

# Role of Social Networks in University Based Business Incubators in Promoting Entrepreneurship Growth in Kenya

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### Abstract

Entrepreneurs are widely recognized as the prime movers of economic development; the people who translate ideas into action. The government of Kenya has initiated numerous programs and policies to support entrepreneurship growth in Kenya. For instance, it has undertaken policy reviews that have led to reduction of the required licenses to start and operate a business. It has initiated several monetary funds to assist entrepreneurs, particularly youth and women, obtain financing for their enterprises i.e. the Youth Enterprise Fund, Women Enterprise Fund and Uwezo Fund. Private sector players such as commercial Banks, Non-Governmental Organizations (NGOs), Microfinance Institutions (MFIs) and Savings and Credit Co-operatives Societies (SACCOs) among others have also come up with formal financial support schemes for entrepreneurs. However the start- up failure rate is still very high and the desired growth levels are yet to be achieved. Consequently some scholars and policy makers have turned to business incubators and particularly university based business incubators as a possible boost to entrepreneurship growth through nurturing start-ups. A major area in the operation of an incubator is the social networks created among incuatees themselves and other external parties outside of the incubator. Literature reviewed indicates that incubators play the role of networking facilitator. This study aimed to find out the role of social networks in university based business incubators on entrepreneurship growth in Kenya. The six active university based business incubators in Kenya were investigated with a specific focus on all the fifty nine graduated incubatees from the said incubators. Census technique was used given that the total number of all graduated incubatees (59) could be adequately studied. The study used 1 www.hrmars.com



a semi structured questionnaire as the main tool of data collection. A combination of tools was used to analyze the data because whereas some aspects of the study were qualitative others were of a quantitative nature. Quantitative data was analyzed using Statistical Package for Social Sciences (SPSS) Version 21 software through descriptive statistics; measures of central tendency (mean and mode), measures of dispersion (standard deviation and variance) and inferential statistics. Thematic analysis was used for qualitative data. The study found out that social networks have a significant positive effect on entrepreneurship growth. An improvement in social networks would lead to an 81% improvement on entrepreneurship growth. The study recommends that in order to create wider social networks for incubatees, university based business incubators need to reach out more to industry players and the already successful entrepreneurs.

**Key Words**: Business incubation, University based business incubator, Social network, Entrepreneurship growth

### 1.0 Introduction

As the Kenyan economy moves in the direction of entrepreneurial and technological development, the role of the university has diversified beyond traditional instructional and research missions. Commercial and political pressures coming primarily from outside universities seek to gradually adapt them into more flexible, economically responsive institutions. Universities play a significant role in establishing linkages with the industry so as to provide their faculty a platform to conduct research and an opportunity for their students to create jobs (Marwanga, 2009). Apart from assisting students who seek jobs, these universities also run business incubators to support students starting their own ventures. Lately, universities are having their own business incubators and encouraging enterprise development by using research leading to start-up and technology transfer, which is easily facilitated by university based incubators (Bathula, Karia& Abbott, 2011).

### 2.0 Statement of the Problem

Entrepreneurship growth is a very important component of social and economic development. It promotes capital formation and creates wealth in a country. It reduces unemployment and poverty and it's a pathway to prosperity (Kaiburi, Mobegi, Kombo&Sewe, 2012). Though Micro and Small Enterprises (MSEs) are the embodiment of entrepreneurship, past statistics indicate that the lower end Kenyan MSE employs 1-2 workers while over 70% employ only one person. The majority of MSEs are confined to subsistence and low value activities. Only a few MSEs grow to employ 6 employees or more (Kedogo, 2013). In 2014 the African Development Bank showed, using one-year growth rates in employment as a measure of firm growth, that only about 15% of MSEs in Africa, Kenya included, are high-growth firms. Further statistics show that three out of five business start-ups fail within the first few months of operation (Mwobobia, 2012). Other studies estimate that as many as 75% of small enterprises started in Kenya fail within three years of their birth. Indeed an enterprise that is more than three years old is regarded as having achieved some measure of success (Kaiburiet al., 2012). With the high



mortality of startups and sluggish growth of MSEs, the economy, in due course of time, will lose the benefits that could have been accrued from the survival and growth of these enterprises. Some scholars and policy makers have turned to business incubators and particularly university based business incubators as a possible boost to entrepreneurship growth through nurturing start-ups. A key are of focus in business incubators are the social networks created between the incubatees and other stakeholders. This study aimed to find out the role of social networks in university based business incubators on entrepreneurship growth in Kenya.

