



The role of human and social capital in relation to the
business performance of women owned enterprises in
South Africa.

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ABSTRACT

Purpose: This research was designed to contribute to a greater understanding of the characteristics of female entrepreneurs in South Africa by interrogating whether certain elements of their Social and Human Capital impact on their business performance, measured in terms of turnover and business size in terms of employee numbers.

Methodology: This was an exploratory study that used quantitative data collection and analysis techniques. The unit of analysis was women business owners in South Africa that fit the criteria of owning and running businesses. The web application *Survey Monkey* survey tool was used from which the entrepreneurs could access the online questionnaire. The impact of elements of Human Capital and Social Capital on business performance was studied by looking for associations with a number of independent variables including education, social networking, age of business, and age and experience of the entrepreneur.

Outcome: Pearson Chi-square test, and generalised linear (GLM) models revealed that Human Capital, does influence the business performance, although only on specific elements of business performance. Social Capital also influences the business performance, although only on specific elements of business performance.

KEYWORDS

Women Entrepreneur: A self-employed female that operates an enterprise that is established to earn an income.

Human Capital: The combined knowledge, skills, innovativeness and ability of the individuals to meet the tasks at hand, including values, culture and philosophy.

Social Capital: The tangible or virtual resources individuals obtain through their networks, professional bodies, associations, groups and clubs they may belong to.

Business performance: This is measured by performance measures. For this study they are listed as dependant variables and are; profits, age of business and number of branches.

DECLARATION

I declare that this research report is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other university. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

X

Benzi kuzwayo

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My parents and all my family, without your love and support, I am nothing.

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CHAPTER 1: INTRODUCTION TO RESEARCH PROBLEM

1.1 Introduction

Pope John Paul II (1991) wrote: *whereas at one time the decisive factor of production was the land, and later capital ... today the decisive factor is increasingly man himself, that is, his knowledge.*(Bontis,1998).

Human and Social Capital investments are widely believed to improve the performance of employees (Boselie, Paauwe and Jansen, 2001). Many authors extend this statement to include entrepreneurial performance (Van Praag, Cramer, 2001, 2002). This chapter aims to demonstrate the need for this research and state the specific research objectives. This will be done by showing the significance of women entrepreneurs within the South African economy, which will illustrate the context of the research and thus defend the choice of topic. The research problem, objective, purpose and scope will be defined and the relationship between these will thus be highlighted.

1.2 The significance of Women Entrepreneurs in South Africa.

Recent studies show that women's economic activities play a crucial role in the growth of many of the world economies (Minniti et al., 2005).

Recognising this value and its importance, many governments around world are beginning to recognise the need to create an environment conducive for the establishment of women-owned enterprises.

According to one of the studies conducted by the UK Small Business Service, women business owners contribute £50-70 billion in gross value added to the UK economy each year. (Carter et al., 2001)

In developing South Africa, there is a complex web of influencers of entrepreneurial endeavour and these cannot be solely explained by prior data based on data gathered from the western developed world (Myers, 2008). For instance, in a study done in the South African context (National Small Business Act, 1999), it was found that women represent approximately 56 per cent of the ‘survivalist business’ category and according to Nstika (1999: p45) the abovementioned survivalist businesses or small organisations accounted for 28 per cent of South Africa’s GDP in 1998.

In more recent times, and despite their contribution to GDP, the profile of South African entrepreneurs remains largely unchanged. For instance, according to the Global Entrepreneurship Monitor (GEM) of 2008, South African men are 1.6 times more likely to engage in entrepreneurial activity than women. This number is slightly higher than that of the global average, but the discrepancy is still striking.

Labour force surveys conducted by Statistics SA indicate that unemployment among women is higher than that of their male counterparts. African women, in particular, are the group most affected by unemployment. In the 3rd quarter of 2008, the labour force survey by Statistics-South Africa showed that African women’s unemployment rate was sitting at 30% or one third of the 24% unemployed population of South Africa (Statistics South Africa, 2010). South Africa’s population in 2010 was nearly 80% black

(Statistics South Africa, 2010), but entrepreneurial activity amongst this black majority had been suppressed by the previous apartheid regime (Schlemmer and Hudson, 2004).

One of the many consequences of the apartheid regime was that it created a poor and uneducated generation of people that lacked the basic skills required for being effective participants into economic activities, let alone those required for starting a business (Louw et al., 2003; Nasser, du Preez and Hermann, 2003). Thus finding ways to improve self-employment and more especially female levels of entrepreneurship should be a priority for South Africa. (FNB-Women in Business Hand book). To further illustrate the lag in female entrepreneurial activity, table 1 depicts total entrepreneurial activity (TEA) by gender.

