

## Replacing Contracts with Handshakes: A Study of Social Networks of Entrepreneurs in the Weaving Sector

MOINA RAUF and ZAHID PERVAIZ

Informal institutions like kinship based networks play a crucial role in business activity. The flow of information in such networks, based on trust and reciprocity helps in creating an environment where opportunism is curtailed and relational based governance mechanism prevails. This paper studies, whether such factors play a role as an alternative governance mechanism for contracts as opposed to the formal institutions or not. The effectiveness of such network factors hinges on the network structure, and therefore network density and network size are taken as independent variables. Though network density was positively and significantly related to the use of social networks for management of breach of contracts, network size was negatively related to management of breach of contracts. Network size and network density were positively related to ex-post transaction costs of dispute resolutions however, they were not statistically significant.

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### 1. INTRODUCTION

Academics have paid great attention to the relationship between entrepreneurship and social capital. However, social capital is a multidimensional term and encompasses many concepts under its umbrella. Various academic disciplines use social capital and multiple tools and techniques which are present in academic literature for its conceptualisation and measurement. Academic work which focuses on firm embeddedness and social capital is dominated by studies from the developed economies, where the data on social capital is collected from various databases. Such studies on developing or underdeveloped economies are limited. This study would contribute to the existing knowledge on this subject and would attempt to quantify the social capital of entrepreneurs through measurements of various dimensions of their social network.

In contemporary literature, we often find social networking facilities and social networks being used interchangeably. However, our understanding of social networks is exclusively the relationships and ties that an individual is connected to rather than the social networking facilities. This social network can be facilitated through various means including web based activities but that is not a focus of this paper.

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An important function of social networks for entrepreneurs among many others is their ability to reduce transaction costs. In developing countries the formal institutional arrangements for conflict resolution are not very reliable which leads to a great dependence on informal mechanisms for honouring contracts [Khan (2011); Nicholas and Maitland (2007)]. This situation arises because either means of contract enforcement are completely ignored by the state, or are too costly to enforce. The option left to the businesses is to rely on alternate means of contract enforcements in such situations. Contracts can be made binding with the help of trust and reciprocity among members of the society [Nicholas and Maitland (2007)].

Small and medium sized enterprises (henceforth SMEs) in power loom textile weaving sector in Pakistan are the focus of this paper. Cotton weaving is the largest sector within the total SMEs operating in the country with a share of nearly 20 percent. Pakistan's Small and Medium Enterprise Development Authority (SMEDA) recently estimated that 95 percent of private enterprises in the industrial sector employ less than 100 employees.<sup>1</sup> These firms employ approximately 78 percent of the non-agricultural labour force in Pakistan and contribute over 30 percent to Pakistan's GDP and 25 percent of the country's exports of manufactured goods. This sector caters to both the domestic demand of fabric as well as makes low end use grey fabric for exports.

The major contribution and source of information of the study has been the collection of primary data which was collected through a questionnaire and also through informal interviews with the respondents. Despite a great number of studies being available on the social capital and entrepreneurship, very few of them focus on the developing countries. This study generates its significance from the fact is that it has contributed to the scant literature on the relationship of social capital and entrepreneurship in the developing countries. It is a micro-level study which utilises primary data gathered through a questionnaire which adds to the meticulousness and reliability of the results produced from the study. Moreover, it has tried to map the social networks of entrepreneurs in Pakistan in the weaving sector which is a unique attempt through primary data gathering.

The study of the role social networks in reduction of transaction costs for businesses opens up the door for further research in the theory of firm, and the role of social networks as an effective conduit for knowledge transfer and information sharing for firms.