### 3.0 Literature Review

### 3.1 Theoretical Framework

This study is supported by the social capital theory. Social capital, broadly speaking, refers to social networks, the reciprocities that arise from them and their value within the business environment. According to Putnam (2000), it has "forceful, even quantifiable effects on many aspects of our lives" and it is more than just "warm, cuddly feelings or frissons of community pride." There are two theoretical models underpinning the concept of social capital: one led by Bourdieu, and the other by Putnam.

Bourdieu (1986) focused on the role played by different forms of capital in the reproduction of unequal power relations. Coleman (1990), however, took a more rational perspective and defined social capital by its function: "facilitate(s) certain action of individuals who are within the structure". According to him, there are three forms of social capital: (i) obligations and expectations which depend on the trustworthiness of the social environment; (ii) the capacity of information to flow through the social structure in order to provide a basis for action and (iii) the presence of norms. While both Coleman and Bourdieu saw social capital as an attribute of an individual, Putnam (1993) regards it as an attribute of a community. The latter believes that social capital stems from the networks, norms and trust that develop within a group, and provides the impetus to pursue shared objectives of all members belonging to that group.

According to Bourdieu (1986), just as access to economic capital brings certain privileges to a group or an individual, and cultural capital (e.g. familiarity with high art, literature, or manners) sets a group or individual apart from their less-privileged peers, social capital supplies the networks and connections that allow continued and future access to privilege. Likewise, Putnam (1993) compared social capital as connections among individuals to physical capital as physical objects and human capital as properties of individuals.

According to Fukuyama (1995) social capital and trust are integrated within an economic framework. Comparing the relative economic performance of different nations and cultures on the basis of levels of trust, he found that the level of trust inherent in a given society determines its prosperity and degree of democracy, as well as its ability to compete economically. The World Bank and the Organization for Economic Co-operation and Development (OECD) have also valued the concept of social capital. The OECD (2001) defines social capital as "networks together with shared norms, values and understandings that facilitate co-operation within and among groups". The World Bank (1999) further argues that social capital is not the institutions, relationships, and norms that shape the quality and quantity of a society's social interactions; rather it is the glue that holds them together.



However, social capital could also be detrimental to the society (Adler & Kwon, 2002). This is because stronger actors, who possess the informational advantage, may keep the weaker parties excluded from their network, downplay social norms, and restrict individual freedom (Portes, 1998). Similar drawbacks of social capital have also been discussed by Halpern (1999) when a social network does not constitute a social good. Thus, social capital may lead to nepotism, injustice and corruption.

There is, more recently, a growing belief that small firm growth is more of a co-operative challenge for entrepreneurs than was originally thought – one that depends on social networks, rather than being a purely individual and competitive act (Grimaldi&Grandi, 2005). Acknowledging that some form of interdependency exists between entrepreneurial success and social networks partly explains why political intervention has been directed at encouraging a host of business start-ups and business incubation, and why publicly supported business incubators and science parks are promoted as tools for economic development via networks of entrepreneurs (Jørgensen, 2011).

### 3.2 Social Networks in University Based Business Incubators

Early studies on business incubators focus mainly on the effects of physical proximity, economies of scale, and cross-fertilization between incubated firms and provide evidence that firms use incubators as an internal market place for subcontracting or purchasing goods (Hackett &Dilts, 2004). More recently, attention has shifted toward so-called networked incubators (Bøllingtoft&Ulhoi, 2005; Hansen, Chesbrough, Nohria&Sull, 2000; McAdam& Marlow, 2007; Tötterman&Sten, 2005). Most of these studies show which tools managers of business incubators have at their disposal to facilitate and foster the formation of networks, not only among entrepreneurs that are co-located in incubators but also between entrepreneurs in incubators and external business partners (Hansen *et al*, 2000; Tötterman&Sten, 2005).

Both network and entrepreneurship researchers have emphasized the importance of interpersonal ties—especially those with relevant people outside academia (Nicolaou&Birley, 2003; Shane, 2004). In this respect, people involved in university based business incubators start out with interpersonal networks that are primarily academic in nature; if they do not invest in ties with the industrial and financial world, industry representatives and investors are likely to consider them as academic ventures rather than real companies (Bekkers, Gilsing, & Van der Steen, 2006; Vohora, Wright, & Lockett, 2004).