Table 1: Total Entrepreneurial Activity by Gender

	Male	Female
TEA	62%	38%
TEA opportunity	67%	33%
TEA necessity	46%	54%
Established business owner/manager	65%	35%

This table summarises the GEM 2008 data on male and female involvement in entrepreneurial activity. It is apparent that men are substantially more likely to be involved in well established businesses as well as start-ups, than women. It must be noted though, that in an analysis of enterprise survey data by Bardasi et al. (2007), it was found that once women were already operating businesses, there are no significant differences in performance and business operations. This suggests that Africa has hidden growth potential in its women and tapping into that potential can make a big difference in alleviating Africa's poverty and increasing its growth.

Jo Schwenke of the *Business Partner's Women's Fund* notes that his organization has found women to be better risk-takers than men, with a significantly lower rate of failure. An estimated 14 new jobs were created every time the fund invested in a woman owned business. (FNB Women in Business: The State of Female Entrepreneurship in South Africa)

Based on the above statistics, it is evident that there is great value to be found in the contribution of small businesses and indeed women owned businesses in South Africa as well as to the rest of the world.

The question this research aims to answer is: does the level of the Human and Social capital aspects of South African women entrepreneurs have an impact on or relation to their business success?

1.3 The research problem and objectives

The focus of much research on entrepreneurship has been on defining reasons that explain why businesses fail to start or do not grow due to many factors such as a lack of funding. Other well researched reasons include the differences between men and women (Buttner and Rosen, 1988) in establishing and growing businesses. Some studies have discussed the issues and barriers faced by women-owned enterprises, mostly in the form of access to funding, in the UK and the rest of the world (Birley, 1989; Rosa et al., 1996; Eastwood, 2004; Brindley, 2005).

Thus the research problem stems deeply from the lack of understanding of the female entrepreneur, from a South African point of view, which is evident from the past literature's focus on the international segment as well as the focus on factors outside of human and social capital, one such popular factor being that of access to funding.

Benjamin Franklin said: "If you would like to know the value of money, go and try to borrow some".

More recently there has been an explosion of growth in entrepreneurial studies, particularly related to the South African context, despite the fact that the discipline is beginning to show signs of maturity on the international arena (Reader and Watkins, 2006).

The main objective of this study is to contribute to this knowledge domain by conducting an analysis of the contribution or hindrance to growth and success in established women-owned enterprises from the aspect of Human Capital as well as Social capital.

1.4 Research purpose and questions

The main purpose of this study was to shed light on the relationship between Human Capital elements of education and networks on the one hand, and growth and success of established women-owned enterprises on the other hand, in a developing South Africa. It was based on understanding of the educational and networking characteristics of women entrepreneurs currently engaged in business (Myers, 2008).

This research was designed to contribute to a greater understanding of the characteristics of a female entrepreneur in South Africa by interrogating aspects of their Social and Human Capital and looking for associations with elements that determine successful businesses.

In past literature, the definition of a South African female entrepreneur is limited as the discussion has been focused on the following:

- Defining entrepreneurship
- Entrepreneurship in South Africa and in the world
- Reasons women were not as active as men
- The characteristics of women entrepreneurs compared to men
- The barriers women face as business owners, with the inclusion of the most popular topic, lack of access to funding.

Some of the above issues are discussed in the literature review in chapter 2, and they form the definition of the research questions which are as follows:

- What are the common characteristics of a female entrepreneur in South Africa?
Does education and the belonging to an association fit their characteristics?
- What is the relationship between the performance of women owned enterprises and the identified factor of *Human Capital*?
- To what extent are women in SA pursuing greater educational development to contribute towards their enterprise creation and development?

- How much of a contribution to the performance of women owned enterprises will the identified factors of *Social Capital* make for their enterprises?
- To what extent does membership to an association for entrepreneurship influence the success of their business?

1.5 Scope

The scope of the research included the study of success factors that define successful women entrepreneurs. These success factors were referred to as performance measures, which were: the profit levels of the businesses, as well as the number of employees the business employed. The identification of women entrepreneurs relied heavily on obtaining permissions and/or accessing database records of members of the relevant groups, societies and associations.

The earmarked associations from which to identify women entrepreneurs included:

- Durban Chamber of Commerce (DCC)
- Endeavour South Africa
- Business women's association of South Africa (BWASA)
- South African Women Entrepreneurs

The Durban Chamber of Commerce database was successfully accessed and used in the present study as the sole database. The remaining databases were not successfully accessed.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

A growing body of literature is emerging regarding the phenomenon of women's leadership as small business owners along a wide variety of dimensions. Qualitative studies have indicated contested issues related to values and identity, the meaning of leadership in the context of women business ownership (Gay, 1997; Robertson, 1997; Thrasher and Smid, 1998) as well as the contribution of the environment for the entrepreneurial spirit of women to thrive.

