

# The Impact of Firm and Entrepreneur's Characteristics on Networking by SMEs in South Africa

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**ABSTRACT** The economic significance of SMEs in employment creation, poverty alleviation and income redistribution in South Africa is well documented in literature. However, SMEs suffer from a very high failure rate and weak performance. One factor improving SME performance is networking. The study investigates the impact of entrepreneurs and firm characteristics on networking of SMEs in South Africa. Self-administered questionnaires were used to collect data in a survey. Statistical analysis included descriptive statistics and regression analysis. Results indicate that some entrepreneurs' and firm characteristics impact positively on networking by SMEs.

## 1. INTRODUCTION

SMEs and their importance globally have been well documented in literature (Ganbold 2008). Research by Beck et al. (2004) and Graaf (2007) alludes to the importance of SMEs in overcoming development challenges of high unemployment, high poverty rates and income inequalities in developing countries. However, despite the importance of SMEs in overcoming development challenges, SMEs suffer from weak performance and high failure rates. Fatoki and Odeyemi (2010) observe that the failure rate of SMEs in South Africa is approximately 75%. Bowen et al. (2009) suggest that the importance of SMEs to development and their high failure rate necessitates research into factors that will enable SMEs to survive and grow. Premaratne (2002) points out that networking is one tool that can be utilised by SMEs to improve their performance. Sawyerr et al. (2003) define networking as a firm, its employees or owner linking with individuals or firms not under its direct control to share contacts, information and resources in a cost effective way.

Hakansson and Ford (2002) state that the role of networking on performance has been researched by several authors with studies indicating a positive relationship between networking and firm performance (Chen et al. 2007; Bandiera et al. 2008; Eisingerich and Bell 2008; Thrakalawa 2011). Sawyerr et al. (2003) argue that the positive impact of networking on firm perfor-

mance stems from the information and resource sharing which are mutually beneficial. With these documented benefits of networking, it becomes necessary to investigate factors that affect networking by SMEs. Research by Farinda et al. (2009) establishes that necessity, reciprocity, efficiency and stability are some factors that influence networking of SMEs. This suggests there are many factors affecting SME networking and an exhaustive investigation of all these factors is not feasible. Ahmad et al. (2010) note that for SMEs, the essential resources are likely to be held by the owners and are likely to be reflected in the owner's skills, knowledge, experience and education. The lack of separation between ownership and control in SMEs suggests that the owners themselves are responsible for the development of their firms. Therefore, investigating factors that affect the SME owner directly (entrepreneurs' characteristics) and factors that are inherent to the SME (firm characteristics) is essential in analysing how these factors affect the networking of SMEs. A meta-analysis of the literature on networking revealed that no study has empirically investigated the impact of firm and entrepreneur's characteristics on networking by SMEs in South Africa.

## Objective of the Study

The objective of this study is to investigate the impact of firm and entrepreneur's characteristics on networking by SMEs in South Africa.

## 2. LITERATURE REVIEW

### 2.1 Theoretical Framework

According to Claro (2004) the roots of the networking theory can be traced from organisational behaviour, management and sociology. However, networking theory relevant to SMEs can be described through the transaction cost theory by Coase (1937) and extended by Williamson (1985), the resource dependency theory by Pfeffer and Salancik (1978) and social network theory by Moreno (1937) and Coleman (1988). The Transaction Cost Theory was formulated by Commons (1934) and reinforced by Coase (1937), Arrow (1969, 1974) and Williamson (1985, 1991). According to Arrow (1969) transaction costs are the costs involved in running the economic system. Coase (1988) suggests that there are always costs for carrying out market transactions. Therefore, a firm would prefer transactions to be organised within the firm if the cost would be less than the cost of carrying out the transaction in the market. However, as the additional costs of transactions within the firm exceed the cost of carrying out the transaction through the market, firms attempt to reduce transaction costs by vertical integration (Williamson 1991). Therefore, the rationale behind the transaction cost theory is that market costs are usually too high for firms to overcome individually. This leads to the creation of linkages for small firms (Thorelli 1986).

The central premise of the resource dependency theory by Pfeffer and Salancik (1978) is the interdependency of firms. Specifically, Pfeffer and Salancik (1978) argue that the effectiveness and performance of firms is highly dependent on the firm's external environment. Interdependence is necessary because no one actor (firm) entirely controls all the conditions necessary for the achievement of desired outcomes. All firm actions and outcomes are thus based on interdependent causes in the external environment. However, the dependency of a firm on its external environment leads to uncertainty. This uncertainty derives from the lack of coordination among social units of the firm and the external environment. With the need to improve performance and increase coordination between the firm and its external environment, there is formation of linkages (Pfeffer and Salancik 1978). These linkages will lead to information exchange

and resource sharing to gain strategic options and improve their performance (Sengenberger and Pyke 1992).