Drawing on social capital theory, Nicolaou and Birley (2003) argued that networks around new ventures have four potential benefits. First, networks augment the opportunity identification process, as it enhances the entrepreneurs' recognition capabilities because entrepreneurs can discover the opportunity through the right personal contact. Second, networks provide access to resources. Third, networks engender timing advantages, because the entrepreneur is able to know and use opportunities quicker. Fourth, a network such as the incubator network constitutes a source of trust and credibility with regard to the start-up company, because these network partners are credible organizations that back the start-up (Nicolaou&Birley, 2003). Because of these benefits, the establishment of a network is closely related to the success of the start-up (Hackett &Dilts, 2004).



According toMcAdam and Marlow (2007) the role and value of networking in the entrepreneurial process lay in the supply of new ideas and information, which then supports the survival and growth of the venture. They argued that networks perform four key roles: (1) the provision of access to new ideas and resources that underpin entrepreneurial activity; (2) they facilitate the achievement of credibility through the formation of alliances with existing incumbents; (3) networks are utilized in order to share and create knowledge and learning; and (4) new networks also develop to connect the various relationships, which in turn facilitate the achievement of entrepreneurial goals and enterprise growth (McAdam& Marlow, 2007).

Business incubators can be seen as attempts to address market failures and the problem of a three-dimensional liability of newness' (McAdam& Marlow, 2007). One dimension relates to administrative support, the second dimension relates to age and related lack of visibility in the market and the third relates to being on your own versus being in a 'community'. They also provide evidence that (1) close physical proximity (e.g. being located on the same floor) plays a vital role in networking; (2) nurturing social capital needs some kind of investment and "some of the primary costs are paid for in the form of time invested in social activities and 'small talk'", (3) in networked incubators the line of demarcation between 'private' and 'business' is increasingly blurred and (4) unless the importance of social networks is addressed, it may be difficult to realize the full potential of business incubators (McAdam& Marlow, 2007).

According to Bøllingtoft (2012) all nascent entrepreneurs draw upon their existing social networks and construct new ones in the process of obtaining knowledge and resources for their organization. Incubators can possibly fill in for an entrepreneur's impoverished network. On the other hand, a network made up of homogeneous ties will be of limited value to a nascent entrepreneur. As ties to the same kinds of people accumulate, the marginal value of each succeeding drops (Bøllingtoft, 2012).

Grimaldi and Grandi (2005) argued that when it comes to the flow of information the strength of ties is less important than whether they are non-redundant with other ties. This implies that being tied to a broad based loosely connected network is of great importance to entrepreneurs. In social network terms brokers are actors who facilitate links between persons who are not directly connected. Grimaldi and Grandi (2005) propose that incubators can also be viewed as brokers. This resonates with the idea that a huge part of the value of the incubator is its role as an intermediary to a much larger set of networks.

Lyons (2002) has divided networks that encompass an incubator into two different categories, these are internal and external. Moreover, Lyons (2002) stresses that the most important service offered by an incubator is the opportunity for (internal) networking among tenant companies. Therefore, tenants tend to use incubators to facilitate relationships with other incubator residents. In practice, these relationships may involve formal or informal partnerships, joint ventures, buy from/sell to relationships, bartering, or basic information exchanges (Lyons, 2002). Lyons points out that the fact that the tenants companies all operate under the same roof makes collaboration much more likely (Lyons, 2002). Similarly, co-located entrepreneurial firms provide the possibility to generate a symbiotic environment where entrepreneurs share resources and experiences, learn from one another, exchange business contacts and establish collaborative business relationships (Bøllingtoft, 2012).



An incubator and its external networks are useful to social capital building because they link client tenants with service providers and with other local businesses for partnership purposes (Lyons, 2002). More particularly, Bøllingtoft, (2012) describes an incubator's external networks as consisting of individuals drawn from the ranks of professional business service providers as well as experienced business people and educators who are willing to provide advice and assistance to entrepreneurial enterprises. Further review of literature (McAdam&McAdam 2006), it is noted that firms naturally develop their networks through two mechanisms, self-organized networks or through networks they are directed to by business incubator management personnel.

# 3.2.1 Strength of Ties

Ebbers (2013) makes a distinction between weak and strong ties among persons. Weak ties such as acquaintances are more likely to be sources of novel information and opportunities such as job openings. Strong ties such as family members are characterized by emotionally close relationships, high trust, and joint problem solving. In entrepreneurship, there is also an extensive stream of research on the effects of social networks. For example, strong ties such as family members and close friends are important in the early phase of setting up a new venture (Greve&Salaff, 2003) because they provide low-cost access to critical resources (Ebbers, 2013). Weak ties such as acquaintances, on the other hand, are more important for identifying opportunities (Elfring&Hulsink, 2003) and making the new venture profitable within a short period of time (Davidsson&Honig, 2003).