## 2. LITERATURE REVIEW

Studies under the network theory literature provide great understanding of the institutional environment of the entrepreneurs and the social capital of entrepreneurs. Studies of entrepreneurship that acknowledge social capital as a crucial asset of entrepreneurs, seconds institutional economics theory that entrepreneurs, like any economic agent are not isolated from society unlike the assumption in orthodox economics. Entrepreneurs are nested in their relationships and affected by their environment and their social capital actually acts as an asset just like physical capital. To gain understanding of the impact of these relationships on economic activities, we

<sup>1</sup>There is no uniform definition of the SME in the country and every organisation defines them according to its functional requirements.

consider it critical to study the social network, or in other words, the set of ties and relationships that an entrepreneur has. The work of Aldrich and Zimmer (1986) clearly mentions the social aspects of businesses and the role of such interactions in contributing to learning in firms. Varied academic disciplines provide insights to study of entrepreneurial networks. Despite such diversity in the academic roots of such studies, all tend to agree to the benefits of such networks for businesses. The answer to the basic question of why networking is important for entrepreneurs varies according to the academic discipline from which such study originated. These studies give various explanations of why networks are formed, governed and the nature of such contents that are exchanged in networks. In the following section, an overview of the theoretical and empirical work is presented which provides understanding of the role of the networks in entrepreneurial process. This overview would lead to development of the conceptual framework later on.

The first section examines classical works on the theories of social capital, networks and firms. Later on, we zoom in into the current research that has a timeline of the present decade. Last section develops a conceptual framework.

Many scholars have studied the role of social capital and networking for entrepreneurs from various perspectives like transaction costs approach [Coase (1984); Williamson (1979, 1996); Salancik and Pfeffer (1978); Zucker (1987)]. The social network approach has been widely used to understand the benefits of social networking to entrepreneurs from a sociological perspective [Birley, *et al.* (1991); Granovetter (1983, 1985, 2000, 2005); Johannisson (1988); Ostgaard and Birley (1996); Uzzi (1996, 1997)].

Transaction cost approach analyses firm networking from an economic point of view. The social network analysis explains networking from a sociological point of view. In this section, the study briefly highlights the theoretical understanding of these approaches to networking. Our major objective is to document all the relevant academic work that has taken place in these disciplines to create foundations for the conceptual framework of this paper.

Transaction cost theory has been widely used to explain the reason for networking among businesses [Williamson (1979)]. A transaction means a transfer of a good or a service between technologically separable interfaces [Williamson (1979, 1996)]. Thus, the transaction costs simply means all costs involved in a transfer of goods and services from one unit to another. The characteristics of transactions are: they are always asset specific, in small numbers, and uncertainty and bargaining are always involved. Transactions become costly because of these characteristics. Reduction of these costs leads firms to either vertically integrate or to search for substitutes to the market. [Williamson (1979, 1996)].

In the studies of joint ventures in developing countries, Kogut (1997), argues that higher levels of trust in informal networks reduces transaction costs for entrepreneurs. Trust works in two ways: it reduces the time and costs of negotiation and bargaining and reduces uncertainty associated with transactions [Minniti and Bygrave (2001); Uzzi (1996)]. Thus the transaction cost approach to entrepreneurial networks gives a good theoretical background to the understanding of social capital and its relationship to business activity. The limitation of this approach is that it does not give empirical insights on the subject.

The studies which empirically capture the dimension of social capital are found in the social network analysis approach. The social network analysis approach views business transactions in the light of the social relationships that exist between two people.

The social network analysis approach to entrepreneurship relies on two principles: first, gathering of resources from external sources is a component of the entrepreneurial process. These resources are not limited to capital only but also include abstract concepts like ideas, knowledge, advice and moral and emotional support. Secondly, to get access to these resources, the entrepreneurs seek the contribution of his social network. So, the social network becomes a source of provision of resources necessary for the entrepreneurial network.

According to the social network approach, every individual has social ties and these social ties are vital for the entrepreneurial process [Aldrich and Zimmer (1986); Birley, *et al.* (1991); Johannisson (1988); Ostgaard and Birley (1996)]. One of the critical aspects of a social network is its ability to provide information to the entrepreneur which is available without effort and cost. Such information is available through existing friends [Aldrich and Zimmer (1986); Birley (1986); Birley, *et al.* (1991)] and family members [Özcan (1995)] particularly in developing countries. Another feature of social network is the provision of financial support [Aldrich and Zimmer (1986); Özcan (1995)].

