below summarize the sources of growth emanating from collaboration and how that growth has manifested for business incubators in Nairobi.

Table 4.8 Summary of the vertical growth experienced by business incubators as a result of industry collaboration

Sources of Growth	Nature of Vertical Growth
Knowledge transfer	<ul style="list-style-type: none"> • Improving the incubators’ level of knowledge and skills - “Yes, this has enabled more entrepreneurs to market their products and to improve their level of skills (technological and business skills)”. • Acquiring knowledge through training programs - “through collaboration we are able to have more training sessions which has increased our knowledge”.
Strategic alliances	<ul style="list-style-type: none"> • Establishing of business incubators - “we collaborated with another center who had the infrastructure while we did not but we had the knowhow and this enabled us to establish our center”. Another participant gave a rejoinder saying “The Incubator was set up through a partnership of 12 private and public agencies working together to drive the world bank grant to introduce Business Incubation to emerging markets” • Reducing the operating costs – “We have built networks and this has eased the cost of doing business” • Increasing access to funding – “We have worked with other players and government as a result the government has also put funding into the incubation industry, we are currently running a three year incubation expansion program as a result of this partnership" another participant pointed how they innovated in their funding model saying • Creating an enabling environment for incubators to grow – “Many avenues for research have arisen from collaboration, more capacity building for products and tackling of common problems e.g. cybercrime”.
Product and Market development	<ul style="list-style-type: none"> • Developing new products – “by collaborating with incubated clients we were able to expand our products and offer services

	<p>which hitherto we did not have capacity for e.g. business advisory services"</p> <ul style="list-style-type: none"> • Accessing new markets and /or clients – “collaboration with different players at different levels in the ecosystem has increased awareness of our services and their uptake for instance when clients graduate we refer them to accelerators and when accelerators get idea stage inquiries they refer these back to us" • Refining the products and services offered by incubators – “
Capacity Development	<ul style="list-style-type: none"> • Raising the performance standards of business incubators - “Yes, this has exposed the agencies that were not meeting standards”, another participant said that “has spawned new solutions to the way we operate”. • Increasing the output of business incubators - “collaborating with other universities, both local and international partners has increased our value addition through the sharing of functions”. • Increasing the ability of incubators to offer a diverse portfolio of products - “the portfolio of our mentors has increased, we now have more consistent delivery of training and development and there is more access to funding while we have grown the kind of exposure that we give to the start-ups”
Trust Building	

Table 4.9 Summary of horizontal growth experienced by business incubators as a result of industry collaboration

Sources of Growth	Nature of Horizontal Growth
Strategic alliances	<ul style="list-style-type: none"> • Accessing new markets - “by collaborating with another institution of higher learning we were able to set up a branch outside of Nairobi”.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

This chapter includes a critical analysis of the findings in relation to the objectives of the study which were; to establish the forms of growth of the business incubators, to describe the nature of collaboration by the business incubators and to evaluate the effect of industry collaboration on the growth of business incubators within Nairobi County. Furthermore the findings are discussed in relation to other studies before giving recommendations on how to improve collaboration in the business incubation industry to deliver further growth before finishing with an identification of areas for further inquiry and study.

5.2 Discussion of the study findings as per the specific objectives

5.2.1 Forms of growth of Business Incubators in Nairobi County

The research found that most of the firms were experiencing vertical growth in various aspects of their processes, products and management including diversification of their product offerings and the range of services, improvements in their processes, growth in the number of collaborative initiatives, and growth in their capacity to handle more clients. These findings are consistent with the business incubator life cycles as identified by Allen (1988) whereby business incubators in Nairobi are currently in the first (Start-Up) stage and breaking into the second (Business Development) stage where the focus is on establishing the physical infrastructure, nurturing of new businesses, formation of inter-firm networking and developing their business advisory services. Firms in these phases pursue a tenant model with the main criteria being ability to pay rent. There was no evidence of the second phase of growth during which Chandra & Chao (2011) found that business incubators offer specialised and industry targeted value added services and Akcomak (2009) found the existence of a sustainable national strategy for promoting business incubations leading to faster industry growth.