The social network theory introduced by Moreno (1937) argues that individuals in any society are involved in a number of social relationships with each other. Coleman (1988) argues that within a society/group marked by a high degree of social disintegration, trustworthiness among members will be low and the value derived from such connections is not great. Therefore, members will seek to form linkages and networks. This will result in mutual bonds among members creating trustworthiness which leads to beneficial information and resource exchanges. Burt (1992) proposes the structural holes theory which suggests that an individual is in an advantageous position to acquire information if he/she is connected to others who are not directly connected to each other. This forms the basis for individuals forming linkages or networks with other individuals or firms. Therefore, a manager who spans the structural holes by having non-redundant contacts on both sides of the structural hole will have access to different beneficial information flows (Burt 1997).

### 2.2 Empirical Review

#### 2.2.1 Entrepreneur's Characteristics

##### *Gender*

According to Watson (2011) female SME owners are not disadvantaged, relative to male SME owners, with regards to their networking activities. Runyan et al. (2006) find that women have a higher level of social capital. However, Brush et al. (2004) and Hanson and Blake (2009) find that gender has an effect on SME networking and conclude that women owned firms have weaker networks than male owned firms. Wood (2011) in a research on business networking events in Europe finds that males are significantly more engaged than females in attending business networking events. Watson (2011) notes that the social structure and domestic duties of women might result in female entrepreneurs having and using fewer networks than male entrepreneurs. Literature on the role of gender on the networking of SMEs is thus inconclusive. This study hypothesises that gender positively impacts on networking by SMEs.

### *Age*

Greve and Salaff (2003) find that the age of SME owners has a significant impact on business networking. Older SME owners build a stronger and wider social capital compared to younger SME owners. However, King et al. (2007) dispute the fact that older SME owners network more than younger SME owners. King et al. (2007) argue that younger entrepreneurs actually network as much as older entrepreneurs. This is attributed to the "digital evolution" where information sharing is profound. Literature on the role of age of the SME owner on networking is thus inconclusive. It is hypothesised that the age of the SME owner has a positive impact on networking.

### *Education*

Greve and Salaff (2003) posit that an SME owner with a better education will also be more likely to network more than an SME owner with less background education. This may be because educated SME owners are aware of the benefits of networking. MacGregor (2004) find that the education level of an SME owner or Chief Executive Officer (CEO) is positively associated with the networking of the SME and the types of networks an SME is engaged in. Therefore, it is hypothesised that the education of the SME owner will positively impact on networking.

### **3.2.2 Firm Characteristics**

#### *SME Age*

Huang et al. (2003) find that there is a positive association between a firm's age and networking. Firms that have been in existence for longer network more because they are less time and financially constrained than younger firms. Dowling and Helm (2006) concur that a firm's age is positively related to the types of networks the firm will be engaged in. The age of the firm is used as a moderator where younger firms benefit from cooperation with other firms whereas older firms are more successful when they network with research institutions and professional organisations. However, King et al. (2007) argue that it is younger SMEs "baby boomers" that network more than older, more established firms. This is because these newly established SMEs

are established by individuals who are in the "digital generation" where their lives are extremely networked, both technologically and personally. Harvie et al. (2010) also contend that most SMEs that engage in production networks are younger firms and not older SMEs. This study hypothesises that age of the SME positively impacts on networking.

#### *SME Size*

Wincent (2005) finds a positive association between SME size and networking with larger firms exhibiting higher networking width and depth compared to smaller firms. Small firms are more dependent on the social networks of their owners and employees and rely less on formal business networks whereas larger firms benefit from formal business relationships. Harvie et al. (2010) conclude that the size of the SME is an important characteristic for an SME to upgrade its position in production networks. However, Harvie et al. (2010) did not find any significant relationship between SME size and participation in networking. This suggests that the size of the SME does not have any impact on networking. This study follows Vincent (2005) and hypothesises that the size of the SME will impact positively on networking.

#### *Legal Status*

According to Human and Provan (2000) the legal status of the SME will affect its networking. The authors find that sole traders are affected by their legal status and will most likely utilise social networks of friends and family. On the other hand, an SME registered as a company will have benefits of a separate legal entity which improves the legitimacy of the firm and these firms will likely participate in general and managerial networks than social networks of friends and family. However, Li et al. (2010) find that whether a firm is a sole proprietor business or a registered company, there is no effect on the likelihood to participate in different types of networks. It is hypothesised that the legal status of the SME positively impacts on networking.