Information and resource sharing and collectively working out solution of problems are some benefits of social ties [Uzzi (1996)]. These benefits accrue because of the social network according to the social network theory. In the words of Uzzi (1996, 1997), embeddedness of social ties is, “*the degree to which commercial transactions take place through social relations and networks of relations that use exchange protocols associated with social, non-commercial attachments to govern business dealings*”. Authors like Granovetter (1985), consider social networks to act as a cushion for entrepreneurs against distrust and uncertain situations. Social ties help in creation of opportunities for new business ideas and innovations too since they encourage entrepreneurs to take risks for innovation under uncertain conditions [Gulati (1995); Gulati and Gargiulo (1999)]. In other words, social networks help in the reduction of transaction costs.

Inkpen and Tsang (2005) have studied the role of social capital to analyse the transfer of knowledge among network members. They have defined three dimensions of social capital namely, structural, cognitive, and relational. All these three aspects of social capital affect knowledge transfer [Inkpen and Tsang (2005)]. This study sets the stage for developing further investigation for understanding the role of networks in disseminating knowledge.

Another significant study from Zhou and Poppo (2010), suggests that legal enforceability increases the use of contract over relational reliability. In other words, relational enforceability of contracts is important when legal enforcement is weak. Using a survey results of 399 buyer–supplier exchanges in China, the study makes important conclusions that: (1) explicit contracts are used more rather than relational trustworthiness when legal system is strong (i.e., asset specificity, environmental uncertainty, and behavioural uncertainty); and (2) on the other hand, if legal system is weak, then relational trustworthiness plays central role in contract enforcement for protection of transactions. These results endorse that under conditions of greater legal enforceability, the use of relational reliability would become unimportant and vice versa.

Morales and Fernandez (2010) introduce some specific insights regarding social networks of firms in order to investigate factors involved in innovation. This study compares a sample of 220 manufacturing firms in the Valencia Region (Spain). The conclusions from the study were that there was a positive relationship between social capital, that is trust and shared ideas, and involvement of local institutions with innovation in firms of the region [Molina-Morales and Martínez-Fernández (2010)].

Findings from a survey of 241 Chinese firms indicated that business ties affect performance more than political ties, and both effects depend on institutional and market environments. Key conclusions from the study are that when legal enforcement is ineffective and technology is rapidly changing, business ties become more useful than political ties [Sheng, *et al.* (2011)].

Zhou, *et al.* (2012) add to the existing knowledge on the ongoing debate whether economic and social governance mechanisms function as substitutes or complements regarding inter firm transactions. Based on a sample of 168 foreign buyer–local supplier exchanges in China, the study finds that relational governance complements written contracts but acts as a substitute to control opportunism. When formal law enforcement is weak, relational governance provides a proxy for legal institutions for compliance of contracts.

Feigenberg, *et al.* (2013), suggested that the risk of default and timely loan repayments among microfinance clients dropped as the interaction among the recipients increased. In their long-run survey data and results of follow-up experiment reveals the economic returns to social interaction, and provides insights in to causes of the reduction of transaction costs in the collective lending model.

In a macro level study by Turkina and Thai (2013), three social capital factors—networking, interpersonal trust, and institutional trust—provide an explanation for variations in immigrant entrepreneurship across countries. Social capital plays a significant role in high-value added immigrant entrepreneurship in particular and immigrant entrepreneurship in general [Turkina and Thai (2013)].

In a specific case of the knowledge economy, Westlund, *et al.* (2014), reiterate the value of social capital for firms for benefitting from local systems of innovation. Proximity and network connections make it possible for firms to reduce transaction costs and exchange information smoothly specially when the interaction takes place in a knowledge economy rather than manufacturing based economy.