Given the particularly young nature of these firms (59% under 6 years old), this study argues that the incubation industry in Nairobi is occupying the first two stages in Greiner's Stages of Growth Model (1998); Creativity phase and Direction phase where the focus is developing the product, developing a market for it and putting in place the right structures, process and systems. As a result

industry players and promoters need to be cognizant of and manage the two revolutions happening in the industry; first the Crisis of Leadership as pointed by respondents who identified the lack of requisite human resources capacity to run incubators as a barrier to growth and which will manifest through the delayed change over from the entrepreneurial management style to more independent and formalized management structure. Secondly the Crisis of Autonomy which will accompany the growth in size of the business incubators necessitating the need to delegate and empower lower level employees into decision making (Greiner, 1998). How the industry actors and incubators themselves manage these crises will have implications on the growth of business incubators in Nairobi.

The research also found that most of the incubators established in Nairobi have not grown horizontally i.e. by establishing branches outside of Nairobi. Some of the respondents pointed to the need to establish and improve their products and products before venturing out. This was consistent with the findings of (Lose & Tengeh, 2015) who noted that incubators were holding back horizontal expansion due to the cost of set-up and lack of awareness that heightened the risk of not finding sufficient clients to support the new site. Allen (1988) indicated that the third and last (Maturity) phase of growth occurs when the incubators' span of influences spreads in its environment (horizontal growth). This however does not seem to be the case in Nairobi and can be taken as confirmation that this third phase has not happened in the industry in Nairobi.

This concentration of operations in Nairobi can be viewed through the lens of Porter's Competitive Advantage of Nations Theory (Porter, 1990) in that Nairobi has the supporting factor conditions of labour and infrastructure compared to other Counties in Kenya, Nairobi also has Related and Supporting Industries e.g. a concentration of universities for research and skills development and lastly the demand conditions in Nairobi which support innovative products outweigh those in other counties given the concentration of the big local and multinational firms in Nairobi. This argument is supported by the findings from the research that the main motivations for setting up business incubators were; existence of a strong pool of talent, the pursuit to create a triple helix collaboration with universities and government and the expansion driven by parent firms which will have been supported by an assessment of the demand conditions in Nairobi.

5.2.2 Factors that have Influenced growth of Business Incubators

Most of the business incubators (58%) in Nairobi County were found to be under six years old. A deep dive into the profiles of these 10 firms revealed that the centres were set up during the 2009-2013. In Kenya, the run up to this period was characterised by strong economic growth starting in 2004 at 5.8% through 2008 at 7.5% and culminating in 2010 at 7.2% before settling at an average of about 6% in the 2009-12 (AEO, 2016). The period 2012-14 was dogged by a slowdown in GDP growth from the high of 6.9% to 5.35% in 2014. Juxtaposing the age of business incubators against these economic cycles we can see that high economic growth is a pre-cursor for acceleration of the business incubation industry. One can argue that this is due to the mushrooming of SMEs during clement economic conditions leading to growth in the latent demand for the services offered by business incubators. Furthermore in the period between 2010 and 2013 there was an a steep increase in the number of chartered public universities in Kenya, going from 7 public and 6 private universities in 2006 to 22 public and 17 private universities by 2013 (CUE, 2016). It is probable that this expansion in academia coupled with the governments focus on promoting entrepreneurship under vision 2030 and an enabling and growing economic environment allowed private entities to flourish and created the right environment where the confluence of government, universities and the private sector interactions sparked growth in the industry.

Aside of these, other factors which were identified as aiding this growth and which are consistence with those identified by Davidson et al (2005) included entrepreneur related factors (motivations to start incubation centre, managerial capacity which was a negative factors due to absence of robust capacity, experience and skills), structural characteristics of the firm including age and size of the firm, firm strategy (adoption of technology, market positioning and industry collaboration) as well as demand conditions that subsist in the macro-environment.

The study found that managerial and entrepreneurial skills plays a critical role in the growth of business incubators as majority of the respondents indicated that managerial capacity to manage the incubation centres, stakeholders and the incubated clients was a challenge for them. These findings are consistent with those of (Lose & Tengeh, 2015).

The study found that government owns about one third of the incubators in Nairobi County with the main motivation for government owned incubators being to create partnerships with universities and private entities in creating an enabling environment for SME growth. Furthermore

the intensity of collaboration was not found to be skewed towards government and government agencies, with each of the three ownership categories enjoying a third of the activity. These findings represent a healthy environment for broad based growth of the business incubation ecosystem in contrast with the findings of Timm (2012) in Malaysia where government ownership and participation in the sector was found to crowd out other players thus promoting growth in areas 'politically correct' with the government of the day. On the other hand government in action can also have a negative effect on growth of business incubators as Akcomak (2009) found to be the case in India.