This chapter contains a review of the literature that explains women entrepreneurial development in South Africa, with some reference being made to important international studies. The study of entrepreneurs goes back many years in the international arena, but in the South African context there has only been a recent explosion of research into the field (Myers, 2008) and because of the context for the study, the bulk of literature review will endeavour to originate from more recent works, that are written in the South African context.

The chapter will be presented as follows:

2.2 White Paper: The state of female entrepreneurship in South Africa.

2.3 The barriers women face as business owners, with the inclusion of the most common topic: lack of access to funding.

2.4 Definition of Human capital.

2.5 Definition of Social Capital.

2.6 Conclusion.

2.2 White paper: The State of Female Entrepreneurship in South Africa

Dr Kerrin Myers, Director of Wits Business School's Centre for Entrepreneurship, in association with First National Bank (FNB) South Africa, launched a study on the state of female entrepreneurship in South Africa, called *Myths and Marvels: Female Entrepreneurship in South Africa*, which has given a great amount of insight into the state of female entrepreneurship in South Africa. The study has not yet been released, but its findings are available as a press release in the 'white paper' document version. The whole of section 2.2 was based on the press release presentation of the 'white paper'. Myers, K. (2011). [PowerPoint slides]. Unpublished manuscript, Wits business School, South Africa.

The white paper discusses topics relating to South African female entrepreneurs. These topics will be briefly considered below, presented as *Myth/Marvel (a-e)*, which is similar to the way the white paper was presented at the press conference at the beginning of Global Entrepreneurship week (GEW). Myers (2011) considered the study to be a benchmark study of women entrepreneurs as women make up about 52 per cent of the South African population and 41 per cent of them make up the active working population.

Studies of this size are in the South African context still very few (Myers, 2011). The focus of the study was on ‘high potential’ business owners and criteria used for categorising the entrepreneurs as ‘high potential’ is based on the number of jobs the entrepreneurs can create. An online survey method was used and the data was generated from a sample of 870 respondents.

The respondents were divided into two groups, business owners and start-ups. The discussion below will not detail all the findings of Myer’s (2011) work, but will cover the most interesting aspects.

Myth a) Women entrepreneurs are single mothers having to raise children on their own.

This section looked at the demographics of the entrepreneurs and these were the findings:

Age: The age groups varied from below 19 years to over 60 years. The highest frequency was found in the 25-29 age-group for start-ups, with over 30% of the women fitting into this category, the most frequent age group for business owners was 35-39, with the age group 40-44 being a close second.

Marital Status: the highest frequency was found in the ‘married’ category for business owners and ‘never married’ for the start-ups.

Children: the highest frequency was found in the category of ‘no children’ for both business owners and start-ups. The second most frequent occurrence was found in the start-ups category where the women had children in the age group of less than five years.

Education: over 25% of both the business owners and the start-ups had either a national diploma or a bachelors’ degree.

Home Language: 60% of the sample was English speaking and fell into the business owners category, while approximately 57% of the start-ups spoke one of the Indigenous languages.

The demographical data of Myers (2011) shows that that South African women business owners are mostly between the ages of 25-39, and have either never married or are unmarried, depending on their phase of business career.

Furthermore they have no children, and entrepreneurs in the start-up categories have children under the age of 5.

The report suggests that the entrepreneurial spirit is alive within all races of the South African women. South African women entrepreneurs are educated, with most of them either carrying national diplomas or bachelor’s degrees. A very small percentage (less than 5%) had no grade 12. The educational aspect is especially interesting as it shows that women entrepreneurs are educated and not necessarily starting a business as a result of being uneducated and thus incompetent for skilled work.

Myth b) Women entrepreneurs have poor self-efficacy.

‘Self-efficacy is the belief in one’s capabilities to organise and execute the course of action required to manage prospective situations’ (Bandura, 1995). The study used previous work experience as well as confidence in skills as measures of self-efficacy.

Previous work experience: approximately 45% of the respondents that are business owners responded to having more than 3 years’ work experience in the same industry as their businesses. The second most frequent response came from the start-ups and 38% of them stated that they had no work experience, whether it is in their business’s industry or any work in general.

Confidence in skills: when the start-up and business owner’s categories are combined, approximately 75% are confident in their management skills, 70% are comfortable with taking on bigger risk and lastly, approximate 55% of the respondents are confident in their financial skills.