Some particular studies on developing countries further establish the important role of social capital for business performance. A study on women owned businesses in Tanzania by Tundui and Tundui (2013) found that apart from human and physical capital, higher levels of social capital among entrepreneurs was a major contributor to higher profits. Moreover, it was the bridging social capital which was most useful for business performance. Moreover, the role of personal networks as conduits of information has been studied extensively by various authors across various countries. In developing countries, social networks help specifically in spreading information about technology. Studies such as Munshi (2014) illustrate in great detail that for the developing countries, the importance of social capital is manifold. Not only does it act as an alternative social safety net in the absence of institutional support, social networks also work as conduits of information flows and developing a sense of peer monitoring which leads to success of

many self-governed community development initiatives. Banerjee, *et al.* (2013) have further illustrated this line of thought using field experiments from the microfinance lending programs in Peru. Their study demonstrated that it was the peer pressure which acted a significant incentive to the motivation of timely repayments. A similar study in another developing country substantiates the works of Banerjee, *et al.* (2013) that peer pressure acts as an enforcement mechanism in lending programs in Philippines. When loans are given to recipients along with a co-signer who is known to the recipient, the loan repayment is timely [Gine and Karlan (2008)]. Another example of the strong enforcement effects can be seen in the field experiment study on consumer credit in South Africa by Bryan, *et al.* (2012) their referrals from trustworthy people played a key role in advancing consumer loans. Heath (2011) has studied the reduction in information asymmetries in the context of Bangladeshi garment industry. She explains that employers take advantage of the enforcement capability of social networks. The enforcement mechanism is used as a technique to reduce moral hazard by punishing the referrers and the referred employee for low output.

This review provides us with insights into the subject of entrepreneurial networks and we see that the theme of social networks appears frequently in the context of entrepreneurial networks. While this review might not be exhaustive, it does establish that the presence of such networks has been acknowledged and studied in the existing body of literature. Existing studies have all defined social networks as informal ties and relationships with one's family, friends and acquaintances and the same definition would be followed in this paper as well.

## 2.1. Conceptual Framework

After defining the role of networks for reduction in transaction costs, what still remains to be answered is the role of various network characteristics in transaction cost reduction. As was discussed earlier, social ties can either be dense or sparse. An important aspect of contribution of social capital to entrepreneurial research is the dynamic of social structures. Network structure is defined as the pattern of direct and indirect ties between actors. Variety of measures drawn from the network analysis literature explains how social network attributes affect knowledge flows and impact entrepreneurial process. Network size is the most straightforward measure, defined as the number of direct links between a focal actor and other actors. Analyses of network size measures the extent to an entrepreneurs receives various resources [Aldrich, *et al.* (1989); Aldrich and Zimmer (1986)].

The access to diverse information however, is better explained by the network structure in terms of strength of social ties. Granovetter's (1973) notion of weak ties, explains how diverse resources can be accessed in terms of new ideas which lie outside the immediate social circle of an individual. A similar, complementary concept is bridging social capital in the form of structural holes or absence of ties. According to [Burt (1997a)], such unconnected ties bring in information which would otherwise not be accessible by the entrepreneurs if he remains within a closed social group. Such bridging social capital not only diversifies the sources of information but also provides opportunities to influence other networks with whom the entrepreneur is not directly connected to [Krackhardt (1995)]. Due to access to novel information as a result of

bridging ties, firms can improve performance [Zaheer and McEvily (1999); Zaheer, *et al.* (1998)].

Another aspect of network structure is the density of contacts of the social network. A network can have few loose connections or a tightly knit set of ties where all contacts know each other. Loose contacts are sparse networks and tightly knit connections are dense networks. Density is measured by the extent to which an actor's contacts are interconnected. Certain actors may be better connected and hence have a competitive advantage over those who are poorly connected. Burt (1997a) and Coleman (1988) present opposing views on the density of networks and its usefulness. Coleman (1988) notes that a densely knit group of actors or dense networks have higher social capital and therefore have an advantage over those groups of actors who are poorly connected. On the other hand, Burt (1997a, 1997b) argues that sparse social networks, implying that the actors have few connections between them, are more beneficial. He says that such networks bring greater access to new information about resources and opportunities. This happens because of the uneven spread of information. According to Burt, dense network would bring in redundant information. Structural holes bring in no redundant information and within this non-redundant information are opportunities which can be turned into profits. Therefore, according to this stream of thought, structural holes, instead of dense networks give more competitive advantage. However, the theory is silent on the role of networks as governance mechanism. Through reputational effects, transaction costs might be lowered, but in presence of structural holes, the peer pressure effect might be non-existent.