Strong ties are associated with the exchange of fine-grained information and tacit knowledge, trust-based governance, and resource cooptation (Ebbers, 2013). Their advantages are different from the benefits generated by weak ties. Weak ties are beneficial as they provide access to novel information as they offer linkages to divergent regimes of the network (Grimaldi&Grandi, 2005). They conclude that a key issue in the determination of network benefits is the search for the optimal mix of strong and weak ties. According to Bøllingtoft (2012), entrepreneurial networks can be categorized into two types derived from different sources: informal and formal. Informal entrepreneurial networks consist of personal relationships, families, and business contacts. Formal networks consist of venture capitalists, banks, accountants, creditors, lawyers, and trade associations.

In a business incubator setting, some researchers have found that ties among tenants are weak and mainly characterized by information exchange instead of contractual relationships, possibly because of the large degree of diversity among the activities of tenants (Tötterman&Sten, 2005). In addition, it should be noted that entrepreneurs are at times also suspicious and cautious in their networking behavior within incubators in order to protect their business ideas and valuable relationships with investors (McAdam& Marlow, 2007).

### 3.2.2 Internal and External Networks

According to Ebbers (2013) by being located on the same site, a symbiotic environment can be established where firms share experiences, exchange business contacts or establish collaborative projects as well as sharing the use of equipment or research facilities. Collaborations enable firms to utilize the existing expertise or technology of other firms. Incubator firms may also gain access to resources from their external networks. These might 6



consist of researchers from research institutes or academics from universities, who are willing to provide advice and assistance. Ideally, incubators need to add value by bringing together a comprehensive array of networks with knowledge sources to match the needs of firms. Collaborations with universities, research centres or other knowledge-based institutions enable firms to enjoy economies of specialization, without the prior investments often needed for internal development (Tötterman&Sten, 2005).

Within business incubators, the external and internal networks developed may be different from firm to firm: each firm can have unique resource needs (Colombo, Mustar& Wright, 2010). The need for tangible and intangible resources can be different from firm to firm (Colombo *et al.*, 2010). Tangible resources include financial assets and physical assets. Intangible resources are assets which include intellectual property assets, organizational assets (Fernandez, Montes & Vazquez, 2000), reputational assets and skills/capabilities (Roberts & Dowling, 2002).

# 3.3.3 Frequency of Interaction

Literature supports the idea that what matters in the process of founding a new organization is the size of the subset of people who are in some way involved with the entrepreneurs in founding it (Colombo, et al., 2010). Yet an extended network must still process a great number of transactions in order to start up a new high-growth organization. McAdam and Marlow (2007), report a positive relationship between the average number of times per week that entrepreneurs contact their network members and the creation of a new venture. They argue that the frequency of communication linkage use is expected to be positively related to new-venture initial growth. These contributions suggest that the "frequency of interaction" between the founding team and external agents is a factor related to new-venture success.

### 4.0 Methodology

The study adopted a descriptive survey research design. Cooper and Schindler (2011) define research design as the plan and structure of investigation so conceived as to obtain answers to research questions. The population of this study comprised of all the 59 university based incubators' graduates in Kenya. The study adopted a census approach. For all incubators all the graduated incubatees were taken as part of the sample. This is considering that the incubators have so far, a fairly manageable number of graduated incubatees that would adequately be studied within the constraints of this study.



Table 1: Sample Size and Distribution

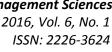
No	Host University	Incubator	Number of Graduated Incubatees
1	Strathmore University	@iBiz Africa	10
2	Kenyatta University	Chandaria Business Innovation and Incubation Centre	25
3	University of Nairobi	C4D Lab Centre	6
4	Mount Kenya University	Business Incubation Centre	6
5	Technical University of Kenya	Business/ Technology Incubation Unit	7
6	Kenya College of Accountancy University	KCA Business Incubator	5
	TOTAL		59

Primary data was collected by use of self-administered semi structured questionnaires. In this study, pre-testing was conducted from among current incubatees of the identified incubators who were at an advanced stage of incubation. A total of six (6) respondents were randomly chosen (one from each university based business incubator) for pre testing. These pilot respondents had close characteristics as the study's population. Split-half technique was used to assess the reliability of the instrument. The validity of the questionnaire was determined using construct validity method. Construct validity is the degree to which a test measures an intended hypothetical construct (Mugenda, 2011). Using a panel of experts familiar with the construct is a way in which this type of validity can be assessed. The experts can examine the items and decide what that specific item is intended to measure (Mugenda, 2011).

