INNOVATION AND VALUE-CO-CREATION THROUGH STRUCTURED INCUBATION NETWORK MODELING

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Abstract

The initiation incubation system some decades ago was established to support the start-ups during their initial phase of development. In the current era of information technology and social media, only incubation at one place does not satisfy the needs of the start-ups for co-creating value through innovative solutions. There have been numerous strategies and programs to encourage and support start-ups for business development and improve their prospects for long-term success. It is required that the existing incubation systems should use business intelligence for sharing resources, knowledge capital and other services. The current business practices of effective business incubators have however, generated positive results for start-ups by bringing industry and academia together. This conceptualization has occurred by finding the role of an incubator and entrepreneurs, and how they can work together to creating the value by innovative product and services.

Keywords: Innovation, Co-creation, Value, Incubation, Network

Introduction

Innovation is a driving force of welfare and contributes to increasing the standard of living. It is considered to be a critical component of business productivity and competitive survival. Technological innovations present vast opportunities for product innovation which is introduction of new types of goods and services for the external market, process innovation which is enhancement of internal production processes for goods and services. The existing literature suggests “value co-creation” is an outcome of innovation, which is from innovation (as a new artifact) to innovating (as a set of co-creation practices). It is a process that involves discovering new ways of co-creating value through more effective participation in resource integration. The value co-creation process not only occurs within a provider and customer dyadic relationship but also involves several participants as dynamic operant resources in a many-to-many perspective. (Gummesson, 2008; Mele, Colurcio, Russo Spena, 2009) Value co-creation is unique to the individual network system, as it comprises creating value-in-use through the integration of the firm’s value offering and the consumer’s operant resources (Vargo and Lusch 2008). Value co-creation, is an emerging business and innovation paradigm describing how customers and end users could be involved as active participants in the design and development of personalized products, services and experiences (Prahalad & Ramaswamy, 2004; Payne, Storbacka, & Frow, 2008).
The individual innovator faces greater challenges to develop and commercialize a market ready product. That includes lack of access to capital, lower education levels, and less focus on commercial efforts in emerging economies context, less knowledge about existing product and service and unawareness about the competitors. In connection with the existing challenges, business incubators can provide structured support to solve these challenges.

**Literature Review**

There is abundant literature existing dedicated to the discussion of value co-creation structure, mechanisms and processes. Literature on innovation and value co-creation has concentrated on Innovation, Incubation, co-creation and value co-creation and their possible effects on the ecosystem.

**Innovation:** Innovation can be defined as “the intentional introduction and application within a role, group or organization of ideas, processes, products or procedures, new to the applicable unit of adoption, designed to significantly benefit the individual, the group, or wider society” (West, 1990). This definition is largely accepted among researchers in the field of originality (Anderson, et al., 2004), as it captures the three most important characteristics of innovation: (a) novelty, (b) an application component and (c) an intended benefit (Lansisalmi, et al., 2006). This is a driving force of welfare and contributes to increasing the standard of living. Technology has always played an important role in driving innovation, and it will continue to do so in the future, but for many companies technology will gradually move from being a driver of innovation to an enabler of innovation.

**Co-Creation:** In the last few years, “co-creation” has emerged as an attractive label used by different research traditions within marketing, management and innovation to depict a new and promising vision of innovative phenomena. (Vargo and Lusch 2004, Prahalad and Ramaswamy 2004). Scholars use the term co-creation to address how social and technological changes enable organizations, groups and individuals to interact, collaborate, and solve problems, by jointly creating value (Ramaswamy and Gouillart 2010; Chesbrough 2011).

**Value Co-Creation:** Value co-creation is unique to the individual, as it comprises of creating value-in-use through the integration of the firm’s value offering and the consumer’s operant resources (Vargo and Lusch 2008). The value co-creation process involves the provider creating superior value propositions, with customers determining value when a commodities or service is consumed. “The customer is always a co-creator of value: There is no value until an offering is used—experience and perception are essential to value determination” (Payne et. al. 2008). This is an emerging business and innovation paradigm describing how customers and end users could be involved as active participants in the design and development of personalized products, services and experiences (Prahalad & Ramaswamy, 2004; Payne, Storbacka, & Frow, 2008). Literature suggests that the basic variables for an “Innovation and Value co-creation” are understanding of consumer needs and their satisfaction by novel products. Consumer’s satisfaction is the only thing that provides the value to any efforts.
Objective

Literature review suggests there are many studies about innovation and co-creation, a comprehensive understanding of all the elements that shape the innovation process and co-creating is still lacking. We aim to begin filling this gap in social and technological aspect where combination of resources will create the value. The paper focuses on structuring a model incubation network for revitalization of the entire “Innovation and Value co-creation ecosystem”.