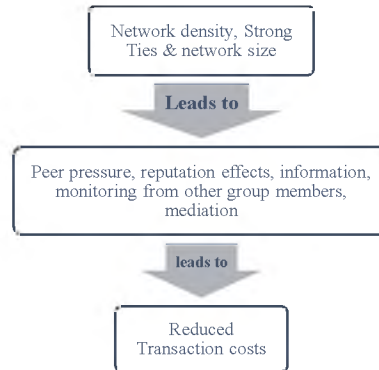
Another characteristic of networks is the strength of ties among network members. Stronger ties will enhance the feelings of reciprocity and trust towards group members. The source of strength in relationships depends upon various factors. For this paper, we have used frequency of contact, duration of relationship and entry in the network as factors which determine the strength of relationship among group members. Longer duration and frequent meetings help in building the bonds between group members and also the likelihood of sharing more information. The entry into one's network is the first block of trust in any relationship. If someone is a distant family member or related to another family member or belongs to same caste/biraderi, it adds more weight to the strength of the relationship.

#### **2.1.1. Networks as Alternative Governance Mechanism**

Small firms, unlike the large enterprises, do not have enough resources at their disposal to counter transaction costs since they are inherently resource starved. This situation makes the need for networking even more important for smaller firms. As Williamson has argued that the economic functions can be performed within the boundaries of hierarchical firms, or by the market processes. But for small firms, both options are not viable especially in developing countries. Networking is one of the best solutions given in the literature for the development of small firms in developing countries because networking lies between the hierarchy and the market [Nicholas and Maitland (2007)]. Small firms have to obtain resources from external actors. In literature review in previous sections, it is seen that the network relationships have many benefits for the firms. For smaller firms, their social ties are vital for their survival and due to

their embeddedness in their social environment, the high level of trust plays an important role. As transaction cost theory has suggested that transaction costs are too high for small enterprises, the social network theory has provided a solution to the reduction of transaction costs by analysing the mediating role of social networks for business related costs. Costs of enforcement and monitoring of contracts, instead of being enforced through legal methods are curtailed by the fear of peer pressure and the risk of loss of reputation in the social networks. Thus, social networks act as an alternative governance mechanism to formal procedures of reduction in transaction costs. The figure below reflects these thoughts in a concise manner.

**Fig. 3.1. Conceptual Framework for Relationship of Network Attributes and Transaction Costs**



The integrated conceptual framework takes into account all these aspects of networks. Our study setting provides a good opportunity to analyse these elements within social networks of entrepreneurs because on one hand, as a typical case of a developing country, the formal institutional mechanisms are weak, expensive and time consuming which presents greater likelihood of very high transaction costs but on the other hand the social structure and informal ties play a very crucial role in the everyday business life in Pakistan and therefore there is a greater likelihood of relying on informal means for minimising transaction costs.

In line with the earlier discussion on network literature, this paper proposes that: in the presence of a dense set of relationships, the transaction costs would be lowered for small businesses. As suggested in the studies in the earlier sections, dense networks can be sources of information and also a form of peer pressure. Therefore, in the presence of such networks, transaction costs associated with monitoring and enforcement of contracts would be lowered.

## 2.2. Hypothesis of the Study

- (i) A dense social network lowers ex-post transaction costs of contract enforcement.
- (ii) A dense social network lowers ex- post transaction costs of dispute resolution.
- (iii) Stronger Ties lower ex-post transaction costs of contract enforcement.
- (iv) Stronger Ties lower ex-post transaction costs of dispute resolution.



