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## **The Formation of Organizational Networks in Emerging Economy: the Case of Agribusiness Incubators**

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### **Introduction**

Incubation programs enable entrepreneurs, start-ups and SMEs with necessary resources to start and grow business projects and enterprises (Hackett and Dilts 2004; Phan et al. 2005). They are considered commercialization mechanisms and economic development tools (Bergek and Norrman 2008; Scillitoe and Chakrabarti 2010). Business incubators provide a set of services to the incubated enterprises such as provision of business assistance, technology, access to office space, financial resources and networks (Aaboen 2009; Bergek and Norrman 2008; Carayannis and von Zedtwitz 2005; Cooper et al. 2012; Hackett and Dilts 2004). The literature on incubation has shown that focus has shifted from a real estate provision to network access provision (Aernoudt 2004; Grimaldi and Grandi 2005; Hackett and Dilts 2004). Network access is argued to be one of the key services offered by an incubator to the incubated enterprises (Bøllingtoft 2012; Hansen et al. 2000; McAdam and Marlow 2008).

The role of the incubator is to act as a broker to facilitate the process of interlinking incubated enterprises with internal and external partners. Although, scholars have identified the positive effect of networks on obtaining access to resources and for creating an enabling environment for future incubated enterprises, the role of networks and networking has not yet been sufficiently addressed (Bøllingtoft 2012; McAdam et al. 2006).

Previous research has underestimated the benefits of networking activities provided to business incubators, since mainly the incubator manager perspective have been taken into account (European Commission 2002), and scholars have pointed out the need for more scientific research to understand the role of networks and networking in business incubators (Bøllingtoft 2012; Bøllingtoft and Ulhøi 2005). Researchers have addressed the role of networks from the incubatees' perspective. Hansen et al. (2000) introduced the term *networked incubator*. The authors found that this type of incubator was based on collaboration between incubated enterprises and other strategic organizations to require and access different types of resources. Bøllingtoft and Ulhøi (2005) and Bøllingtoft (2012) researched the networked incubator from a bottom-up approach. This type of incubator is established by incubated enterprises, and the focus is based on network activities among them. This model shows how incubated enterprises can collaborate in order to connect with external partners. Likewise, Grimaldi and Grandi (2005) introduced a new incubation model that focused on providing intangible and high-value services such as social capital and knowledge to incubatees. But none of these studies addressed emergence and formation of networks at the incubator level.

While attention has been devoted to networks and their critical importance for the success of the incubator (Bøllingtoft 2012; Hansen et al. 2000; McAdam and Marlow 2008), less attention

has been focused on how the networks are established, shaped and provided at the incubator level management. To shed light on this gap, we investigate the network formation during the establishment of an incubator by asking the following research question:

- *How is the internal network established among partners of the tripartite incubator?*
- *How is the inter-organizational network established based on partners' subnetworks?*

## **Material and Methods**

The research design is based on a cross-sectional descriptive multiple-case study. Semi-structured interviews and networking survey was employed as research strategy. Secondary data were consulted as well. Face-to-face interviews are carried out with representatives from universities, research organizations and private sector partners in each agribusiness innovation incubator consortia (AIICs). Interview questions derived from the theoretical framework and addressed the following topics: prior relations among public and private partners; type of connections (ties); the process of the partnership formation; challenges faced; organizational configuration, and formalization and registration of the incubator. The interviews lasted 1½-2 hours, and were recorded and transcribed. Data analysis was supported by NVivo10 software and based on open coding (Strauss and Corbin 1998) and based on a set of basic network constructs identified in the literature (Eisenhardt 1989). The survey design and analysis addressed the incubator network formation and the questionnaire design was based on a free recall format. The Unit of analysis encompassed main representatives from university, research organization and private business, and the structural data was analyzed at the ego-centered level Two-mode network matrices are constructed & exported to UCINET. The Sociograms are elaborated using the Netdraw. We have measured the network size and the diversity of relations (Knoke and Yang 2008; Scott 2013; Wasserman and Faust 1994).

In the analysis we identified relevant sequences of information to delineate concepts related to the internal networking of partners. The concepts were grouped into sub-categories that were subsequently classified into categories. This iterative process facilitated and enhanced the analysis' quality. We looked for commonalities and differences within and across cases to be able to draw conclusions.

## **Results and Discussion**

### **Internal business incubator network**

The development of the four partnerships was largely based on prior established contacts that university partners had. They turn to people based on previously and current relationships. The universities in the African settings have been collaborating with the research organizations for many years and maintained connections with these partners, e.g., on previous and actual research projects, exchange of knowledge and student attachments. Consequently, the creation of partnerships and establishment of the business incubators was mainly initiated by the academic members (Case 1; Case 2; Case 3) who invited research organizations partners and private companies on board. These relationships were largely based on previous personal connection, e.g., former student who had become entrepreneurs, (Case 3; Case 1); prior collaboration on business issues (Case 3), former colleague (Case 2), on-going collaboration and student attachment with the private company (Case1), former workplace (Case 1, Case 2). Only in one case, a business company engaged in the formation of the partnership after it had been employed as a private consultant to revise the business plan for the incubator (Case 2).