5.2.3 Nature of collaboration in the business incubation industry in Nairobi

Most of the firms interviewed (82%) perceived that collaboration in the business incubation industry was generally growing. Part of this growth was attributed to growth in the industry itself which has brought more actors in academia and private sector into the industry while others attributed it to the growing awareness about business incubation services.

The most common forms of collaboration emerged as; the sharing of information the sharing of resources & ideas, partnering on programs & initiatives and the exchange of inputs in some cases. Most respondents indicated that these activities were achieved through holding of meetings and forums. These are consistent with the arguments of Sorenson et al (2008) that parties pursue mutual goals through information sharing and exchange of resources. Simatupang & Sridharan (2004) identified three facets of collaboration namely; information sharing, decision synchronization through joint decision making and operational planning. Lastly they identified incentive alignment whereby parties shared the costs, risks and benefits of the collaborative efforts. In this study however we did not find evidence of decision synchronization and incentive alignment leading to the conclusions that collaboration among incubators in Nairobi was at its infancy.

In terms of the intensity of collaboration, 65% of the respondents indicated that they collaborated on a monthly basis while only 25% indicated as collaborating on a daily & weekly basis. Further participants indicated growing complexity in their collaboration initiatives as indicated by growing number of forums involving multiple stakeholders, increasing sharing of information & resources, some integration of value chain activities in pursuit of common aims, formation of strategic alliances to increase survivability and capacity development for individual incubators. When these levels of collaboration intensity and complexity are viewed against the collaboration continuum

proposed by Austin (2000) we can conclude that the nature of collaboration among incubators in Nairobi is in the Transactional phase which is characterised by reciprocal exchange of more valuable resources through specific activities and far from the highest level of transformative collaboration where there is mutual co-creation of value aimed at creating transformation at the societal level.

5.2.4 How industry collaboration has affected the growth of business incubators

Business incubators indicated that they had experienced both vertical and to an extent horizontal growth brought about through collaboration with other players in the business incubation industry. This growth was facilitated through transfer of knowledge, through building the capacity of incubators to diversify their product offering and/or improve their processes, by overcoming barriers to growth for instance raising of capital and championing of common interests. These findings were consistent with Buys & Mbewana (2007) who found that through collaboration firms can improve their institutional capacity to support small business development through the efficient use of local resources and generation of new ones. They also confirm the findings of Akcomak (2009), Timm (2012) who found that collaboration can accelerate technology development and commercialization as well as lower access costs for incubators

The role government plays in the growth of any industry is underscored by the fact that over 50% of the respondents indicated that they collaborate with the government and government agencies. In fact of the 9 firms that indicated to collaborate with government only 3 were government owned. We can therefore conclude that the government has played a key role in the growth of the business incubators in Nairobi given the central role they play in the collaboration space.

On the other hand the finding that only 3 out of the 17 firms responded as having collaboration with other incubators was very telling. This has to be viewed in light of the rating on competition in the industry as moderate to high by all respondents. This suggest that players in the industry have taken an adversarial stance to each other and are reticent to collaborating, which in turn could have slowed down the rate of growth in the industry. This approach could be informed by the fact that business incubators in Nairobi are relatively young and they need to promote self-preservation through attracting candidates with the highest chances of doing well and graduating and are able to pay for some of the services in the meantime. This is consistent with the findings of McAdam & Marlow (2007) who observed that although the incubators facilitated networking, which was

valued by clients there were suspicions about networking with fellow entrepreneurs given the vulnerability of intellectual property and fragile relationships with investors.

From the foregoing it is apparent that collaboration has indeed been a catalyst for growth amongst business incubators in Nairobi County and more-so so because if the nascent stage of this industry. Growth flows from the fact that by developing relationships firm have access to resources and business opportunities brought by counter parties. This corroborated the findings of Sorenson et al (2008) growth through collaboration occurs from access to external resources and competences. Furthermore as reported by Duff (1995) collaborating with firms that have expertise in certain fields could help incubator managers supplement their skills and field of knowledge.

5.3 Recommendations

Appreciating that the incubation industry in Nairobi is at its infancy going by the age of majority of the firms, the main recommendation of this study is that industry players need to foster collaboration between different actors as a sustainable strategy for the growth of the industry.