### 3. DATA, METHODS AND ESTIMATION OF THE MODELS

In the case of SMEs, there were two problems: firstly, SMEs are still not properly defined in the country and every government department and financial institution uses its own definition according to its operations. The power loom sector which is the focus of this study is under the non-mill or informal sector and therefore government databases have only some vague idea about their exact numbers [Khan (2011); Memon (2011); Pakistan (2009, 2014); SMEDA (2007); Pakistan (2013)]. The SMEs data base in Pakistan is very fragile and unreliable due to regular change of survey units definitions, partial sector wise coverage with bias to manufacturing, too aggregative nature of the data, non-continuity of surveys, non-compilation of data on important aspects such as overall and sector wise [Dasanayaka (2011)]. The most reliable data bases available with government are the three statistical bureaus (now these three bodies amalgamated). But that also do not specifically give exact contribution of SMEs alone. Therefore, we could not use make use of available data sources from various department due to lack of consistency and unavailability of official data on power loom sector [Dasanayaka (2009, 2011)].

The location of data collection was the city of Faisalabad in the province of Punjab in Pakistan. Since minimal relevant secondary information is available on power loom weavers [Khan (2011)], we consulted some key organisations for identifying firms. Initially, Small and Medium Enterprise Development Authority (SMEDA) was contacted. There are two business associations of the power loom weavers. We consulted the All Pakistan Power Loom Association for information about weavers and creating contact.

#### 3.1. Method and Variables

The study is cross sectional in nature, embarking on an exploratory study to gather information on social networks of the entrepreneurs and its use as an alternative governance mechanism. In line with all the existing literature and best practices on similar subject, a primary data collection was done to obtain required information [Babbie (2013); Burt, Kilduff, and Tasselli (2013); De Lange, *et al.* (2004); Haythornthwaite (1996)]. A social network questionnaire was prepared and quantitative data was collected using a set of questions regarding various aspects of entrepreneur's operation and details of his social network. At first the questionnaire was tested and revised later on.

The weaving segment firms are all in the unorganised, non-mill sector and there is no accurate data available on them regarding exact number of firms. The most widely used measure for firms is their productive capacity in terms of number of loom. We chose only those units which were identified with the help of the Pakistan Power Looms Association, SMEDA, and the small industries departments.<sup>2</sup> We collected data from hundred and twelve entrepreneurs from Faisalabad.

<sup>2</sup>SMEDA and Small Industries Departments are vital in locating entrepreneurs for our study. These two government organisations are responsible for maintaining and collecting statistics on SMEs in the country. Policy formulation pertaining to all affairs of the SMEs is through these two government departments. Therefore, their help in identification of the entrepreneurs of power loom sector was reliable and saved time and efforts for the field research.

- **Independent Variables: Network Variables**

The variables used in this study are network size and network density. Network size is taken as the total number of alters the entrepreneur is connected to. It is measured by simply counting the unique relationships or alters of the entrepreneur. Network density measures the presence of structural holes in the network or in other words, it measures the connectedness of the ego's ties among each other. A value of one indicates maximum density and zero means none of the contacts know each other. Tie strength is a measure of strength of relationship among network members. Tie strength measures the strength of relationship with each individual identified by the ego. Frequency of contact, duration of relationship and entry into the network determine the strength of relationship with each individual.

The data for these variables was collected through the social network questionnaire and the variables were calculated using the UCiNet software.

- **Dependent Variable: Transaction Costs**

In light of the existing literature and gathering from the discussions of the entrepreneurs, the following were the most important transaction costs identified and therefore to operationalise these thoughts, we created proxy variables on that information to measure them.

- (1) Contract Enforcement Costs

Respondents were asked to answer the question and what do they do in case of non-compliance with contracts.

- (2) Dispute Resolution

Respondents were asked question regarding the role of their networks for dispute resolution. They were asked to choose the possible method of handling business disputes.

For both variables, the respondents were given options whether they chose formal dispute resolution mechanisms like legal action or contacted the police etc., or used their social network for mediation and resolution. If the respondent chose the social network for dealing with transaction costs, the response was given a value of 1 and 0 otherwise.

