Abstract

Business models are used to describe and classify businesses (especially in an entrepreneurial setting), but they are also used by managers inside companies to explore possibilities for future development. In this research while the effect of whole network modalities on value creation is determined we are intend to shape business model for value creator strategic network. In this paper, the focus on inter-firm networks as ties of integration mechanism encircle all the levels of organizational devices to inter-firm network relations which creates, delivers, and captures value with respect to economic, social, cultural, or other forms. The model of this study is based on the questions of how network modalities resulting from inter-organizational relations affect the value creation of firms embedded in network (franchising). This model also shapes the boundaries of network characteristics that provide a better understanding of strategic issues and the inter-relations between strategies and business model.

Keywords: Business model, organizational network.

1. Introduction

Inter-firm networks are interesting because they can be studied from different disciplinary approaches thereby offering a precious ground of common interest and potential discuses among branches of the social sciences. Network theories which are also defined as relations constructed by independent nodes system (Wellman, 1988) analyse interpersonal relations, even the characteristics of them. Most of the studies on network theory depend on network outputs, thus they are output-oriented studies. In this respect, these studies are insufficient in explaining the model in organizational field in which the social network is located. According to the network theory, organizations’ structure, processes and applications are not analysed separately within the same field; rather it is examined as embedded within other field studies (Borgatti and Foster, 2003). While the differences in organizational behaviour are explained based on the characteristics of network structure, both network theory and strategic management approaches are used in conjunction with each other. It can be useful for defining inter-firm network relations especially a wide range of network forms and mechanisms, using a number of important social, economic and organizational dimensions, showing different coordination properties.
We are interested here in networks as modes of organizing economic, social and political activities through inter-firm coordination and theory. In this sense networks lie at the very core of organization theory. Organizational theorists also have found that networks are formed in hope that they will generate resources and innovations in medium to long term. The creation of network is an investment in future, rather than a means for obtaining specific payoffs in present. So local networks of firms have been created in hope that network will eventually create collective resources even though it is not clear at the time.

Many form of inter-firm network have been considered in the reviewed literature such as joint ventures, franchising, commercial agreement and sub-contracting (Grandori and Soda; 1995). What are the differences between these network forms? Can we develop a classification of network forms or bring back these different practical organizational solutions to common language?

In this paper, the focus on inter-firm networks as ties of integration mechanism encircle all the levels of organizational devices to inter-firm network relations which creates, delivers, and captures value with respect to economic, social, cultural, or other forms.

Network will be distinguished here along the following dimensions: efficiency, effectiveness, density and degree. The question is whether the franchising able to create more or less value when network modalities such as efficiency, effectiveness, density and degree are taken into consideration.

Business models are used to describe and classify businesses (especially in an entrepreneurial setting), but they are also used by managers inside companies to explore possibilities for future development. Also, well known business models operate as recipes for creative managers (Baden-Fuller and Morgan, 2010). In this research while the effect of network modalities on value creation is determined we are intend to shape business model for value creator strategic network.

2. Literature Review And Hypotheses

2.1 Social Networks

Network theories which are also defined as relations constructed by independent nodes system (Wellman, 1988) analyse inter-personal relations, even the characteristics of these relations. Network theories work using organizational relations in all organizational fields. Organizational network theories are comprised of studies on the characteristics of relational edges of organizations (Granovetter, 1973; Freeman, 1977; Burt, 1980), social sedentariness, (Granovetter, 1985; Coleman, 1988), social capital (Coleman, 1988; Fukuyama, 1995, Bourdieu and Wacquant, 1992; Burt, 1997a; 1997b; 2000, Adler and Kwon, 2002).

2.2 Organizational Networks

A social network is a social structure made up of individuals (or organizations) called "nodes", which are tied (connected) by one or more specific types of interdependency, such as friendship, kinship, common interest, financial exchange, dislike, sexual relationships, or relationships of beliefs, knowledge or prestige. Social network analysis explains social relationships in terms of network theory consisting of nodes and ties (also called edges, links, or connections). 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. Most of the organizational studies are based on the relationship between and interaction of nodes, organizations or groups. A social network is a map of specified ties, such as friendship, between the nodes being studied. The nodes, to which an individual is connected, are the social contacts of that individual.