Myth c) Women Bootstrap their businesses.

This myth was confirmed as the majority of respondents in both the business owners and start-up categories used their own savings to fund their businesses, with the second highest frequency being found in the ‘part time & used salary’ category. The (businessdictionary.com) defines bootstrapping as ‘building a business out of very little or nothing’.

Women commonly use this type of funding instead of looking for funding in more formal avenues as women have cited access to funding as a barrier to their business growth (Buttner and Rosen, 1992; Canadian Federation, 1995; NFWBO, 1992).

Myth d) Women entrepreneurs are not well networked

Forty six per cent of the respondents have personally made use of business networks in the past 12 months. The white paper broke the networks into the following categories:

- Private: family members and personal friends.
- Work: colleagues, current employees and business partners
- Profession: accountants, lawyers, advisors, bankers etc.
- Market: Customers, suppliers and competitors

Over 70% of the respondents cited using networks that originated from the ‘work, profession and market’ categories. Thus women do use networks, hence this myth was disproved.

Myth e): Women owned businesses do not innovate

When asked the questions, ‘do you believe that in order to grow, your business needs to innovate?’ 91% of the respondents answered ‘yes’. The white paper placed innovation into three categories, namely operational innovation, human capital innovation as well as technology innovation.

In a book called entrepreneurship: a South African perspective, innovation is defined the process of ‘doing things better or differently’, (Nieman et al, 2009) and the more firms grow, the greater the need for innovation and the earlier technology is introduced (Nieman et al, 2009).

For the category of operational innovation, more than 80% of the respondents stated that operational innovation meant an ‘improvement of efficiency’ as well as ‘better ways to operate’. For the Human capital category, the business owners and the start-up respondents believed that this type of innovation means training courses. Other categories given were employing special skills, increasing employees and employing a professional manager. Contrary to the fact that 91% of the respondents believe that to grow one must innovate, only 39 % of them will use the latest technology to do so. This is an interesting question that creates the need for exploration.

During the press conference, Dr Myers stated that the progress of women as entrepreneurs is constrained by barriers that are both real and mythical. It is important for such studies to be conducted to as to encourage women and society in general, to think differently about who they are and how they operate as entrepreneurs.

2.3 Barriers and conflicts encountered by women business owners

Section 2.3 reviews literature addressing women business owners from the perspective of understanding their road to growth and success in an international framework.

Within this framework, existing studies of women business owners are classified and examined according to three themes. These are (a) difficulty in securing capital funding; (b) balancing family issues; (c) the way in which women create and use networks.

Research has established that women's business is smaller in size, has dramatically lower profits and in take-home pay compared to men's businesses (Brush, 1992; Fasci and Valdez, 1998).

One study of women's businesses reported general "disappointment" that women business owners face the same sort of pay gap as salaried female workers, possibly related to the type of businesses women initiate, their reported difficulties in securing bank financing, women's business skills, and the lower fees-for-service women are able to command (Canadian Federation, 1995).

These issues must be interpreted carefully. When using different frames of analysis to what may appear to be 'barriers' may be deliberate choice, and what appear to be naturalized conditions may be structural but invisible inequities.

Some studies in the 1980's began to report unique barriers confronting women business owners. Most significant for business viability included discrimination experienced by women seeking venture capital and exclusion from financial business networks (Hisrich and Brush, 1987).

In the 1990's women business owners continued to confront significant gender-related obstacles (Buttner, 1993; Shragg, et al., 1992) including limited access to capital, difficulty in competing for government contracts, and lack of information about where to get assistance (National Fund for women in business-NFWBO, 1992).

Women reported that they had to work harder to prove their competence to suppliers and clients (Buttner, 1993; Gould and Parzen, 1990), and to be taken seriously (Adamski, 1995). Others often underestimated women's ability to start a venture and discouraged them from "dreaming big" (Godfrey, 1992).

Women still report struggling with banks, government, suppliers and competitors, and diminishment of the significance of their enterprise: the “little business” syndrome (Gay, 1997; Robertson, 1997).

However, despite their stories of gender discrimination, many individual women interviewed by Gay (1997) and Robertson (1997) claim that their obstacles are simply the challenges of small business shared by all business owners. Evidently this area requires further study.

2.3 a) Difficulty in securing capital funding

A primary and continuing obstacle faced by women appears to be difficulty in securing capital funding for new business ventures (Buttner and Rosen, 1992; Canadian Federation, 1995; NFWBO, 1992). Riding and Swift (1990) concluded that in the past, financial conditions for women business owners were less favourable than for men: women found themselves having to pay higher interest rates, finding more collateral, and even having to provide a spouse’s co-signature. Strauss (2000) claims that by 1994-95 in North America, statistics made it clear that women were starting 40% of businesses and were still receiving only 3-4% of venture capital funds.