A combination of tools was used to analyze the data because whereas some aspects of the study are qualitative others are of a quantitative nature. Data was cleaned, coded and, where necessary, quantified for appropriate analysis. Qualitative data was analyzed using the Statistical Package for Social Sciences (SPSS) Version 21 and Microsoft Excel software through descriptive statistics; measures of central tendency (mean and mode), measures of dispersion (standard deviation and variance) and inferential statistics. Thematic analysis was used for qualitative data. According to Mugenda (2011) qualitative data analysis seeks to make statements on how categories or themes of data are related.

### 5.0 Findings

As part of the objective, the study looked into nature of the networks, whether internal or external, strength of ties, whether strong or weak, and frequency of interaction, whether frequent or rare. The study had an overall response rate of 79.66%. Babbie (2004) asserted that





return rates of above 50% are acceptable to analyze and publish, 60% is good, 70% is very good while above 80% is excellent.

A majority (46.8%) of the respondents held meetings weekly with incubator manager/staff, 19.1% of the respondents held brainstorming meetings monthly, 14.9% of the respondent held meetings bi-weekly, 12.8% never held such meetings with incubator managers, 4.3% of respondents held such meetings quarterly while the remaining negligible 2.1% of the respondents held such meetings daily with incubator manager/staff. None of the respondents held brainstorming meetings annually or bi-annually with incubator manager/staff. The frequency of interaction between the founding team (entrepreneurs) and external agents is a factor related to new-venture success (McAdam& Marlow, 2007). In total a majority 82.9% of the respondents held such meetings at least once a month. This is a relatively longer period than the one week period found by McAdam& Marlow, (2007). This implies there are fairly frequent meeting between incubatees and incubator manager/staff in university based business incubators which encourages information exchange.

Respondents were requested to describe their relationship with various internal and external incubation stakeholders. The relationships were to be described as either strong, weak or non-existent. A majority 87.2% of respondents said they considered their relations with fellow incubatees as strong. While in the incubator the incubatees share a lot of physical facilities and working layout in all the incubators investigated in this study is that of shared work stations which leads to close physical proximities between the incubatees. Studies provide evidence that close physical proximity (e.g. being located on the same floor) plays a vital role in networking (McAdam& Marlow, 2007). Moreover, Lyons (2002) stresses that the most important service offered by an incubator is the opportunity for (internal) networking among tenant companies. However, the finding is against that of Tötterman&Sten, (2005) found that ties among tenants are weak and mainly characterized by information exchange instead of contractual relationships, possibly because of the large degree of diversity among the activities of tenants. In addition they noted that entrepreneurs are at times also suspicious and cautious in their networking behavior within incubators in order to protect their business ideas and valuable relationships with investors (Tötterman&Sten, 2005).

A simple majority of 59.6% of respondents said they had strong relations with the incubator manager/staff. This finding disagrees with that of Honig(2001) who found ties between incubated firms and incubator management to be weak and infrequent. A majority 55.3% of respondents said they had weak relations with the host university's academic staff while 27.7% said they had strong relations with host university's academic staff. In total 83% of the respondents had a relationship, strong or weak, while a small 17% of respondents said they had no relations with the academia staff. The finding is supported by Bekkerset al., (2006) who note that entrepreneurs involved in university based business incubators start out with interpersonal networks that are primarily academic in nature prior to forming non-academic networks. This study however notes a majority of those relationships are weak.

A simple majority of 53.2% said they had weak relations with external industry players such as experienced competitors, financiers, professional organizations and government bodies. The www.hrmars.com



findings are against those of Greveand Salaff (2003) who noted that incubatees need to have strong relations with such external industry players as they provide low-cost access to critical resources. A majority 51.1% of respondents said they had strong relations with external business mentors. One of the key aims of incubation is to provide mentorship (Xu, 2010) and therefore having a majority of incubatees having strong relationship with external mentors implies that the incubators are attaining their aims.