### 3.2. Estimation of Model

Two models have been presented in this paper for testing of statistical hypothesis. At first a Linear Probability Model (LPM) was constructed which tested all the hypotheses. A linear regression model with a dependent variable that is either 0 or 1 is called the Linear Probability Model, or LPM. The LPM predicts the probability of an event occurring, and, like other linear models, says that the effects of X's on the probabilities are linear. However, LPM comes with certain restrictions [Gujarati (2012); Maddala and Lahiri (1992)]. Some of the limitations of LPM are presence of heteroscedasticity, possible violation of linearity assumption and error terms which are not normally distributed [Gujarati (2012)]. However, before the advent of computer applications, which have made calculating binary response models very easy, the LPM was widely used due to its simplicity [Gujarati (2012)]. The following sections present both types of models.

**3.2.1. Linear Probability Models**

*Management of Breach of Contract and Network Variables*

Dependent Variable = Management of breach of contract through social network			
Variable	Coefficients	t-statistic	Prob.
Constant	-0.371	-2.41	.017
Network Density	1.171	10.35	.000
Network Size	-.001	-0.009	.992
Tie Strength	0.46	2.32	0.02
R Square = 0.5			

The first hypothesis about significance of network density in cases of breach of contract also finds support in LMP model. Network density is positively and significantly related to breach of contract situations ( $b = 1.127, p < 0.1$ ). However, there appears to be a negative relationship between network size and use of network in cases of breach of contract. This relationship however, is not statistically significant in the model. The model explains 50 percent of the variation in the dependent variable.

*Dispute Resolution and Network Variables*

Dependent Variable = Management of dispute resolution through social network			
Variable	Coefficients	t-statistic	Sig.
Constant	-0.37	-2.41	0.01
Network Density	1.17	10.35	0.00
Network Size	-0.001	-0.009	.99
Tie Strength	0.46	2.32	0.02
R Square = 0.50			

The second hypothesis was related to dispute resolution and network density. In the LMP regression model, though use of network for resolution in cases of disputes was positive in the presence of higher density of network, it was not statistically significant ( $b = 1.17, p < .01$ ). The model explains 50 percent of the variance in the dependent variable.

**3.2.2. Binary Logistic Models**

*Management of Breach of Contract and Network Variables*

Dependent Variable = Management of breach of contracts through social networks			
Variable	Coefficients	Z-Statistic	Prob.
Constant	-3.39	-4.29	.000
Network Density	4.29	6.58	.000
Network Size	0.01	0.33	.736
Tie Strength	1.85	2.02	.043
McFadden R Square=0.448			

Network size was not statistically significant to our model suggesting that a mere presence of a social network does not imply that the network would also be utilised for overcoming transaction costs. The other two variables about network characteristics throw more light on the role of social networks as alternative dispute resolution mechanisms. Both network density and tie strength are significantly and positively linked to the dependent variable and thus the hypothesis finds support in the statistical model. Denser networks and stronger ties among network members encourage the use of social networks for overcoming transactions.

The Pseudo R square used in the model is McFadden R square which is a popular choice among econometricians. A McFadden value between 0.2-0.4 is highly desirable and considered a good fit. The McFadden value for our model is 0.44 which suggests that the model is a good fit.

*Dispute Resolution and Network Variables*

Dependent Variable= Management of dispute resolution through social network			
Variable	Coefficients	Z-Statistic	Prob.
Constant	-3.39	-4.29	0.000
Network Density	4.29	6.58	0.000
Network Size	0.02	0.33	0.736
Tie Strength	1.85	2.02	0.042
McFadden R Square= 0.45			

The dependant variable was positively related to network density and statistically significant. Tie strength is also positively linked to the dependent variable and statistically significant. Therefore, it can be gathered that in the presence of denser networks, the chances of a social networks being used as an alternative governance mechanism are higher. On a similar note, stronger ties among network members are more likely to encourage group members to use their social network for resolving disputes.

Since a traditional R square does not exist for binary models as opposed to the OLS models, many attempts have been made by econometricians to create a Pseudo R square. In the second model, a Pseudo R square, McFadden R square is used, which is a popular choice among econometricians. A McFadden value between 0.2-0.4 is highly desirable and considered a good fit. The McFadden value for our model is 0.48 which suggests that the model is a reasonably good fit.