The internal networking of BI is largely based on embeddedness of partners in their social network with already known actors. University partners turn to people based on previously and current relationships. Previous informal relations among partners became formalized when the

business incubator was established. The formalization of the relationship and the establishment of bridges between the public and private partners, the strength of ties, frequent negotiation and substantial number of meetings had the following influence. First, frequent communication and number of meetings among the partners of the incubator increased the likelihood of accessing, sharing and exchanging information and knowledge among each other. Second, trust built among partners impacted and enhanced the networking and, therefore, the problem solving necessary for the establishment of business incubators. Also partners distributed work tasks between the public and private partners based on the comparative advantage of each partner, e.g., letting the business partners lead on developing the business plan. We propose the following.

*Proposition 1: Incubator partners depend on strong ties during the creation and implementation of a business incubation program*

The networking survey of the four cases, show that partner's relational form is based on strong ties. The empirical evidence reveals uniformity in terms of relational content. The majority of linkages that partners expect to draw on are identified as 'business' ties. Partners considered strength of relations based on prior contractual agreement, current MoUs, joint projects, previous collaborations, & group membership. Tie strength is not simply related to intimacy that partners of the incubator have with family and friends, but also with other types of ties such as business, advice and professional ties. We propose the following.

*Proposition 2: The strength of the ties does not depend on the type of the relations those partners of incubator possess.*

### **Inter-organizational network establishment**

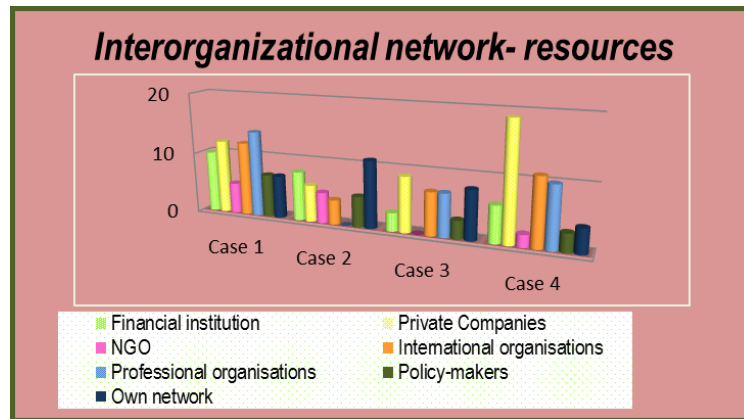
Partners draw on their social network as the basis of the creation of the BI's inter-organizational networks. This process rests on partners' personal networks. The data suggests that the interpersonal network is the precursor to the organizational network formation and development. The interpersonal network is composed of various ego ties in different organizational networks. Partners' embeddedness in the public and private organizations influences the types of relations and consequently the types of resources that will be brought in the incubator.

Diversity of partners within the incubators enhances the opportunities to accessing various ties in external network and successful exploitation of these relationships. Results show that both sources of inducement in networks, homophily and instrumentality shape the involvement of incubator partners in networks as indicated by sociograms of each AIICs. The inducement of actors in networks can be explained based on the actual occupation of the partners, the sector in which they are operating, and previous collaboration with alters. We propose the following.

*Proposition 3: Incubator partners will serve as focal nodes and they will facilitate the creation of inter-organizational network by activating their social networks.*

### **Network size and the prominent actors**

According to the diversity of partner's relations, the network size that the four cases bring to the respective business incubators is not related to the number of consortium partners, but to how well partners are embedded in external network relationships. Across the cases, the private partners in Case 1 and 4 bring the highest number of linkages with different organizations. In Case 2 and 3, the university partners bring the highest number. Concerning the role of a central actor, this construct is not significantly obvious in the cases since the results show only a minor difference among partners in the number of contacts. The data indicates that given the composition of the tripartite business incubators-partnership incubators, it is difficult for any of the partners to hold a central position by virtue of the network ties they contribute to the organizational network.



However, based on the theoretical construct the role of focal actors within each consortium is held by business partner (Case 1 and 4), university partner (Case 2 and 3). The role of central actor shows an alignment with the leading organization of the consortia except in Case 4. Although the Case 4 is led by the university, based on the interviews data, the driving organization within this AIIC is the business company. We propose the following.

**Proposition 4:** *Given the partnership setup there will be no prominent actor in the business incubator network.*

### Conclusions and Outlook

This study contributes to business incubator management literature in general and particular for the developing country context. Empirical studies are sparse and this study represents one of the first attempts to fill this gap in the literature since the business incubator concept is increasingly being translated, adopted, and implemented in the African contexts. This study highlights the need to modify methodological approaches according to the cultural and institutional context in which they are used.

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