#### *Industry*

Barnir and Smith (2002) posit that the sector (industry) an SME operates in is positively re-

lated to networking. Luo (2003) asserts that the level of networking increases when uncertainty, regulation and competition increase depending on the industry. However, MacGregor (2004) could not find any significant association between the business sector of SMEs and the networking of that SME. Callaghan and Lenihan (2008) evaluate the impact of industry type on the types of networks enterprises will engage in. The authors find that the type of industry has no effect on the networking of enterprises or the types of networks the enterprises will be involved in. This study hypothesises that industry type positively impacts on networking by SMEs.

### 3. RESEARCH METHODOLOGY

The study used the quantitative research methodology approach. The target population was identified as all SMEs in the Buffalo City Municipality (Eastern Cape, South Africa) which comprises the towns of King Williams Town, Bhisho and East London. The population frame of 612 SMEs was identified using the Yellow Pages Telephone Directory. A sample size of 237 SMEs was identified using the Raosoft sample size calculator (Raosoft 2010). The number of employees was used as the proxy to measure SMEs. Probability sampling technique was used to select respondents using simple random sampling as the method of choosing respondents. The self-administered questionnaire was the survey research method used to collect data from respondents. The questionnaire included close-ended questions, dichotomous questions and Likert-scale questions.

To measure entrepreneur's characteristics, gender, education and age of the SME owner/manager were used. A similar approach was used by Greve and Salaff (2003), Brush et al. (2004) and MacGregor (2004). To measure firm characteristics of the SME, the age of business, the size of SME, the legal status and the industry type were used as composite measures. Similarly, Human and Provan (2000), Barnir and Smith (2002), Wincent (2005) and Dowling and Helm (2006) used these aspects as measures of firm characteristics. Lechner et al. (2006) suggests that there is no concrete measure of networking. However, following approaches by Premaratne (2002), Lechner et al. (2006) and Watson (2011) this study measured networking through a series of questions based on the networks respondents

participated in. These sources of networks ranged from general networks (membership in professional associations; attendance of trade fairs; use of accountants). Managerial networks included relationships with suppliers, competitors and customers. Social networks included relationships with friends and family and membership in social clubs. Dichotomous questions were utilised to measure network participation.

Pair-wise deletion was used to treat missing values. Data analysis included descriptive statistics (distribution, mean and standard deviation) and bivariate analysis (regression models). To ensure validity, the study used a panel of experts to evaluate the research instrument and also pre-tested the research instrument in a pilot study. The Cronbach's alpha was used as the measure of reliability.

### 4. RESULTS AND DISCUSSION

Two hundred and thirty-seven questionnaires were distributed and sent out to respondents. However, forty-nine respondents were unavailable for the survey and twenty-seven of the respondents did not respond or discarded the questionnaires. The response rate for the study was 68%. The majority of the respondents were males (66%) while 44% were female. The results indicate that most SME owners (41%) were between the ages of 31 to 40. Most SMEs (45%) were small firms with the most common form of ownership (43%) being sole proprietorship. Table 1 presents the full survey results of entrepreneurs' and firm characteristics. The results also indicate that the most commonly used networks were managerial (74%) and social (74%) networks while on average, the mean score for the overall networking of SMEs was 67%. Table 2 presents the full survey results on the different networks of SMEs.

Regression analysis was used to investigate the impact of entrepreneurial and firm characteristics on the networking of SMEs. The results of the regression analysis for overall network, general network, managerial network and social network are presented in Tables 3, 4, 5 and 6 respectively. Overall network is a combination of general, managerial and social networks). The significance of the regression model was tested at a confidence level of 95% and was statistically significant with a mean square 0.2923 and a P-value of <.0001. The questions on network-