### 3.3. Comparison of LPM and Binary Logistic Models

As discussed earlier, Binary Logistic models are the more preferred choice of technique in case of binary depend variables because it gives reliable results. In OLS, there is no constraint that the predicted values of Y estimates fall in the 0-1 range; indeed, predicted Y is free to vary between negative infinity and positive infinity and therefore it would violate the linearity assumption of OLS. LPM comes with certain restrictions [Gujarati (2012); Maddala and Lahiri (1992)]. Some of the limitations of LPM are presence of heteroscedasticity, possible violation of linearity assumption and error terms which are not normally distributed [Gujarati (2012)]. However, before the advent of

computer applications, which have made calculating binary response models very easy, the LPM was widely used due to its simplicity [Gujarati (2012)].

In the case of our results, though the hypotheses have been supported or the relationships have been established between dependent and independent variables.

The conclusion of the results is that both LPM and BLM in our case do not give contradictory results and move in the same direction in terms of significance of variables.

#### **4. REFLECTIONS AND DISCUSSION**

The results of this empirical study support the hypotheses proposed in the study. It was clear that entrepreneurs solely rely on networking for almost all aspects that they were questioned about. The family run businesses dominate the industry in Faisalabad and nearly all segments of the value chain are related to each other in some way [Khan (2011)]. Since, most of the cluster is dominated by few families; nearly everyone is related to each other in way or the other. The peer pressures created by such an environment guarantees that contract are honoured and there is a very little reliance on formal dispute resolving institutions [Khan and Ghani (2004); Nicholas and Maitland (2007)].

The society's features of trust and reciprocity have made it possible that small loans are taken out from other businesses without the need for any written contract. Such informal institutions bring efficiency in the economic process and reduce uncertainty [Nicholas and Maitland (2007)]. The power of informal institutions in reducing transaction costs cannot be matched by the formal mechanisms of dispute resolution (courts) and provision of credit (banks and other formal financial institutions). Many businessmen would find the formal institutions unnecessary and tedious. Moreover, the embedded institutions of trust and reputation in social circles help in reducing uncertainty to providing an environment where economic agents can come together and assume risks.

Social sanction and market limitations are the most common instruments for the enforcement of contracts and the recovery of loans. Recourse to the legal system of the country is uncommon since such financing is by its very nature conducted without reference to the legal system. The informal institution of reciprocity and trust are so firmly embedded in the business networks that there is hardly any need for formal regulations for ensuring that contracts would be honoured.

##### **4.1. Conclusions**

The presence of a social network would not necessarily lead to reduction in transaction costs; rather it is the structure of the social network that would establish that. This conclusion can perhaps explain the differences that occur in regional business growth, despite having similar policies and financial circumstances. Lastly, this study paves room for further investigation in the nature of networks other than density which makes them more useful for businesses. It is beyond the scope of this paper to analyse the deeper characteristics of the social networks, but it can stimulate further research in this direction.

##### **4.2. Policy Lessons**

It has been observed that social network of the entrepreneurs of SMEs has been beneficial in reducing the transaction costs associated with conducting business by acting

as an alternative governance mechanism that ensures contracts are honoured and providing the information on credibility of partners. Thus, an environment with higher levels of trust that promotes social capital would be conducive for promotion and growth of businesses. There are various channels through which public policies can be helpful in creation and support of high trust environment. Through conscious public policy measures, the use of tools and ideas can create a sense of solidarity, collectiveness and citizenship which has an important effect on social trust, in the way of creating the idea of interdependency between all actors of a society instead of a social imaginary built on self-preservation.

In the case of Pakistan in particular, policies which can directly impact social interaction of citizens are those which target spaces of public discourse are housing and social composition of schools. Education policies which target reducing segregation on the basis of faith, income and ethnicity and so forth can lead to feelings of unity and solidarity among the citizens and thus create opportunities for accumulation of social capital.

Similarly, housing policies in Pakistan governing spatial equality, which minimise segregation based on income levels would lead to building solidarity and developing empathy for others. Such policies are especially important for heterogeneous societies like Pakistan.

In Pakistan, strengthening of local bodies can be an effective public policy tool as well to engage the social capital at grass roots level in formal decision making.

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