2.3 Strategic Networks

Strategic Management researches intend to differ why firms differ in their conduct and profitability. Prior research mostly explained it with autonomous entities, competitive advantage or internal resources and capabilities. On the other side, with economic conditions or alone, social factors may influence firms’ profitability. In understanding organizational life, especially in comprehending organizational similarities and change, examination of social networks seems to be an acceptable method (Stevenson, 2000). Network theories work by using organizational relations in all organizational fields. Organizational network theories are comprised of studies on the characteristics of relational edges of organizations (Granovetter, 1973; Freeman, 1977; Burt, 1980), social sedentariness, (Granovetter,
1985; Coleman, 1988), social capital (Coleman, 1988; Fukuyama, 1995, Bourdieu and Wacquant, 1992; Burt, 1997a; 1997b; 2000, Adler and Kwon, 2002). In addition to these, some basic perspectives have been obtained, analysing the relations of nodes in organizational networks using some organizational theories and behavioural concepts such as power (Brass, 1984), leadership (Brass and Krackhardt, 1999), work performance (Mehra, Kilduff and Brass, 2001), acquisition of knowledge (Tsai, 2001), maximization of profit (Burt, 1992).

It is known that inter-organizational economic relations are embedded within social relations in the network (Granovetter, 1985; Uzzi, 1997). While nodes are settled in the network structure, relations of the network sometimes limit the node; while at other times provide some possibilities. If the nodes are not limited by the network, this shows that the particular node is in a position which is relatively advantageous. Recent researches mentioned that the networks of relationships in which firms are embedded also influence their conduct and profitability (Gulati, Nohria and Zaheer, 2000; Dyer and Nobeoka, 2000 and Baum, Calabrese and Silverman, 2000). More interesting approach is used by Gulati and others (2000) to the groups of firms labelling as “strategic networks”. They highlight the idea that “the strategic networks potentially provide a firm with access to information, resources, markets and technologies with advantages from learning scale and scope economies, and follow firms to achieve strategic objectives, such as sharing risk and outsourcing value chain stages and organizational function “(Gulati, Nohria and Zaheer, 2000). That’s why strategic networks can be defined as embedded firms’ inter-organizational ties which are of strategic significance for the firms entering them. In accordance with network theory, we may define the firm’s network relationship as a source of both opportunities and threats. In summary, the firms’ networks enhance its strategic importance.

2.4 Franchising

In literature one of the well-known types of the inter-firm network is franchising forms (Grandori and Soda; 1995). Franchising can be defined as a method of distributing products or services. Franchise system consists of at least two levels of people: a) the franchisor, who lends his trademark or trade name and a business system; and b) the franchisee, which pays a royalty and often an initial fee for the right to do business under the franchisor's name and system. The franchisor and the franchisees are related to each other through franchising agreements. When we think about the franchising system, intangible assets, which are brand name, reputation, business concept, know-how, and training, are most important for success (Perrigot and Penard, 2013). In short, why do companies need the franchise system? Companies want to expand but prefer not to operate additional stores him or herself. That’s why, companies may decide to “franchise” the store name and business system to an independent business person known as a franchisee.

There are two types of the franchising system. These are “Product and Trade name Franchising” and “Business Format Franchising”. In product and trade name franchising, a franchisor owns the right to a name or trademark and sells or licenses the right to use that name or trademark. In business format franchising, which was established as a distinct business model system in the 1950, the franchisor has a complete plan or format for managing and operating the establishment. The plan or format provides step-by-step procedures for major aspects of the business and anticipating most management problems. Furthermore, buying a business format franchise is the major advantage because franchisee gains a system that refers to distribution goods and or services, has been developed, tested, and associated with the trademark.

Three constitutional elements of the franchising are (a) The franchisee’s goods and/or services are to be offered and sold under the trademark of the franchiser, (b) the franchiser maintains significant control of the franchisee’s operation methods, (c) the franchiser requires the franchisee to pay a fee as condition of obtaining the franchise or of beginning initial operations. (Leitmannslehner and Windsperger; 2012)

The franchising system needs two basic activities for success (Fernandez, Gonzales-usto and Castano, 2013). The franchise system should try to maintain its goodwill, developing a brand name and preserving service uniformity and its image in different locations. The second one is the heard quarters should motivate an appropriate sales effort in all their locations.