The study found that most collaborative efforts were superficial with little evidence of decisions synchronization and incentive alignment. To fully benefit from the collaborative efforts, stakeholder need to develop the strategies and frameworks to increase the complexity and the frequency of collaboration as a way of promoting the profile of and growth in the industry.

Most incubator manages pointed out that deficiencies in human resource talent was a hindrance to the growth ambitions and this will be accentuated as the industry grows and incubators will require more capable hands to steward this growth. There is need therefore for incubation industry stakeholders, especially those in academy, to develop 'fit for purpose' capability programs that are tailored towards the peculiarities of the incubation industry and that serve the nurturing role incubators perform in moving entrepreneurial firms from ideas to viable enterprises.

Although the study did not conclude that government was emasculating other stakeholders in playing its roles within the business incubation space, there is however need for the government to continuously evaluate its role to ensure there is no creep of the crowding out effect, especially since national and county governments in Kenya are in a transition period where role sorts are still being defined and the risk of 'too much government' is amplified.

This study found that most incubators had not experienced horizontal growth. Therefore to enable broad based horizontal expansion there is need for the governments and other stakeholders to facilitate the creation of enabling factors to encourage geographical diversification of incubators

The study found that business incubators in Nairobi have taken an adversarial stance which could be hampering the realizable value from a taking a collaborative approach. It is therefore recommend that stakeholders device a mechanism for championing collaboration as a means value creation in the industry. One such initiative could be the revival of the industry association to act as moderator for quality of services, standardize pricing approaches as well as building capabilities of incubators thus levelling the playing field and promoting collaboration to offer value added services as the point of differentiation vs. price.

5.4 Limitations

The findings of this study and resultant generalization could be limited by the fact the study was focused on business incubators in Nairobi County to the exclusion of the rest of the country. The study used a qualitative design and as a result did not quantify the relationship between the variable which in turn could impact interpretation of the findings since they are assumed to carry equal weight. Furthermore because of the use of snowball sampling, there is the residual chance that participants did not volunteer an exhaustive list of incubators to be subjected to the study and could have missed especially new entrants into the industry that they were not aware of at the time. Lastly the findings could be limited to the extent that participants did not disclose material information as a result of confidentiality concerns.

5.5 Suggestions for further research

Based on the findings of the study, the following areas are suggested for further study;

There is opportunity to examine the factors that could be impeding collaboration between business incubators in Nairobi. The study found a reportedly low level of collaboration between business incubators with 3 out of 17 indicating some level of collaboration which was contrary to the high level of collaboration with other players in the industry i.e. government and universities. There is therefore the need to explore this phenomenon with the aim of identifying ways to bridge the gap and further promote collaboration and accelerate industry growth.

It was apparent from the study that there was lack of a robust incubation industry association that champions the interests of this nascent industry. It will be beneficial to the industry and academia to explore this gap, to understand factors that have led to the decline of the former association (BIAK) and suggest a roadmap for putting in place a strong lobby organization and also establish strategies of maintaining an up-to date database of business incubators in Kenya.

The study found that most of the business incubators were on the first stage of business incubator life cycle model, relying on a tenant model to generate revenues for sustenance. There is an opportunity therefore to study the operating environment and identify factors that could accelerate or hinder the transition to the second stage where incubators are focused on offering specialized value added services for specific industries to accelerate innovation and growth

Lastly there is the need to explore some of the factors that could be limiting the horizontal growth of business incubators in Nairobi and working with government (both national and county levels) to understand these barriers and to create an enabling political, legal, technological and socio-economic environment that will allow incubation spread into other parts of Kenya

5.6 Conclusion

Business incubators play a pivotal role in the survival and growth of the client firms they support and as such business incubators are an important tool for economic development. In order to effectively play their role business incubators must collaborate with other players in the business incubation industry and tap into their resources and capabilities. This study found that through such linkages business incubators in Nairobi have growth both vertically and horizontally through the transfer of knowledge and skills, building incubator capacity, development of new products and services, tapping into new customers and markets. However the study found that the business incubation industry in Nairobi was at infancy stages of development as such the levels of collaboration and growth were superficial. The imminent implication of these findings is that industry actors need to develop strategies that encourage industry collaboration as a sustainable growth strategy, promote a culture of collaboration as opposed to competition which is rampant in these early stages of industry growth as incubators 'fight' for clients and resources, develop the necessary human capital to suit the needs of the industry and continuously evaluate the roles of each of the actors to ensure they play a balanced role in the growth of the industry. This study concentrated on Nairobi County but even then there was a general lack of stylized data on the

number and coverage of business incubators which could affect the generalizability of this study to the rest of Kenya. Finally there are opportunities to further explore factors that could accelerate growth of the industry especially those that are limiting horizontal growth as well as understanding the role of an industry lobby organization and how to install one.