**Table 1: Demographics: Firm and entrepreneurs' characteristics**

| Variable           | Frequency | Variable                                         | Frequency |
|--------------------|-----------|--------------------------------------------------|-----------|
| <i>Owners' Age</i> |           | <i>Legal Status</i>                              |           |
| 20-30 years        | 42        | Sole proprietorship                              | 72        |
| 31-40 years        | 68        | Partnership                                      | 40        |
| 41-50 years        | 32        | Close corporations                               | 15        |
| Over 50 years      | 19        | Company                                          | 29        |
| <i>Gender</i>      |           | <i>Industry Type</i>                             |           |
| Male               | 106       | Service                                          | 19        |
| Female             | 55        | Manufacturing                                    | 32        |
| <i>Education</i>   |           | Retail                                           | 55        |
| Less than Matric   | 5         | Construction                                     | 18        |
| Matric             | 26        | Wholesale                                        | 26        |
| Diploma            | 29        | <i>Size of SME (measured by no of employees)</i> |           |
| Degree             | 66        | 0-49                                             | 72        |
| Post graduate      | 25        | 50-99                                            | 47        |
| <i>Age of SME</i>  |           | 100-149                                          | 26        |
| 1-4 years          | 58        | 159-200                                          | 16        |
| 5-9 years          | 53        |                                                  |           |
| 10-14 years        | 29        |                                                  |           |
| 15 years and above | 21        |                                                  |           |

**Table 2: Summation of SME network participation**

| Range of networks                      | Yes | No  |
|----------------------------------------|-----|-----|
| <i>General Networks</i>                |     |     |
| Professional associations              | 48% | 52% |
| Trade fairs and business seminars      | 69% | 31% |
| Government agencies                    | 58% | 42% |
| Accountant                             | 45% | 55% |
| External consultant                    | 49% | 51% |
| <i>Average for General Networks</i>    | 54% | 46% |
| <i>Managerial Networks</i>             |     |     |
| Competitors                            | 73% | 27% |
| Suppliers                              | 78% | 22% |
| Customers                              | 71% | 29% |
| <i>Average for Managerial Networks</i> | 74% | 26% |
| <i>Social Networks</i>                 |     |     |
| Social associations/clubs              | 63% | 37% |
| Friends                                | 77% | 23% |
| Family and relatives                   | 81% | 19% |
| <i>Average for Social Networks</i>     | 74% | 26% |
| <i>Average/Overall Networking</i>      | 67% | 33% |

ing (dependent variable) were dichotomous questions thus the parameter estimates of those variables which were significant were negative. Applying this to the regression models, the results show that in terms of the overall networking of SMEs, education (parameter estimate -0.0367,  $p=0.0014$ ) and gender (parameter estimate -0.0382,  $p=0.0027$ ) of the SME owner are the entrepreneurs' characteristics that are statistically significant. The age of the SME owner is statistically insignificant ( $p=0.4428$ ). The results of firm characteristics are: age (parameter estimate -0.0357,  $p=0.0123$ ), size (parameter estimate -0.0148  $p=0.0498$ ) and legal status (parameter estimate -0.0783,  $p<0.0001$ ). The results indicate

that the age of the firm, size and legal status positively impacts on networking.

**Table 3: Regression results: Relationship between entrepreneurial and firm characteristics and overall networking**

| Variable                               | Parameter estimate | Standard error | t-value | Pr>[t] |
|----------------------------------------|--------------------|----------------|---------|--------|
| Intercept                              | 1.81971            | 0.08972        | 20.28   | .0001  |
| <i>Entrepreneurial Characteristics</i> |                    |                |         |        |
| Gender                                 | -0.03823           | -0.03464       | -1.10   | 0.0027 |
| Age                                    | -0.01759           | 0.02282        | 0.77    | 0.4428 |
| Education                              | -0.03670           | 0.01117        | -3.29   | 0.0014 |
| <i>Firm Characteristics</i>            |                    |                |         |        |
| Age of SME                             | -0.03565           | 0.01201        | -3.45   | 0.0123 |
| Size of SME                            | -0.01483           | 0.02184        | 0.68    | 0.0498 |
| Legal status                           | -0.07837           | 0.01748        | -4.48   | 0.0001 |
| Industry                               | 0.00192            | 0.01264        | 0.15    | 0.8799 |

**Table 4: Regression results: Dependent variable - General networks**

| Variable                               | Parameter estimate | Standard error | t-value | Pr>[t]  |
|----------------------------------------|--------------------|----------------|---------|---------|
| Intercept                              | 1.955              | 0.12497        | 15.64   | <.0001  |
| <i>Entrepreneurial Characteristics</i> |                    |                |         |         |
| Gender                                 | -0.00816           | 0.04825        | -0.17   | 0.0027  |
| Age                                    | -0.00987           | 0.03179        | -0.31   | 0.7569  |
| Education                              | -0.03915           | 0.01555        | -2.52   | 0.0135  |
| <i>Business Characteristics</i>        |                    |                |         |         |
| Age of SME                             | -0.04207           | 0.03623        | -1.16   | 0.0248  |
| Size of SME                            | -0.10622           | 0.03042        | -3.49   | 0.0007  |
| Legal status                           | -0.05377           | 0.02435        | -2.21   | 0.0296  |
| Industry                               | 0.003662           | 0.01761        | 2.08    | 0.04024 |