2.5 Business Model

Business model is a new unit of analysis which spans and bridges traditional units of analysis such as firms or network (Zott, Amit and Massa; 2011). A business model describes the rationale of how an organization creates,
delivers, and captures value with respect to economic, social, cultural, or other forms. Therefore the process of business model construction is part of business strategy.

Business model researchers not only interested in what business do but also how they do. They examined content and process of “doing business simultaneously that business models represent a system level concept (Zott and others, 2011).

The business model has different definitions in literature. Many types of business model description pay attention on technology. Nowadays these descriptions are not only related with the technology but also market behaviour, innovation, strategy and competitive advantage. Because there is not absence of a commonly accepted definition, we don’t explain the business model concept in the context of digital economy, although some definitions associate with digital economy, (Zott and others, 2011). Some definitions present below;

- Business model is a system that solves the problem of identifying who is (or are) the customer(s), engaging with their needs, delivering satisfaction, and monetizing the value (Fuller and Haefliger, 2013)
- Scholars and business strategists evaluate the business model as a value creation, performance, and competitive advantage. (Zott and others, 2011)
- The business model is reflection of the firms realized strategy. (Ramon and Ricart, 2010)
- The business model is explained as the logic of the firm, the way it operates and how it creates value for its stakeholders. (Ferriani, Cattani and Fuller, 2009)
- The business model is a representation of a firm underlying core logic and strategic choices for creating and capturing value within a value network. (Shafer, Smith and Linder, 2005)
- It is the set of activities which a firm performs, how it performs them, and when it performs them so as to offer its customers benefits they want and to earn a profit. (Affuah, 2004:48)

“Whenever a business is established, it either explicitly or implicitly employs a particular business model that describes the architecture of the value creation, delivery, and capture mechanisms employed by the business enterprise. The essence of a business model is that it defines the manner by which the business enterprise delivers value to customers, entices customers to pay for value, and converts those payments to profit: it thus reflects management’s hypothesis about what customers want, how they want it, and how an enterprise can organize to best meet those needs, get paid for doing so, and make a profit (Teece, 2010).

Pressure of current business environment affects firms, and the firms try to find new approach so as to avoid competitive pressure. That’s why, the firms need to create new business model which refers to generation and application of unique the business models. The business model affects gaining and maintaining competitive advantage directly due to imitation of the business model is hard for rivals.

The business model is differentiated and hard to replicate for rivals and new entrants, and the good business model may provide value to the customer, and generate more revenue. (Teece, 2010) Thus, the business model can be source of competitive advantage. (Zott and others, 2011) The business model concept focus on cooperation, partnership, and joint venture creation related to competitive advantage (Zott and others, 2011).

The business model has two important types that refer to novelty centered business model and efficiency centered business model. (Zott and Amit, 2008) Novelty centered business model can explain new ways of conducting economic exchanges among various participants. It focuses on creation and application of innovation. On the other side, efficiency centered business model is explain as the measures firms may take to achieve transaction efficiency. Efficiency business model focus on reduction of transaction costs.

The business model focuses on value creation in order to gaining and maintaining competitive advantage. There are different theories related to value creation in literature. These are value chain framework, Schumpeter’s theory of creative destruction, resource-based view, strategic network, and transaction costs economics. (Amit and Zott, 2001).

The concept of business model has no established theoretical grounders in economics and business studies effectively so the new organizational form can be component of business model. But organizational forms cannot be accepted as business models. As the business model explains the benefit will be delivered to customer by enterprise it can only explain how it will organize to do. Business model is more generic than business strategy. So selecting business strategy is more granular exercise than designing a business model. For sustainable business models strategic analysis is essential (Teece, 2009).