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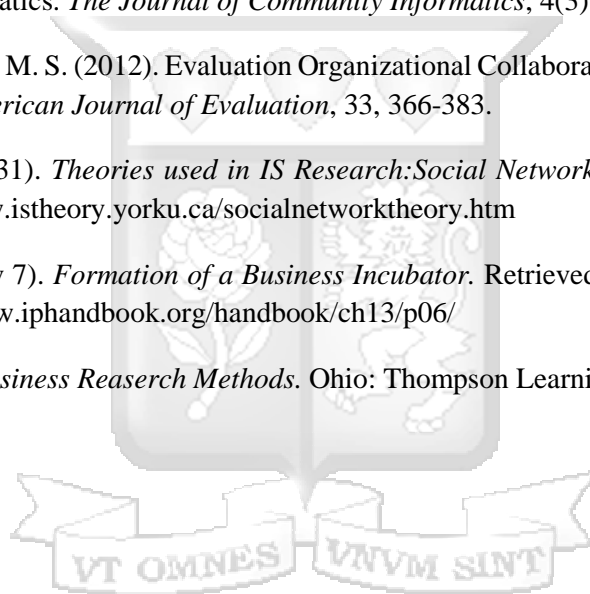
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APPENDICES

APPENDIX: INTERVIEW GUIDE

An interview guide to collect data and views on the research topic; “Evaluating how industry collaboration affects growth of business incubators in Nairobi County”

THE FIRM

1. *What is the name of your organization*
2. *For how long has your organization been involved in Business Incubation in Kenya?*
3. *What was the motivation for setting up of an incubation center?*
4. *Was this this original/first location of the incubations center?*
5. *How was the incubation center set up and who owns it?*
6. *What challenges did you face in the setting up the incubator?*
7. *What would you say were factors that enabled you in setting up the incubation center?*
8. *Do you have an expansion plan?*
9. *Who would you say are the major business incubators in the sector in Kenya?*
10. *Have these been the key players in the last 5 years or has this changed?*

11. Which if the following products and services are offered by your organizations

<i>Products / Services</i>	<i>Offers (tick)</i>	<i>How have these changed since inception?</i>
<i>Physical spaces</i>		
<i>Infrastructure and facilities</i>		
<i>Business Start-Up services</i>		<i>e.g. legal services, registrar services</i>
<i>Business Consulting</i>		<i>e.g. marketing, strategy, organization structuring</i>
<i>Training and Development</i>		
<i>Research and Development</i>		
<i>Product Marketing</i>		
<i>Business Networking services</i>		
<i>Financing & Investor linkage</i>		
<i>Others (specify)</i>		

12. How has your product portfolio changed since the formation of the Business Incubator?

13. What challenges have you faced in running the incubator?

14. How have these impacted on your ability to grow the Business Incubator?

COLLABORATION

15. Do you have a network for incubators in the country?

16. How would you describe the level of competition in the incubation industry?

17. In providing business incubation services, do you collaborate with other stakeholders in the business incubation sector?

<i>Industry Players</i>	<i>How Often</i>	<i>In what ways</i>
<i>Other Incubators</i>		
<i>Current & graduated firms</i>		
<i>Incubations clients</i>		
<i>Universities & research institutes</i>		
<i>Professional Firms</i>		
<i>Industry trade Unions</i>		
<i>Investors & Venture Capitalists</i>		
<i>Government Agencies</i>		
<i>Others (specify)</i>		
<i>Others (specify)</i>		

18. How would you rate the level of collaboration within the Business Incubation sector in Kenya?

19. How would you describe changes in the level of collaboration over time?

20. What are some of the factors that have contributed to the level of collaboration and in what ways?

21. Would you say the level of collaboration in the business incubation sector has impacted on the level of growth experienced by your organization and the incubation sector?