The main benefit obtained by respondents from fellow incubatees is that of new business opportunities (55.3%). The findings are in agreement with that of Bøllingtoft (2012) who noted that co-located entrepreneurial firms provide the possibility to generate a symbiotic environment where entrepreneurs share resources and experiences, learn from one another, exchange business contacts and establish collaborative business relationships. The findings also showed that the main benefits incubatees obtained from incubator managers were stronger credibility (38.3%), new business opportunity (31.9%) and financing at 19.1%. The findings agree with those of Tamásy (2001) who notes that the incubator and incubator management takes the position of an intermediary, helping the tenants to establish contacts to incubator external actors and to gain access to their resources and knowledge. This includes access to a wide network of specialized service providers and financial institutions (e.g., banks, venture capitalists) among other actors. The benefit of stronger credibility was also mentioned by McAdam&McAdam (2007) as a key benefit that incubatees obtain from the incubator and its managers.

The main benefits incubatees gain from association with academic staff of host universities are stronger credibility (40.4%) and new business opportunity (19.1%). Academic staff members are taken to be repositories of knowledge and expertise (ILO, 2000) and perhaps the reason as to why an association with them will bring along positive reputation beyond the fact that they are sources of information on opportunities.

External industry players such as experienced competitors, financiers, government bodies and professional bodies were mentioned to present new business opportunities (29.8%), new business contacts (19.1%) and stronger credibility (19.1%) as their greatest benefits to incubatees. Similar benefits were mentioned by Nicolaou&Birley (2003) proposed that external networks around new ventures have several potential benefits. First, networks augment the opportunity identification process, as it enhances the entrepreneurs' recognition capabilities because entrepreneurs can discover the opportunity through the right personal contact. Second, networks engender timing advantages, because the entrepreneur is able to know and use opportunities quicker.

New business contacts (36.2%) and new business opportunities (21.3%) came out as the greatest benefits presented by external business mentors to incubatees. Mentors are normally more experienced and successful compared to mentees and they tend to have more contacts some of which they share with their mentees. As noted by Nicolaou&Birley (2003) through the right personal contact (in this case mentors), an entrepreneur can identify new business opportunities.

The study found out that social networks influence business success with a majority 66% agreeing with this view and a further 31.9% strongly agreeing with the statement. This finding 10 www.hrmars.com



collaborate the various social capital theories discussed earlier. A majority of respondents also agreed that the number of social ties one has influences business success (51.1%), the variety of social networks one has influences his business success (63.8%) and the more frequently you engage/interact with your social network influences your business success (51.1%). The findings are in agreement with existing literature on social networks and entrepreneurship. For example Colombo, et al., (2010) what matters in the process of founding a new organization is the size of the subset of people who are in some way involved with the entrepreneurs in founding it. While emphasizing on the need to have a variety of relations/networks Bøllingtoft (2012) notes that a network made up of homogeneous ties will be of limited value to a nascent entrepreneur. As ties to the same kinds of people accumulate, the marginal value of each succeeding drops (Bøllingtoft, 2012).McAdam and Marlow (2007), report a positive relationship between the average number of times per week that entrepreneurs contact their network members and the creation of a new venture. They argue that the frequency of communication linkage use is expected to be positively related to new-venture initial growth.

A majority of respondents (55.3%) agreed to the statement that university based incubators help in expanding incubatees' social networks. A further 34% strongly agreed with the statement. This finding support those of Hansen *et al.*(2000) and Tötterman and Sten (2005) who noted that one of the key role of business incubators is to facilitate and foster the formation of networks, not only among entrepreneurs that are co-located in incubators but also between entrepreneurs in incubators and external business partners. Most (57.4%) of respondents agreed with the statement that businesses that are closely located (physically) to one another are likely to trade among themselves. A further 40.4% of respondents strongly agreed with this statement. Incubated firms use incubators as an internal market place for subcontracting or purchasing goods (Hackett & Dilts, 2004).

As to whether incubatees are likely to steal each other's business idea while in incubation, a majority 48.9% agreed that this was likely while a further 40.4% strongly agreed with this likelihood. Perhaps this possibility will function to limit the degree of interaction and sharing among fellow incubatees thereby curtailing the benefits that such networks among incubatees would have brought forth. A majority 55.3% of respondents agreed that incubatees have more academic connections than industry connections with a further 29.8% strongly agreeing with the statement. This finding supports that of Bekkerset al., (2006) who noted that people involved in university based business incubators start out with interpersonal networks that are primarily academic in nature.