2.6 Organizational network business model

In understanding organizational life, especially in comprehension of business models, examination of social networks seems to be an acceptable method. In the most basic sense, a network is any collection of objects in which some pairs
of these objects are connected by links. This definition is very flexible: depending on the setting, many different forms of relationships or connections can be used to define links very well. In the past decade, there has been a growing interest with the complex connections of modern society. The popularity of network belongs to its pattern of interconnections among a set of things and one finds networks appearing in discussion and commentary on an enormous range of topics. When we explain the connectedness of a complex system, we examine two related issues. One is connectedness at the level of structure the other is connectedness at the level of behaviour. Who is linked to whom is the subject of structure of the connectedness on the other side the fact that each individual's actions have implicit consequences for the outcomes of everyone in the system is related with connectedness at the level of behaviour. This means that in addition to a language for discussing the structure of networks, we also need a framework for reasoning about behaviour and interaction in network contexts. So models of networked behaviour must take strategic behaviour and strategic reasoning into account. A fundamental point here is that in a network setting, you should evaluate your actions not in isolation, but with the expectation that the world will react to what you do (Easley and Kelnberg, 2010: 62). Changes in a market, strategy or a product can seem like good ideas when evaluated on the assumption that everything else will remain static, but in reality such changes can easily create encouragements that shift behaviour across the network in ways that were initially unintended.

There is a lot of further insight to be gained by asking about the roles that different nodes play in this structure as well. Granovetter (1985) argues that, under many circumstances, strong ties are less useful than weak ties. Why?

The weak connections of the organization groups in the network are called as gap (Burt, 2002). The structural gap covers the relationships (edges), and the possible edges in the network. So, they are mentioned as the position providing the actors to competitive advantage (Burt, 2000). In the social networks, the node takes part among the other nodes, and provides their relationship, or conciliates, and provides structural advantage within this concept. The actors in the network gain much information about the organizational field while spanning the structural gaps.

In social networks, access to edges that span different groups is not equally distributed across all nodes: some nodes are positioned at the interface between multiple groups, with access to boundary-spanning edges, while others are positioned in the middle of a single group. What is the effect of this heterogeneity? Such an intermediary could benefit from this position in a number of ways. First, he or she could apply ideas, techniques, and practices taken from one group to problems faced by another. Second, he or she could innovate by synthesizing and combining different ideas taken from more than one group. The notions of homogeneity inside groups and brokerage between groups form the basis for the theory of structural holes pioneered by Burt (Burt 1992; 2004; 2007).

A basic principle in these researches is that there is greater homogeneity of behaviour, decision and ideas within groups of people than between groups of people (Burt 2004). Thus an individual who acts as a bridge between distinct groups of people would have access to a more diverse set of ideas and information. The nodes which are a kind of bumper, and span the gaps, enable the spread of the ideas. The organization’s practices by taking place between the organizations having two different information and activities so they make benefit from this (Burt, 2000). Burt (1994, 2004) popularized the term "structural holes" to refer to some very important aspects of positional advantage-disadvantage of individuals that result from how they are embedded in neighbourhoods.

In organizational networks two contacts are redundant to the extent that they are connected by strong relationship. On the other side, strong relationship indicated the absence of structural holes. So balancing network size and diversity is a question. Although the number of structural holes may increase with network size, the holes are keys to information benefit. The optimized network has two design principles: efficiency and effectiveness (Burt, 1992:67).

Efficiency says that you should maximize the number of non-redundant contacts in the network in order to increase possibility of structural holes. Effectiveness, figures out primary from secondary contacts. It focuses resources on holding primary contacts- relations. The effective size of ego's network -effectiveness may tell us something about ego's total impact; efficiency tells us how much impact ego is getting for each unit invested in using ties. An actor can be effective without being efficient; and actor can be efficient without being effective.

It is good idea to separate the structural holes as the inner- and outer. The gaps between the edges which provide the nodes in the social network with mutual benefit are called as the inner-structural gaps. When the acquisitions of the nodes coming from the structural gaps are provided from the edges position which is out of the organization network, it may be called outer structural holes (Westphal and Gulati, 1999; Podolny, Stuart and Hannan, 1996). The actors, who can create link between the network and the other groups-networks in the context of spanning structural gaps, have priority in reaching the information, and in transferring information (Burt, 2004). The idea gains extra value by the information transfer, and it provides benefits to the organization. Burt (2004) states that the ideas and the
behaviours are more homogeneous when being with the groups than being between the groups, and says that the organizations which can create edges with the other groups are more inclined to think and behave alternatively.

H1: Mediating connections of the organizations within the society in network increase value creation of these networks.

H2: Mediating connections of the organizations out of the society in network decrease value creation of these networks.

3. Methodology

3.1 Research Goal

The model of this study is based on the questions of how network modalities; especially getting brokerage role resulting from inter-organizational relations affect the value creation of firms in network (franchising). This paper contains the interesting idea that value creation of members of a franchise network may be related to their structural position in that network. It develops a potentially valuable metric of proximity to network resources and deploys the somewhat novel Panel Data Analysis technique to test some propositions.