Defining Structured Incubation Network Model

There are several factors to consider when evaluating and selecting innovators/entrepreneurs in the incubation network. Each opportunity contains its own set of considerations and limitations based on elements including type of innovation, product and most prominently, the proposed solution’s ability to address the challenges. An structures incubation network evaluating the independent innovators/entrepreneurs on: relevance of primary business idea, identifying their needs and expectations, methods to fulfill these expectations, feasible success of startups, the economic impact of business idea, entrepreneurial skills and approach, technical feasibility, cultural or organizational impact on society and value creation.

Incubation is an important instrument for start-up businesses/entrepreneurs. Start-ups emerging from university incubation system rely mostly on the incubators within the university. Unlike the developed nations, incubators in resource constrained economies, lack many facilities and are not at par with the services. However, a well calculated design for sharing the resources mutually might help to develop the network. There is a need for intelligent identification of resources which are critical for the development of start-ups. A business incubator is a physical entity providing small businesses with space, support services, and networks to entrepreneurs, investors, and clients. The term ‘incubator’ was derived from the fundamental meaning of the term: the artificial nurturing of a chicken egg in order to hatch them faster in a sheltered environment. The same hatching concept is applied to the incubating of companies; it speeds up new ventures’ establishment and increases their chances of success (Hansen et al., 2000). An incubator thus hatches new ideas by providing new ventures with physical and intangible resources (Allen and Bazan, 1990). Public university incubators can have a positive effect on incubated firms (Stemberg, 1990; Felsenstein, 1994; Mian, 1996; Scott, 2000). They increase the survival rate of new ventures by reducing the entrepreneurs’ resource constraints in their pursuit of opportunities (Mian, 1997; Stevenson and Jarillo, 1990; Timmons, 1999). Incubators can also accelerate the time-to-market and likelihood of success (Allen and McCluskey, 1990). Structured incubation efforts require input and support from a range of stakeholders: ie organizations and people in government, local business, education, large regional employers, capital providers, and community leaders. For incubations support, entities draw upon their networks to connect incubated businesses with resources, suppliers, clients, etc. Entities with best success rates have regular collaboration and high levels of communication which requires more specialized incubation and focus on services. Not all incubation efforts take specific industry focus, but, specializations provide greater value from networks, tailored relationships,
and industry knowledge. A good infrastructure, easy access to capital, trained workforce, experienced managers, government and political support to minimize barriers will strengthen start-up activity and growth of innovative product based business.

Incubation systems for start-up companies became a popular economic development approach in India as a result of the confluence of a number of factors including economic restructuring, theory of innovation evolution, rise of “technopolis,” and new insights regarding the role of small businesses and entrepreneurialism (Lewis, 2001). Even after these efforts, vast majority of new, innovative product based enterprises failed as a result of three common problems: lack of capital, poor managerial skills, and insufficient understanding of the marketplace. The spirit of this strategy was that local innovation and new firm formation will result in endogenous growth (Eisinger 1988; Massey et al. 1992; Atkinson 1991). Co-incubation is a broader concept of innovation/startup support where two or more tenant companies and incubator jointly work for startup support. Basically this is a network of incubators and startup innovation business units. It reduces risk of startup failure, increases longevity, and increase growth and fueling the local economy directly and indirectly.