5.1 Relationship Between Social Networks in University Based Business Incubators and Entrepreneurship Growth in Kenya

The results presented in Table 2 present the fitness of model used of the regression model in explaining the study phenomena. Social networks explained 29.6% of variation in entrepreneurship growth in Kenya.



Table 2 provides the results on the analysis of the variance (ANOVA). The results imply that there is significant relationship between social networks and entrepreneurship growth in Kenya. This was supported by an F statistic of 18.95 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance levels. This result indicates that the overall model fitted on the data is statistically significant.

**Table 2: Analysis of Variance** 

		Sum Squares	of df	Mean	Square F	Sig.
1	Regression	6.422	1	6.422	18.950	.000 <sup>b</sup>
	Residual	15.250	45	.339		
	Total	21.672	46			
	R=.544 <sup>a</sup>	R-Square=.296	Adjusted I	R-Square=.281	Durbin-Watson=1.	570

The result in Table 3, the specific model was; Y=7.478+0.810X1 Where X1is social networks and Y is entrepreneurship growth. These results indicate that social networks have a significant positive effect on the entrepreneurship growth. This implies that a unit increase in social networks will lead to 0.81 improvement in entrepreneurship growth.

**Table 3: Regression of Coefficient** 

		В	Std. Error	Beta	t	Sig.
1	(Constant)	7.478	.803		9.314	.000
	Social networks	.810	.186	.544	4.353	.000

## **6.0 Conclusion and Recommendations**

The study found out that social networks have a significant positive effect on entrepreneurship growth. An improvement in social networks would lead to an 81% improvement on entrepreneurship growth. Resources and opportunities are transmitted through the network of people an entrepreneur is connected to. The more the variety of relations and the higher the frequency of interaction with associates the better for entrepreneurship growth. In order to create wider social networks for incubatees, university based business incubators need to reach out more to industry players and the already successful entrepreneurs. The incubators need organize more workshops and seminars which will serve to create a platform for contact between incubatees and these external parties. Specifically, incubators need to create close links with financial institution so as to avail funds to incubatees.

### References

Adler, P. & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, 27(1), 17–40.

Babbie, E. (2004). The practice of Social Research. Belmont, BC: Wadsworth.



- Bathula, H., Karia, M., & Abbott, M. (2011). The Role of University-Based Incubators in Emerging Economies. Working Paper No. 22
- Bekkers, R., Gilsing, V., & Van der Steen, M. (2006). Determining Factors of the Effectiveness of IP Based Spinoffs: Comparing the Netherlands and the US. *Journal of Technology Transfer* 31(5):545–566
- Bøllingtoft, A. (2012). The bottom-up business incubator: Leverage to networking and cooperation practices in a self-generated, entrepreneurial-enabled environment. *Technovation*, 32(5), 304-315.
- Bøllingtoft, A., & J.P. Ulhøi (2005). The networked business incubator-leveraging entrepreneurial agency. *Journal of Business Venturing* 20(2): 265–290.
- Bourdieu, P. (1986). *The forms of capital*.In J. G. Richardson (Ed.), Handbook of theory and research in the sociology of education. New York: Greenwood Press.
- Coleman, J. S. (1990). Foundations of social theory. Cambridge, UK: Harvard University Press.
- Colombo, M., Mustar, P., & Wright, M. (2010). Dynamics of science-based entrepreneurship. *Journal of Technology Transfer*, 35(1), 1–15.
- Cooper, D.R., & Schindler, P.S. (2011). *Business research methods*, (11th, ed.). New Delhi: McGraw-Hill Publishing, Co. Ltd.
- Davidsson, P. &Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18(3), 301–331.
- Ebbers, J. (2013). Networking Behavior and Contracting Relationships Among Entrepreneurs in Business Incubators. *Entrepreneurship Theory and Practice*
- Elfring, T. &Hulsink, W. (2003). Networks in entrepreneurship: The case of high-technology firms. *Small Business Economics*, 21(4), 409–422.
- Fernandez, E., Montes, J. M., & Vazquez, C. J. (2000). Typology and strategic analysis of intangible resources: A resource-based approach. *Technovation*, 20, 81–92.
- Fukuyama, F. (1995). *Trust: The social virtues and the creation of prosperity*. London: Penguin Publications.
- Greve, A. &Salaff, J.W. (2003). Social networks and entrepreneurship. *Entrepreneurship Theory* and *Practice*, 28(1), 1–22.
- Grimaldi, R. & Grandi, A. (2005). Business incubators and new venture creation: an assessment of incubating models. *Technovation*, 25(2): 111-121.
- Hacket, S.M. &Dilts, D.M. (2004). A systematic review of business incubation research. *Journal of Technology Transfer* 29(1): 55–82.
- Halpern, D. (1999). *Social capital: The new golden goose*. Unpublished review of Faculty of Social and Political Sciences, Cambridge University, Cambridge.
- Hansen, M.T., Chesbrough, H.W., Nohria, N., &Sull, D.N. (2000). Networked incubators: Hothouses of the new economy. *Harvard Business Review*, 78(5), 74–84.
- Honig, B. (2001). Human capital and structural upheaval: A study of manufacturing firms in the West Bank. *Journal of Business Venturing*, 16, 575–594.
- Jørgensen, S.B. (2011). *Literature review of business incubation*. Paper presented at the 6<sup>th</sup> European Conference on Entrepreneurship and Innovation (ECEI), University of Aberdeen, Aberdeen, 15-16 September.