This model also shapes the boundaries of network characteristics that provide a better understanding of strategic issues and the inter-relations between strategies and business model. Different from other researches we highlight the idea that the strategic implication of a network for the firms embedded takes its importance regardless with its network modalities (qualities). We have a very interesting research question: how franchisees’ network brokerage position affects its value creation in an organizational network.

Our analysis level in this study has inter-organizational relations which include structure, process and applications of the organizations which take place in the same community and the same sectors. In this context, whether the question of Astley and Van de Ven (1983) that is external environment should be considered as the simple total of the organizations which are directed by economic factors or should it be considered as integrated organizational communities that are directed by political dynamics between each other corresponds to the problematic of the study.

3.2 Design, Field, Sampling Method and Data Analysis of the Study

While determining the independent variables, Inditex Group’s network modalities are taken into consideration. In the matter of explaining the relationship between purpose network modalities and their value creation capacity with respect to format a business model, Inditex Group is selected for assembling purposive network. Inditex is one of the world’s largest fashion retailers, welcoming shoppers at its eight store formats (sub-groups) -Zara, Pull & Bear, Massimo Dutti, Bershka, Stradivarius, Oysho, Zara Home and Uterqüe - boasting 6,249 stores in 86 markets. Information about the companies has been obtained from, Inditex Group’s own webpage-their annual reports from 1998-2012. “Ego-centric network method” that is mostly used in observing and catching of the networks has been selected as data collection tool. Ego-centric methods really focus on the individual, rather than on the network as a whole. By collecting information on the connections among the actors connected to each focal ego, we can still get a pretty good picture of the "local" networks or "neighbourhoods" of individuals. Such information is useful for understanding how networks affect individuals, and they also give a (incomplete) picture of the general texture of the network as a whole (Hanneman, 2001). This method takes a census of ties in a population of actors, rather than a sample.

The information we collect about franchising ties between Inditex sub-groups are measured at interval measures of relations. Continuous measures of the strengths of relationships allow the application of a wider range of mathematical and statistical tools to the exploration and analysis of the data. In social network analyses, the most important term is socio-matrix. While developing network matrix we use following methods:

i) All numbers of stores at the numbers of the stores at the year end and net openings of the year is determined with respect to all sub groups of Inditex.

ii) One of the sub groups is selected (for example, Zara) and its’ net openings is added with the other one of the sub-groups net openings (for example; Pull and Bear) and divided by the addition of these sub groups’ number of stores at the year-end (Zara and Pull and Bear).

iii) This calculation is repeated for all other sub-groups at this year (Zara-Massimo Dutti, Zara-Bershka, Zara-Stradivarius, Zara-Oysho, Zara-Zara Home and Zara-Uterque).

iv) an another sub-group is selected and same ratios are calculated for the same year.
v) Same procedure is applied for all the year from 1998 to 2012. A binary socio-matrix has been acquired by giving these ratios for edges-relationships. The modalities of whole network that we determined as the independent variable for 15 years through the data got from the UCINET software program. With this program all sub-groups’ density, degree, efficiency and effectiveness has been acquired.

As we want to understand variation in the behaviour of individuals, we need to take a closer look at their local circumstances. Describing and indexing the variation across individuals in the way they are embedded in "local" social structures is the goal of the analysis of ego networks. Ego is an individual "focal" node. A network has as many egos as it has nodes. Egos can be persons, groups, organizations, or whole societies. In several important works, Burt (1980) popularized the term "structural holes" to refer to some very important aspects of positional advantage/disadvantage of individuals that result from how they are embedded in neighbourhoods. Burt's formalization of these ideas, and his development of a number of measures (including the computer program Structure, that provides these measures and other tools) has facilitated a great deal of further thinking about how and why the ways that an actor is connected affect their constraints and opportunities, and hence their behaviour.

The basic idea is simple: The weak connections of the organization groups in the network are called as gap (Burt, 2002). The structural gap covers the relationships (edges), and the possible edges in the network, and so, they are mentioned as the position providing the nodes with competitive advantage (Burt, 2000). Because the nodes in the network gain much information about this field while spanning the structural gaps, and hold the control of the network communication in hand, each actor may have many opportunities to act as a "broker." In this research we determine all the organizational network modalities in connection with the network “spanning structural holes" role.