Incubation Support System at IIT Kharagpur:

The co-incubation system at IIT Kharagpur has looks upon networking as a key element in the success of start-up venture firms. The co-incubation or networked incubator concept has received much attention in the literature due to association of incubators and its capabilities to improve a firm’s performance. Firms associated with strong incubators network received higher support, reached faster growth rates, be more innovative and verified better ability to deal with market with a new product. Co-incubation efforts require input and support from a range of stakeholders. This includes organizations and people in government, local business, education, large regional employers, capital providers, and community leaders. For Co-incubation, stakeholder cooperation best benefits startup businesses, support entities draw upon their networks to connect incubated businesses with resources, suppliers, clients, etc. A best success depends on regular collaboration and high levels of communication among incubators and incubates. Co-incubation: A full range of care is available for startup businesses to address their requirements as they advancement in their development.

Figure (1) show that the existing startup support system at IIT Kharagpur. An entrepreneur can come up with novel business idea in technology domain for product as well as service at this incubation centre and they can get support through available mechanism. They can use the knowledge diffusion platform to develop the product, where a chain of business support interties like funding opportunity, expert mentoring and other lab infrastructure is available to the entrepreneurs. Till the product development phase and venture creation process, they can be offered these facilities across the country wherever the incubation centers are available. But, IIT Kharagpur has extended the business support at the product diffusion level, where we are offering them business intelligence, market research, business architecture and business network support. The researchers at IIT Kharagpur are working on different aspect of above mentioned areas on live businesses or startups, which are incubated at this Science and Technology
Entrepreneurs Park and Technology Business Incubator, Indian Institute of Technology Kharagpur.

**Network Modeling**

The term ‘Network Modeling’ is coming from Computer Science. It was originally developed by Charles Bachman, a computer scientist. The model was known as Bachman diagram. Network modeling is used as a tool for decision making in any complex system. This is a flexible way to represents the objects and relationship among them inside the incubation network. Network modeling is supportive to gain understanding of how the attributes of structured incubation network is working under various scenario from today to future. It is helpful to assess the performance of innovators success and failure, impacts of proposed innovation, impacts of proposed operational modifications, development, the supporting information for planning, to allow existing infrastructure to be utilized in its maximum capacity, to support the development of an optimized resources works program. It provides service providers with the information necessary to make optimal decisions in relation to system operation and planning to achieve the desired service standards and it will lead to value for money to customers.

This paper conceptualizes the business incubation network modeling. This conceptualization has occurred by finding the role of an incubator and how they can work together to do extremely
well. The structured incubation network modeling defines the organization of the enterprise in terms of its governance structure, business processes, and business information. Structured incubation network modeling for “innovation and value co-creation” primarily focuses on the support of product design motivations, business operations and customer’s satisfaction and value created by product and service to the end user.

**Key Elements**

| Identifying | Determine Scope of Planning | Evaluate Content and Failure Demand | Method to Fulfill the Need | Analyze Options | Develop Implementation Strategy |

**Manage Model**

| Determination Feasibility Scope | Product Design Strategy | Business Operation | Economic Impact of Business Idea | Cultural and Organizational Impact | Value Creation |

Figure (2) show that the conceptual framework we develop starts with recognition of the centrality of key elements and manage model for processes of innovation and value co-creation. Processes include the identification of problem area, service objectives, planning and procedures, tasks, strategies, mechanisms, activities and interactions, which support the innovation and value co-creation. The framework architecture consider customer, finances, and the ever-changing market to align strategic goals and objectives with decisions regarding products and services; partners and suppliers; organization; capabilities; and key initiatives. This process need to view the relationship between the provider and the customer as a interactive set of experiences and activities performed by the provider and the customer, within a network system.

**Expected Outcomes and Contribution**

The potential benefit of the structure incubation network modeling is to support and sustain the local innovation (Product/Service) and deliver value. This would also increase the survival rate of new ventures, the sharing and collaboration of the assets of the business network. This paper provides an overall impact of the networking modeling process for structured incubation network and highlights issues that should be considered to ensure that models capably deliver consistent outputs for innovation and respective value for customers. The sharing and collaboration of the assets through the business network and business intelligence would play the major role for identifying and decision making for resource between the partnering incubators. Co-incubators network should be created across the country and worldwide where specific knowledge base would get created through industrial or education development. Business architecture can play the role of structural tool to execute the requirement of startup
ventures as per their needs. It fulfills the strategic goals of incubator as well as incubatees to identify their business capabilities and value stream.

References:


