Impact of Network Formation on Entrepreneurial Performance and Growth: A Study of Selected Small Enterprises in Bangladesh

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Abstract This study aims at evaluating the impact of network formation variables and found to have positive impact on the economic performance and growth of the enterprises. The calucation of the weighted scores of networking statements brought some affirmative results to influence the performance of the enterprises. Through multiple regression and logistic regression models it is identified that network formation variables like service receiving status, consultation of the family, other business dummy and attendance in fair have some significant positive impact both on the growth and performance of the enterprises. In addition to above variables, from the set of enterprise characteristics natural logarithm of the market value of total assets and from the entrepreneurs' characteristics set of variables, schooling year and squared value of the experience have been found to have significant positive impact. Finally, it is concluded in the study that to enhance the performance and growth of the enterprises, government and policy rlated organizations need to consider important variables that have positive impact in supplying the entrepreneurial resources especially, developing the net-working relationship.

Keywords Network • Economic Performance • Growth • Support Services • Family Consultation

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Introduction

Importance of networks formation and structure is well recognized in the entrepreneurship literature and practices. Network relationship and social ties among actors result in various consequences such as acquisition and proper utilization of resources, patenting activities, technological progress, attainment of growth and performance etc. Entrepreneurs perform various activities and make interactions with various external actors or outsiders such as other firms (Meller and Marfan 1981; Visser 1997), supporting institutions (Allesch 1993; Gibb and Zoltan 1996; Lim 1994; Sarder et al. 1997), and relatives and friends (Bridge et al. 1998; Birley 1985; Johannisson 1988). Hite and Hesterly (2001) recognized the central role of networks in successful growth and emergence of firms. According to Graf (2008) personal contact and networks help to develop trust, enable social control and transfer of tacit knowledge. Stuart and Sorenson (2007) recognized that entrepreneurs' initiation of new firms and attainment of success through venture operations largely depends on social capital, or personal and professional relationships to those controlling critical resources. Through the use of networking relationships, entrepreneurs could identify opportunities and resources rapidly, acquire and properly utilize them which are essential to meet the needs of the enterprises (Sadler and Chetty 2000; Szarka 1990; Weick 1991). In spite of having multiple impacts of networking relationships on the firm performance, it is cautioned not to be satisfied with powerful statistical results regarding post consequence analysis of network structures, rather to question and explore the underlying meaning of such results (Levinthal 2008). Thus, in analyzing the impact of networking relationships, the contingency theory emphasized that remarkable differences in networks across the industry set-

tings and their surroundings should be considered very carefully. By considering the implications of these issues present study aims to study the impact of network formation variables on the performance and growth of the selected small enterprises in Bangladesh, as research studies in this area, especially the informal network relationships consisting of family, friends, business acquaintance, professional advisers and commercial contact and societal organizations is very much scanty in Bangladesh context.

Here, entrepreneur's performance is measured through the entrepreneur's economic success index which is a continuous variable and growth is evaluated through the dichotomous statement of the entrepreneurs regarding the growth of the enterprises. To evaluate the impact of network formation variables on the performance of the sampled enterprises multiple regression models are used as the analytical tool. Besides, the logistic regression model has been used keeping in view the utility of this model in this particular problem to study the impact of related variables on the growth of the enterprises.

Defining Networks and Its Importance

The personal relationships between an entrepreneur and his 'external actors' are defined as networks (Aldrich and Zimmer 1986; Johannisson 1986). The external actors (outsiders) may be individuals or organizations who are not directly employed by the entrepreneurs but established relationships with them (contacts) in order to obtain necessary resources and to help perform activities. In this view, entrepreneurial networks consist of four major components, namely: actors, resources, activities and linkages. A firm can receive more supports from outside actors if it has wide network relationship. Support services assist to make some differences on the performance of the small enterprises if people and organizations involved in small enterprise development like government, supporting agencies, and policy makers play their important role in this perspective (Premaratne 2002, P. 3). When actors perform activities, the actors need resources, as one actor does not have all resources for attaining objectives; in case they exchange resources to meet their mutual needs (Easton 1992; Hakansson and Johanson 1988). It is important for an entrepreneur to find out new sources of resources. When actors perform activities, they gradually develop and depend on their own networks and the system of network is a major compensation for small enterprises that have lack of resources or limited access to resources in their usual domain of performance (Falemo 1989). Uzzi (1997) identified that network creates linkage of actors in various ways such as business partners, friends, agents, mentors and provides the

means to procure resources from that multiple relationship through mutual interest. The most important function of the external networks is to assist the firms in filling the resource gap including information. It is also supported by other studies related with enterprise development (Curran et al. 1993; Falemo 1989; Kallinikos 1995; Ostgaard and Birley 1996; Ozcan 1995; Weick 1991). Linkages provide extra resources that facilitate business growth in several ways. It helps to mobilize resources quickly. In general, the external resources are very helpful for the development of products and the expansion of market (Falemo 1989).

So, it is evident that the external networks are important for channeling resources, especially; network is a real source of resources for new entrepreneurs when they depend on their personal networks to supplement their own business. Networks can increase an actor's capacity to assemble resources and utilize these in an optimum and expected manner to meet the needs of the business organizations.

Typology of Network for the Small Enterprises

Entrepreneurial network can be categorized into the different types. Szarka (1990) categorized entrepreneurial networks into three groups: (1) exchange networks, (2) communication networks and (3) social networks. The exchange network of an enterprise is formed by the trading partners of that firm with whom it has commercial transactions. It is influenced by and interacts with the communication network and the social networks. The communication network (Szarka 1990) is the collection of those organizations and individuals with which the small firm has non-trading links that inform its business activities such as consultants and banks, the local and central government and its agents. Communication network can be either formal or informal which is involved in passing of information from one person to another. Relationships are further characterized as official and semi-official information flows. Some of these information flows do not involve monetary exchange such as sharing of technology and marketing information with other firms. The social network is formed by family, friends and acquaintances. Such contacts are important because they have an impact upon the development of the small firm.

Birley (1985) divides entrepreneurial networks into two categories: formal and informal. Formal networks include relations with banks, accountants, the local chamber of commerce, etc. Informal network refers to relations with family members, friends, previous colleagues or previous employers and acquaintances. According to transaction cost theory formal network includes joint ventures and alliances

which are rarely found in less-developed countries especially for the small business enterprises as it is also cited by Scholars like Kogut (1988a, 1988b). Like many other developing countries in Bangladesh, rarely any small enterprise goes for formal networking as stated by Kogut. But formal networkings with resource and service provider organizations are most often found in the small enterprises of Bangladesh. Therefore, in this study formal network has been defined as like as the definition of Birley (1985). Curran et al. (1993) argues that networks and networking can best be formulated within voluntary and compulsory networks. Compulsory networks are those which an organization must establish relationship to survive and operate successfully. According to Curran et al. (1993) the network relations with local chamber of commerce or sport club, are voluntary. They further argue that many of these networks are support networks (for example: banks, enterprise agencies, business advisers, etc.), which operate to provide business advice, information and capital. But Bryson and Keeble (1993) argue that the two types of network identified by Curran et al. (1993) (voluntary and compulsory) overlap with those two types of networks (formal and informal networks) as identified by Birley (1985).

Butler and Hansen (1991) identify three types of networks: social network, business focused network and inter-organizational strategic network. They suggest that at the entrepreneurial phase of a business, the social network provide ideas for the entrepreneur. The business-focused networks then develop gradually and are influenced by the nature of the entrepreneur's social network. The final stage, which is the ongoing phase, inter-organizational strategic networks not only reduces the firm's risk of failure but also provide advantages which are not obtainable as an isolated entity. So, it is evident that network requirements may be changed for the entrepreneurs with the phases of the development cycle of the business enterprise. Bussel (1998) categorizes total business networks into natural network and purposive support network. Natural network has been divided into personal network and business network. Family, relatives and friends are the example of personal network. Business acquaintances, professional advisors and commercial contacts provide the instance of business network. The organizations that provide support assistance to the business organizations purposefully with pre-designed or customized manner may be exemplified as the purposive support organization and relationship with these organizations is referred to as purposive support network. In the present study the impact of personal, business, social and purposive support network on the performance of the sampled enterprises has been measured and evaluated to identify their influence on the entrepreneurial growth and performance.

Selection of Variables and Measuring the Networking Relationships

In this study economic performance of the enterprises measured through the Entrepreneurs Economic Success Index (EESI) calculated based on the Akhouri's model and growth of the enterprise measured through dichotomous variables (growth of the enterprise takes the value of one, otherwise zero) have been used as dependent variables.

The independent set of variables includes: network formation variables which comprise: service receiving status of the enterprises dummy (SRSENTD) [number of firms received support services takes the value of one, otherwise zero], consultation of the family dummy (CONSLFTD) [firms received family consultation takes the value of one, otherwise zero], family involvement in business dummy (FMINVBD) family involved in business takes the value of one, otherwise zero], participation in fair dummy (ATTFAIRD) [firms participated in fair takes the value of one, otherwise zero], and other business dummy (OTHBSD) [entrepreneurs having multiple business/es takes the value of one, otherwise zero]; variables related to enterprise characteristics are: age of the enterprises (AGEE) [Continuous variable], natural logarithm of the market value of total assets (LnMVA) [Continuous variable in natural logarithm form], Ownership sources of the business dummy (OWNSD1) [self initiated enterprises take the value of one, otherwise zero]; and variables related to entrepreneurs characteristics consist of: Gender (GENDER) [Firms with male entrepreneurs takes the value of one, otherwise zero], Training dummy (TRAINING) [Entrepreneurs received training takes the value of one, otherwise zero], Schooling year (SCHYR) [Continuous variable], Experience (EXPERIEN) [Continuous variable] and Experience Square (EXPERIEN^2) is used for measuring the true effect of this variable on the performance and growth of the enterprise for its polynomial character.

Data related to network formation have been collected from all sampled entrepreneurs by using five statements relating to the different levels of networking relationships measured through five point Likert's scale. Lowest involvement in the specific network is indicated by one and highest involvement is measured through five in the Likert's scale. In the 1st statement number of networks has been measured and other statements measured the extent of involvement in particular network. In order to evaluate their perceptions regarding importance of each network, respondents ranked each of the statements. Then, opinions of each individual entrepreneur on the scale are multiplied by the rank assigned on each of the statements to calculate weighted

score. The weighted score has been classified into four categories: <2, ≥ 2 to < 3, ≥ 3 to < 4, and ≥ 4 to < 5. Afterwards, the average of EESI for each category has been calculated for interpretation. Statements by which network variables have been measured and evaluated are given below:

1. The **entrepreneurial network** entails a. family and friends b. business acquaintances c. professional advisors and commercial contact d. purposive support organization e. social organizations

2. **Family involvement**: Whether an entrepreneur discusses essential business problems with his / her family members and they assist the entrepreneur through providing their thought based opinions and actively participate if necessary in business decisions.

3. **Contact with business acquaintances**: Whether the entrepreneurs maintain regular relation with business acquaintances to get their necessary support and information for business and on the other hand help them in their necessity of the business

4. **Contact with professional advisors and purposive support organizations for problem solving**: Whether entrepreneurs maintain relation with professional advisers and support service organizations and seek advice from them unless and until the problem is solved and don't hesitate to pay them properly

5. **Social Networks**: Whether entrepreneurs maintain regular relation with social organizations and this relationship helps them to increase the customer networks and value of the business through getting and utilizing the resources properly to meet the needs of the business

Measuring the Impact of Network Formation on Enterprise Performance through Economic Success Index Score

The Table 1 in the annexure shows the comparative picture of success index score for the entrepreneurs with <4 and > 3 points on five points Likert's scale for each of the five statement related to entrepreneurial networks. Results of the analysis shows that for the first statement 44 percent

entrepreneurs has been found with 1-3 points on Likert's scale and 56 percent entrepreneurs are found in the 4-5 on likert's scale. The average score of success index for firms in the first category is 0.53 and for the second category 0.65. This implies that entrepreneurs having the greater number of relationships are more successful than the entrepreneurs having lower number of relationship. Second statement is related with the involvement of family members in business related affairs. It has been found from the analysis that 28 percent entrepreneurs having the score from 1-3 in the Likert's scale attained the success score of 0.58 compared to 72 percent entrepreneurs in the range of 4-5 points in the Likert's scale attained the success score of 0.61. It is evident in the results that, family member play an important role for survival and excellence of the business operations for small enterprises in Bangladesh. The third level of relationship is concerned with the business acquaintance i.e. other firms in the same or related business. Regarding business acquaintance 60 percent entrepreneurs having points from 1 to 3 in the Likert's scale obtained the success index of 0.58 as compared to the category of points 4 to 5 with the success score of 0.63. The fourth statement is related with purposive support and commercial network. Out of the entrepreneurs who took support services 89 percent entrepreneurs are found in the networking score with 1 to 3 points in Likert's scale meanwhile 11 percent entrepreneurs are found in the category of 4 to 5 points in the Likert's scale. For the first category the average of success index score is 0.56 compared to 0.94 for the entrepreneurs in the second category. The fifth statement is related with social network of the entrepreneurs. Sixtyone percent entrepreneurs in this case is found in the category of 1-3 points in the Likert's scale and 39 percent entrepreneurs are from 4-5 points on the Likert's scale. The average of success index score for both the categories in this statement are 0.58 and 0.62 respectively. Therefore, from category wise analysis it is evident that entrepreneurs having the highest involvement with more entrepreneurial network are successful compared to the entrepreneurs without involvement of networks or less involvement of networks. Especially for small entrepreneurs, family network is more important compared to other types of formal or support network in their business life.

Table 1 Entrepreneurial Network and Average of EESI

Statements	Positions in the five point Likert Scale and Success Index Score	
	<4	>3
Numbers of Networks: The sampled **entrepreneur's network** include **a.** family and friends **b.** business acquaintances **c.** professional advisors and commercial contact **d.** purposive support organization **e.** social organizations	0.53 (44)	0.65 (56)
Family involvement: Whether entrepreneur discusses essential business problems with family members and they share with him / her through expressing their deliberate thought and actively participate if necessary	0.58 (28)	0.61 (72)
Contact with business acquaintances: Whether entrepreneurs maintain regular relation with business acquaintances to get them in the necessity of business and help them if required	0.58 (60)	0.63 (40)
Contact with professional advisors and purposive support organizations for problem solution: Whether entrepreneurs maintain relation with professional advisers and support service organizations and seek advise from them unless and until the problem is solved and don't hesitate to pay them appropriately	0.56 (89)	0.94 (11)
Social Networks : Whether entrepreneurs maintain regular relation with social organizations and this relationship helps them to increase the customer networks and value of the business through getting and utilizing the resources properly to meet the needs of the business	0.58 (61)	0.62 (39)

Note: Figure in the parentheses indicates the number of entrepreneurs against specific position of each statement

The Table 2 shows the weighted score of entrepreneurial network and average of success index score. It is evident in the analysis that in the category of WS< 2, the number of enterprises is 6 and their respective score of economic success index is 0.46 meanwhile, 14 percent entrepreneurs are in the category of $2 \leq WS < 3$, who achieved the success index score of 0.48. And largest number of entrepreneurs (80 percent) have been in the group of $3 \leq WS < 5$ who obtain the average success index score of 0.63. Therefore, from this combined analysis it is further evident that the entrepreneurial network has an important impact on the creation, maintaining and development of the enterprises as entrepreneurs having highest score in the network is reflected through the highest score of success index.

Table 2 Weighted Score of Entrepreneurial Network and Average Success Index Score

Weighted Score (WS) on Likert's Scale	No. of Enterprises	Average of Success Index Score
WS <2	6	0.46
$2 \leq WS < 3$	14	0.48
$3 \leq WS < 4$	52	0.63
$4 \leq WS \leq 5$	28	0.63
	100	0.60

Use of Multiple Regression Model

Multiple regression models have been employed to measure the impact of network (formation variables) relationship on the performance of the sample enterprises. Variables related with firms' characteristics and entrepreneurial traits have been controlled. On the other hand, the impact of networking relationship on the growth of sampled enterprises has been assessed by using logistic regression model after controlling firms' characteristics and entrepreneurs' traits re-

lated variables. More specifically, the model is used to measure the impact of network formation variables on the performance and growth of the enterprise given below:

$$EESI = \alpha + \sum_{i=1}^{5} \beta 1 NFVi + \sum_{i=1}^{3} \beta 2 EntprseVi + \sum_{i=1}^{4} \beta 3 EntprnrVi$$

$$GRBSD = \alpha + \sum_{i=1}^{5} \beta 1 NFVi + \sum_{i=1}^{3} \beta 2 EntprseVi + \sum_{i=1}^{4} \beta 3 EntprnrVi$$

Where,
EESI = Entrepreneurs Economic Success Index
GRBSD = Growth of Business Dummy
NFVi = Network Formation Variables; i = 1,2,...................5
EntprseVi = Variables related with enterprise characteristics; i = 1,2,.........3
EntprnrVi = Variables related with entrepreneurs characteristics; i = 1,2,...........4

The Impact of Network formation variables upon Entrepreneurial Performance: Results of Multiple Regression Analyses

For analyzing the impact of independent variables on entrepreneurial performance three models have been used which is presented in the Table 3.

In the first model, the variables directly related with the network formation are considered. In this set of variables, service receiving status of the firms, consultations of the family received in business, family involvement in business, attendance in fair and ownership of multiple businesses have been considered.

The second model considered variables related with entrepreneurs and enterprise characteristics in addition to network formation variables. The variables in these categories are age of the enterprise, market value of the total assets, ownership sources of the business, gender, training; schooling year and experience.

In the third model experience of the entrepreneurs has been squared to assume its polynomial characteristics and to measure its real impact on the entrepreneurial performance.

The analysis of the first model shows that out of the network formation variables, service receiving status, consultation of the family, participation in fair and other businesses all have positive impact on the performance of the entrepreneurs with some varying degrees. The analysis also shows negative relationship between the performance of the enterprises and family involvement in business although the result is not significant statistically. All the factors that have positive impact on the enterprise performance are statistically significant at 5% level of significance except 'other business/es' as single variable which is significant only at 10% level of significance. The P values for the significant variables in this model are service receiving status dummy = .031, consultation of the family dummy = .003, participation in fair dummy = .052 and other business dummy is .095 which tends to remain at the significant level of relationship. The policy implications of this model is that enterprises should attach importance on the factors that have positive impact on the enterprise performance so that, all these factors can be utilized for the betterment of future enterprise performance and development. Government can also emphasize on all these factors so that entrepreneurs can obtain support services, avail the opportunities to participate in the fair and can increase their number of businesses as well.

Table 3 Regression Model - Impact of Network Formation Variables (Models 1, 2 & 3) on Entrepreneurial Performance Measured by Economic Success Index Score

Variables	Model-1	Model-2	Model-3
Service receiving status of the enterprises (SRSENTD)	.287**(.031)	.274*(.072)	.280*(.063)
Consultations of the family (CONSLTFD)	.325***(.003)	.275**(.024)	.329***(.009)
Family involvement in Business (FMINVBD)	-.124(.181)	-.069(.481)	-.066(.491)
Attendance in Fair (ATTFAIRD)	.205**(.052)	.271**(.034)	.290**(.022)
Other Business (OTHBSD)	.155*(.095)	.141(.190)	.140(.187)
Age of the Enterprises (AGEE)		-.011*(.054)	-.012**(.037)
Market Value of Total Asset (LNMVA)		.011(.775)	.000(.997)
Ownership Sources of the Business (OWNSD1)		.130(.409)	.037(.820)
Gender (GENDER)		-.108(.402)	-.098(.438)
Training (TRAINING)		.140(.226)	.154(.180)
Schooling Year (SCHYR)		.010(.528)	.013(.421)
Experience (EXPERIEN)		-.009(.254)	.024(.235)
Experience Square (EXPERIEN²)			-.002*(.079)
R Square	.183	.262	.288
Adjusted RSquare	.140	.160	.181
F-Statistics	4.213	2.576	2.681
P-Value	.002***	.006***	.003***
N	100	100	100

Note: Figure in the models against each variable is indicating un-standardized coefficients and figure in the parentheses shows the significance value. *** Significant at 1 percent level of significance, ** Significant at 5 percent level of significance and * Significant at 10 percent level of significance

In the second model when variables related with entrepreneurs and enterprises characteristics have been included, the result shows positive relationship between enterprises performance and market value of total assets, ownership sources, training, and schooling year. But in the second model except age of the enterprise, no variable was found to be statistically significant. Results of the variables related with network formation variables in the second model remain almost near to the previous model with slight changes in the factor of 'other businesses'. In the second model P values of the factors related with network formation are: service receiving status dummy (.072), consultation of the family dummy (.024) and participation in fair dummy (.034).

In the third model, a new variable named square of the experience in addition to other variables has been included to measure the true reflection of the experience on the performance. In the third model the direction of relationship between the network formation variables and performance of the enterprise remain unchanged as in the first and second model. Here, the p values of the significant variables in the network formation variables are service receiving status dummy (.063), consultation of the family dummy (.009), and attendance in fair dummy (.022). In the third level of analysis the result shows same direction of relationship between the characteristics of the entrepreneurs and enterprise and performance of the enterprises except experience of the enterprises. Although in the second model, contribution of the experience was negative in the third level of analysis it becomes positive to the enterprise performance and here the true reflection of the experience curve has been found. The p values for the significant factors in the third level of analysis are age of the enterprise (.037) and natural logarithm of the market value of total assets (.004).

The comparisons of the results of first, second and third models testify to the fact that one unit of service receiving by the surveyed firms can enhance the performance by .29 units, .27 units and .28 units respectively. The result of the consultation of the family shows contribution up to .33 units, .28 units and 33 units respectively in the model 1, 2 and 3. For participation in fair the impact stands at .21, .27 and .29 units while for other business the reflection in the units of changes in performance is .16, .14 and .14 units respectively. The contribution of training program is .14 and .16 units respectively in the sampled enterprises according to the third model of analysis. For other variables changes may not be reflected so commendable.

It appears in the above analysis that entrepreneurs' network is one of the crucial factors that have impact on the improvement of the performance of the studied enterprises. Consultation of the family members is another key factor

to foster the overall performance of the small enterprises in our country. When family members are supportive to the entrepreneurs and help through providing the consultation and other types of assistance it will in fact support the entrepreneurs to increase their performance.

The p value of the regression models in all the levels of analysis also indicating significant relationship between the performance of the enterprises and studied independent variables in different categories. The p value for all the models respectively is .002, .006 and .003 respectively for first, second, and third models.

The Impact of Network formation variables on Entrepreneurial Growth: Results of Logistic Regression and Analyses

Logistic regression model is the best approach to analyses in the social science phenomenon when the dependent variable in the study is dichotomous. So, to evaluate the impact of independent factors on the growth of the enterprises logistic regression model has been used in the present study and the results are shown in the Table 4. In the logistic regression model the same sets of independent factors as like as regression model are used to study the impact of these factors on the growth of the enterprises.

In the logistic regression first model explains the relationship between network formation variables and the growth of the enterprises. The result of the first model shows significant at 5% level of significance for all the variables except family involvement in the business. According to the analyses service receiving enterprises have 84 percent contribution to the growth of the enterprises compared to the non receiving enterprises. As odds ratio shows consultation of the family members in executing and running the enterprise also plays an important role. It is evident in the result that consultation of the family made 89 percent contribution to the growth of the enterprise compared to firms didn't receive consultation from their family. Direct involvement of the family members in the business is not contributing positively as it is found in the regression results also. Sampled enterprises obtained 92 percent growth from participation in fair compared to firms that didn't obtain the opportunity to participate in fair in the course of doing the business. On the other hand enterprises having more than one business obtained 99 percent growth compared to only single business ownership by the sampled entrepreneurs.

For the second model, variables related with enterprise characteristics have been included in addition to network formation variables. Variables in this category have been included are: age of the enterprises, natural logarithm of

the market value of total assets and ownership sources of the business etc. The result has been found insignificant for all the variables related with the characteristics of the enterprise. In the model-2 still the result for the network formation variables is satisfactory. That is except family involvement in the business all other network formation variables are found significant statistically. The p values for the significant variables are service receiving status dummy (.055), consultations of the family dummy (.0050, attendance in fair dummy (.030), and other business dummy (.008).

Table 4 Logistic Regression Model to Measure the Impact of Network formation Variables on Growth of the Business of the Sampled Enterprises

Variables	Model-1	Model-2	Model-3	Model-4
Service Receiving Status of the Enterprises Dummy (SRSENTD)	.158**(.017)	.212**(.055)	.126*(.076)	.057**(.036)
Consultations of the Family Dummy (CONSLTFD)	.109***(.002)	.116***(.005)	.064***(.006)	.026**(.033)
Family Involvement in Business Dummy (FMINVBD)	1.148(.842)	.901(.893)	1.303(.771)	1.155(.892)
Attendance in Fair Dummy (ATTFAIRD)	.078**(.030)	.071**(.034)	.114(.114)	.104(.118)
Other Business Dummy (OTHBSD)	.186***(.014)	.127***(.008)	.152**(.031)	.095**(.019)
Age of the Enterprises (AGEE)		.968(.425)	.956(.361)	.925(.219)
Market Value of Total Asset (LNMVA)		1.475(.170)	1.973*(.072)	2.452*(.059)
Ownership Sources of the Business(OWNSD1)		.254(.169)	.142(.130)	.266(.384)
Gender(GENDER)			1.485(.753)	.726(.809)
Schooling Year (SCHYR)			.691**(.026)	.658**(.036)
Training (TRAINING)			.333(.247)	.161(.114)
Experience (EXPERIEN)			.881**(.025)	1.482(.108)
Experience Square (Experien²)				.972*(.054)
Chi- Square	28.744	32.984	43.358	50.391
P	.000***	.000***	.000***	.000***

In the model three, again a set of variables related with entrepreneurs characteristics have been included with previous net work formation variables and variables related with enterprise characteristics. The results in the third model have been slightly changed for the network formation variables but still the result is good. Out of all the network formation variables: service receiving status, consultation of the family members, and other business has been found significant statistically. The p value for all that variables are .076, .006 and .031 respectively for service receiving status dummy, family consultation dummy and other business dummy respectively. Contributions of all these variables towards the development of the growth of the enterprise are 87 percent, 93 percent and 84 percent respectively. For the result of the enterprise characteristics related variables only market value of total assets has been found significant at 10 percent level of significance, the p value of which is .072. When variables related with entrepreneurial characteristics have been considered the results of the schooling years and experience has been found significant.

The polynomial characteristics of the experience of the enterprise has been considered and included in the model four separately for further calculation of the regression value. After inclusion of that variable a slight change in the results has been found. Again in this model all the network formation variables have been found significant except family involvement in the business. The p value for all the significant variables in this category are service receiving status dummy.036, consultation of the family dummy.033 and other business dummy .019. Attendance in fair also has a considerable effect on the growth of the enterprise the p value of which is .059. Out of the variables related with the characteristics of the entrepreneurs, schooling year has been found significant the p value for which is .036. Experience also plays a considerable effect on the determination of the growth of the enterprises as analysis of the fourth model shows. Here the p value of experience is .108. When square of the experience has been considered for its polynomial character the result has been improved from the previous status and the variable is found to be with significant result, the p value of which is .054.

When all the models have been considered, it is evident that p value of all the models in the logistic regression is zero which stands the significance of all models and provides good ground for estimation of the values regarding impact of the variables on enterprise growth.

Conclusion

In analyzing the impact of network formation variables on the enterprise performance and growth of the the study found that enterprises having highest degree of networking relationship with various groups and individuals are more

successful compared to the entrepreneurs who don't have the same degree of relationships. The weighted scores of the networking relationships found that enterprises having highest weighted score in the better level of performance in terms success index of the enterprises compared to the enterprises with lowest weighted score. The important variables that have positive impact on entrepreneurial performance are: service receiving status, consultation of the family, and attendance in fair with some other variables. The results of the logistic regression model regarding the impact of network formation variables on enterprise growth reveals almost nearly the same findings as of the multiple regression models. It is evident in the logistic regression models that service receiving status dummy, consultation of the family dummy, other business dummy, and attendance in fair dummy are some variables which have significant impact on the growth of the enterprises. In the enterprise characteristics related variables set natural logarithm of the market value of total assets has been found to have some considerable impact. From the entrepreneurs' characteristics set of variables schooling year and squared value of the experience has been found to have significant influence on the growth of the studied enterprises. The study concludes with the suggestions to consider the important influencing variables mentioned above while framing the policies regarding small enterprise development and to enhance the performance and growth of their business through operations.

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