It is good idea to separate the edges as the inner- and outer-edges, when the organizations in the networks have a position to span gaps. The effectiveness may tell us something about ego's total impact and this ratio will increase if network draws its primary contacts from different social worlds. So effectiveness (effective size) can be indicator for outer structural holes. On the other side, efficiency tells us how much impact ego is getting for each unit invested in using ties. This ratio can be increased by raising non-redundant contact so it can be indicator for inner structural holes.

Although the inner and outer structural holes enhance the probability of creating idea and value, social structure may influence this transformation. So we add our model two social structure indicators; density and degree. Density is the number of ties divided by the number of pairs. That is, what percentage of all possible ties in each ego network is actually present? Degree is the number of links that such a node has.

In this paper we consider value-creating network to be a complex network model where firms related to franchising sub-groups (Zara, Pull & Bear, Massimo Dutti, Bershka, Stradivarius, Oysho, Zara Home and Uterqüe) and are linked to each other through value exchanges such as flows of material, resources and money. However there are many definitions for “value creation” (Porter, 1985; Parolini, 1999; Kothandraman and Wilson, 2001; Allee, 1999 and 2000 and Normann and Ramirez, 1994) we accept Porter definition and calculated value with respect to this definition. Porter (1996) defines value as the “amount buyers are willing to pay for what firm provides them”. Value is thus measured by total revenue. In this research value is determined with respect to its change. If:

a= total revenue,
i=time from 1998 to 2012,

\[ f(x) = \frac{\text{value}}{\sum_{i=1998}^{2012} (a_i + 1)} \]

\[ f(y) = \sqrt{f(y_i) \cdot f(y_i + 1)} \]

The dependent variable-value creation is determined for Inditex Group with respect to its sub-groups (cross sections) Zara, Pull & Bear, Massimo Dutti, Bershka, Stradivarius, Oysho, Zara Home and Uterqüe for 14 years.

In this research data are multi-dimensional data frequently involving measurements over time. Our data contain observations of multiple phenomena obtained over multiple time periods for the same firms that we use panel data analysis. A panel data set is formulated by a sample that contains N cross-sectional units that are observed at different T time periods. A panel data regression has a double subscript on its variables,
\[ y_{it} = \alpha + X_{it} \beta + u_{it} \]

with \( i \) denoting firms-franchising sub-group dimension, the \( t \) denotes the time-series dimension. \( \alpha \) is a scalar, \( \beta \) is \( K \times 1 \) and \( X_{it} \) is the \( it^{th} \) observation on \( K \) explanatory variables (Baltagi, 2008).

In this study Inditex Group value creation amount is accepted as dependent variable, franchising’s efficiency, effectiveness; density and degree are accepted as independent variables. According to these relations an analysis model for value-creating network will be created.

The model of this study is based on the questions of how whole network modalities resulting from inter-organizational relations affect the value creation of firms embedded in network (franchising). This model also shapes the boundaries of network characteristics that provide a better understanding of strategic issues and the inter-relations between strategies and business model.

4. Results

It is known that inter-organizational economic relations are embedded within social relations in the network (Granovetter, 1985; Uzzi, 1997). The model of this study is based on the questions of what is the importance of structural gaps and what is the contribution of those organizations within the field to value creation. This model also analyzes which network characteristics in context with the structural holes are more influential in this change.

In this study, panel data was used which consist of 8 cross sections and 14 time series. The cross sections are Bershka, Zara, Massioma Dutti, Pull&Bear, Stradivarius, Oysho, Zara Home and Uterqüe. The time dimension covers years from 1999 to 2012. Panel regression models in a simple form are defined as follow;

\[ y_{it} = \alpha + X_{it} \beta + \epsilon_{it} \]

with \( i \) subscript denoting households, individuals, firms, countries, etc…and \( t \) subscript denoting time.