- Kaiburi, S., Mobegi, O., Kombo, A., Omari, A. &Sewe, T. (2012). Entrepreneurship Challenges in Developing Economies: a case of Kenyan Economy. *International Journal of Arts and Commerce* Vol. 1 No. 4
- Kedogo, B.K. (2013). Factors Influencing Growth and Development of Small and Medium Enterprises in Kenya, A Case of Huruma Division, Nairobi County. Unpublished Thesis. University of Nairobi.
- Lyons, T. S. (2002). Building Social Capital for Sustainable Enterprise Development in Country Towns and Regions: Successful Practices from the United States. Paper presented in Conference on the Future of Australia's Country Towns. Bendigo: Australia. October, 2001.
- Marwanga, R.O.(2009, September). *Technology and Business Incubation Technology and Business Incubation for Entrepreneurship in Kenya*. Paper presented at the 10<sup>th</sup> Annual ICT Conference, Strathmore University, Kenya.
- McAdam, M. & Marlow, S. (2007). Building Futures or Stealing Secrets? Entrepreneurial Cooperation and Conflict Within Business Incubators. *International Small Business Journal* 25(4): 25–42.
- McAdam, M., &McAdam, R. (2006). The networked incubator: the role and operation of entrepreneurial networking with the university science park incubator (USI). *The international Journal of Entrepreneurship and Innovation*, 7(2), 87–97.
- Mugenda, A.G. (2011). Social science research; theory and principles. Nairobi: Act Press.
- Mwobobia, F. (2012). The Challenges Facing Small-Scale Women Entrepreneurs: A Case of Kenya. *International Journal of Business Administration* Vol. 3, No. 2
- Nicolaou, N. &Birley, S. (2003). Academic Networks in a TrichotomousCategorisation of University Spinouts. *Journal of Business Venturing* 18(3):333–359.
- OECD. (2001). *The well-being of nations: The role of human and social capital*. Paris: Centre for Educational Research and Innovation.
- Portes, A. (1998). Social capital: Its origin and application in modern sociology. *Annual Review of Sociology*, 24(1), 1–24.
- Putnam, R. D. (1993). *The prosperous community: Social capital and public life*.In E. Ostrom& T. Ahn (Eds.), Foundations of social capital (pp. 529–536). Cheltenham: Elgar.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.
- Roberts, P. W., & Dowling, G. R. (2002). Corporate reputation and sustained superior financial performance. *Strategic Management Journal*, 23, 1077–1093.
- Shane, S. (2004). Academic Entrepreneurship: University Spinoffs and Wealth Creation. Cheltenham, UK: Edward Elgar.
- Tamásy, C. (2001). Evaluating innovation centres in Germany: Issues of methodology, empirical results and international comparison. In Promoting local growth. Process, practice and policy, ed. D. *Felsenstein, and M. Taylor*, 109–126. Aldershot: Ashgate.
- Tötterman, H. &Sten, J. (2005). Start-ups: Business incubation and social capital. *International Small Business Journal*, 23(5), 487–511.



Vohora, A., Wright, M., and Lockett, A. (2004). Critical Junctures in the Development of University High Tech Spinout Companies. *Research Policy* 33(1):147–175.

World Bank. (1999). Bonds and bridges: Social capital and poverty. Washington DC.

Xu, L. (2010). Business incubation in China: Effectiveness and perceived contributions to tenant enterprises. *Management Research Review*. 33, 90 – 99.