The results of the regression tests on the impact of entrepreneur and firm characteristics on

**Table 5: Regression results: Dependent variable – Managerial networks**

| Variable                               | Parameter estimate | Standard error | t-value | Pr>[t]  |
|----------------------------------------|--------------------|----------------|---------|---------|
| Intercept                              | 1.69446            | 0.12497        | 11.17   | <.0001  |
| <i>Entrepreneurial Characteristics</i> |                    |                |         |         |
| Gender                                 | -0.008572          | 0.05855        | -1.46   | 0.1464  |
| Age                                    | -0.04409           | 0.03858        | -1.14   | 0.2558  |
| Education                              | -0.04428           | 0.01888        | -2.35   | 0.0210  |
| <i>Business Characteristics</i>        |                    |                |         |         |
| Age of SME                             | 0.06205            | 0.04397        | 1.41    | 0.00264 |
| Size of SME                            | 0.03143            | 0.03692        | 0.85    | 0.3967  |
| Legal status                           | -0.11371           | 0.02955        | -3.85   | 0.0002  |
| Industry                               | -0.00060481        | 0.02137        | -0.03   | 0.9775  |

**Table 6: Regression results-Dependent variable – Social networks**

| Variable                               | Parameter estimate | Standard error | t-value | Pr>[t] |
|----------------------------------------|--------------------|----------------|---------|--------|
| Intercept                              | 1.74695            | 0.11659        | 14.98   | <.0001 |
| <i>Entrepreneurial Characteristics</i> |                    |                |         |        |
| Gender                                 | -0.04457           | 0.04502        | -0.99   | 0.3246 |
| Age                                    | -0.01205           | 0.02966        | -0.41   | 0.6854 |
| Education                              | -0.03046           | 0.01451        | -2.10   | 0.0384 |
| <i>Business Characteristics</i>        |                    |                |         |        |
| Age of SME                             | -0.01809           | 0.03380        | -0.54   | 0.5937 |
| Size of SME                            | 0.05343            | 0.02838        | 1.88    | 0.0628 |
| Legal status                           | -0.08529           | 0.02272        | -3.75   | 0.0003 |
| Industry                               | -0.03153           | 0.01643        | -1.92   | 0.0579 |

overall networking of SMEs are similar for individual networks of SMEs. In terms of general networks, gender ( $p=0.0027$ ) and education ( $p=0.0135$ ) of the owner; age ( $p=0.0248$ ), size ( $p=0.0007$ ) and legal status ( $p=0.0296$ ) of the SME have a positive impact on networking. In terms of managerial networks, only education ( $p=0.021$ ) of the owner and legal status ( $p=0.0002$ ) are statistically significant and have a positive impact on SME networking. Education ( $p=0.0384$ ) of the SME owner and legal status ( $p=0.0003$ ) of the SME are also statistically significant and have a positive impact on social networking of SMEs. Most of the entrepreneurial and firm characteristics are statistically significant and have a positive impact on general, managerial or social networks.

#### 4. CONCLUSION

This study investigates the impact of firm and entrepreneur's characteristics on networking by SMEs in South Africa. The results indicate that in terms of the overall networking of SMEs, education and gender of the SME owner are the

entrepreneurs' characteristics that are statistically significant. Age of the SME owner is statistically insignificant. Firm characteristics such as age, size and legal status of SMEs have significant positive impact on the overall networking of SMEs. In terms of general networks, gender and education of the owner; age and legal status of the SME have positive impact on networking. In terms of managerial networks, only the education of the owner and legal status of the business are statistically significant and have a positive impact on SME networking. Education of the SME owner and legal status of the SME are also statistically significant and have positive impact on social networking of SMEs.

#### 5. RECOMMENDATIONS

It is important for owners of SMEs to register their businesses. This will help to improve the legitimacy of the business. In addition, entrepreneurs need to attend seminars and trade fairs and also join trade associations. The level of education positively impacts on networking by SMEs. Therefore, to improve networking, owners of SMEs have to take greater responsibility for their own learning. Therefore, they need to create a positive attitude towards education and training. Government agencies such as the Small Enterprise Development Agency (SEDA) can also assist to improve networking by SMEs through training.

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