Generally, the error term in panel data applications are shown as follow;

\[ \epsilon_{it} = \mu_i + \nu_{it} \]

where, \( \mu_i \) is time- invariant and individual effects

\( \nu_{it} \) is remainder disturbance varies with individuals and time (Baltagi, 2008:13). Individual effects are represented in two ways: If each individual is assumed constant for \( \mu_i \), “Fixed Effects”; if \( \mu_i \) is assumed that getting randomly from a probability distribution “Random Effects” model is more efficient and consistent. For the fixed effects model, unobservable individual effects are correlated with the repressors. On the other side, it is assumed from random effect model that there is no correlation between unobservable individuals’ effects and repressors. For the panel data, the appropriate choice between the fixed effects and the random effects method investigates whether the regressors are correlated with the individual effects. A specification test proposed by Hausman which is based on the difference between the fixed and random effects estimators. The hypotheses of Hausman Test are;

\[
H_0: \text{no correlation between unobservable individuals' effects and repressors.}
\]

\[
H_1: \text{correlation between unobservable individuals' effects and repressors.}
\]

If the null hypothesis fails to reject, the random effects estimator will more efficient and consistent. In opposite case, fixed effects estimator will more efficient and consistent (Baltagi, 2008: 21, 72-74; Greene, 2003: 301).

<table>
<thead>
<tr>
<th>Variables</th>
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<th>Random Effect</th>
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<tr>
<td>degree</td>
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<td>960.9913</td>
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<tr>
<td></td>
<td>(430.3502)**</td>
<td>(387.0597)**</td>
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<td></td>
<td>(761.8369)*</td>
<td>(694.3713)**</td>
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<td></td>
<td>(5305.509)*</td>
<td>(4831.778)**</td>
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<td>density</td>
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Table provides results from the estimation of panel model with fixed and random effects. Since, the Hausman Test statistics ($\chi^2 = 0.87$ and $p=0.9284$) fails to reject the null hypothesis, the random effects estimator is more efficient and consistent. Because of the autocorrelation and heteroscedasticity problems, standard errors are in brackets adjusted for 8 clusters in firms. In this way, the standard errors have become robust. Except for density, all of the independent variables are statistically significant at 5%. In case, density is significant at 10%. We found positive relationship between value creation and efficiency. On the other hand, this value creation relationship for effectiveness is negative.

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</table>

*** p<0.01, ** p<0.05, * p<0.1

These obtained results support both hypothesis 1 and 2. The theories of social capital and structural holes have important implications for understanding the formation of relational networks in high growth, technology intensive industries (Walker, Kogut and Shan; 1997). The hypothesis is that those who broker within the groups are exposed to different ideas and thus more likely to have a good idea. These results also show that there is a positive relation between value creation and degree. On the other side, the density negatively related to the value creation. If networks grow in size, they tend to become less dense (how many relations can each actor support?). As density decreases, more “structural holes” are likely to open in the “social fabric” (Burt, 1992). Burt's formalization of these ideas, and his development of a number of measures has facilitated a great deal of further thinking about how and why the ways that an actor is connected affect their constraints and opportunities, and hence their behaviour.

In this research, the analysis has focused primarily on the roles that different kinds of edges of a network play in this structure with a few edges spanning different groups while most are surrounded by dense patterns of connections. This assumption not only analyses the links in a social network, but also the places where there is a lack of links between groups of people. Burt's studies of managers in a large electronics company show that people who occupy bridging positions between groups in a network are higher risk of having good ideas" (Burt 2004). In addition to these, occupying these positions is correlated with a higher compensation, more positive performance reviews, and promotions (Burt 2004). Since people who act as bridges and intermediaries gain an advantage over those who do not, there is a natural strategic aspect to this theory. The model of this study is based on the questions of how network modalities in respect of structural holes affect the value creation of firms embedded in network (franchising). This model also shapes the boundaries of network characteristics that provide a better understanding of strategic issues and the inter-relations between strategies and business model.

Business models are used to describe and classify businesses (especially in an entrepreneurial setting), but they are also used by managers inside companies to explore possibilities for future development. Also, well known business models operate as recipes for creative managers (Baden-Fuller and Morgan, 2010). In this research while the effect of whole network modalities on value creation is determined we are intend to shape business model for value creator strategic network.

5. Conclusion

The fundamental idea here is that the ways in which individuals are attached to macro-structures is often by way of their local connections. It is the local connections that most directly constrain actors, and provide them with access to opportunities. Examining the ego-networks of franchisees can provide insight into why one organization’s value differs from another’s. Looking at the demography of ego networks in a whole population can tell us a good bit about its differentiation and cohesion - from a micro point of view.

References