However Buttner (1993) counters that some women have been unprepared with the comprehensive business plan demanded by the banks: rather than do their homework they attributed their loan difficulties to gender discrimination. Yet women interviewed in qualitative studies tell stories about their business plans being scrutinized more carefully and having to meet more special demands than men’s (Gay 1997; Robertson, 1997).

There are signs that the financial situation is changing: recent studies indicate that women now have more access to capital, as certain financial institutions and government loan programs have specifically targeted needs of women business-owners (Industry Canada, 1999; Bank of Montreal, 1996).

2.3 b) Balancing family issues

Another key struggle for women business owners is related balancing family issues. Work-family conflict results from inter-role conflict caused by incompatible or conflicting pressures from work and family domains, including job-family role strain, work-family interference, and work-non-work role conflict (Parasuraman, Purohit, and Godshalk, 1996).

Women are more likely to have primary domestic responsibility and to have interrupted careers (Aldrich et al., 1989; Gould and Parzen, 1990), which create work-family conflict. Seeking balance in work-family has been established as a significant factor in women's decision to start a business (Chaganti, 1986; Holmquist and Sundin, 1988), although women business owners still appear to experience much greater conflict than men in managing family and work life (Parasuraman et al., 1996).

2.3 c) The way in which women create and use networks

A third level of difficulty can be found in the way in which women create and use networks as a means to progress and grow their businesses. This will be further discussed in section 2.6 of the literature review.

As discussed throughout this review, research throughout the past few decades has suggested that women start a business to create greater flexibility in their lives, to seek greater quality of life and more creative, meaningful work, and to place higher priority on relationships and family. If this is so, it puts certain women in tension with a highly competitive profit-driven marketplace, and presents a fundamental shift in the meaning of work and career for some women.

Ferguson and Durup (1997) discuss how these important issues show that a specific study of work-family conflict experienced by women business owners is virtually non-existent. This is another consideration for future research.

2.4 Definition of Human Capital

Human capital has been defined as the combined knowledge, skills, innovativeness and ability of the individuals to meet the tasks at hand, including values, culture and philosophy (Duneas, 2011). This includes education, knowledge, wisdom, expertise, intuition and the ability of individuals to realise tasks and goals. Human capital is the property of individuals – it cannot be owned by the organisation (Duneas, 2011).

(Duneas, 2011) further identifies intellectual capital as the sum of human capital and structural capital:

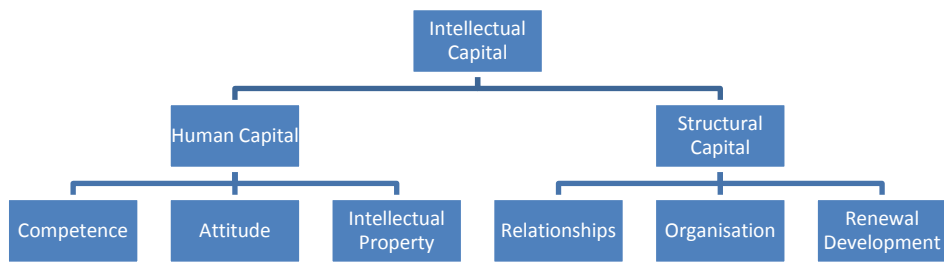


Figure 1: Adapted from *Roos and Roos (1997)*: The intellectual capital distinction tree.

According to Malhotra (2000), the key determinants of intellectual capital are human and structural capital. Structural capital signifies the knowledge assets that remain in the firm when it does not take human capital (that is the property of individual members) into consideration.

It includes *organisational capital* and *customer capital*, also known as *market capital*. Unlike human capital, structural capital can be owned by the firm and can be traded.

In the context of this research, human capital is the amount of education as well as past relevant experience that the woman entrepreneur possesses, which is put to work in their everyday lives as an entrepreneur.

This research aims to determine the relevance of the human capital possessed by the business women and then to measure the influence or relationship between the amount of human capital she possesses and the growth and success of her business.

2.5 Definition of Social Capital

Social capital can be described as the tangible or virtual resources (Greve and Salaff, 2003) individuals obtain through their networks. Also, there appears to be an association with these resources with entrepreneurial success (Baron and Markman, 2000).

In developing countries, such as those found on the African continent, emphasis on networking is placed on networking for mutual support in exchange of services and information (McDade and Spring, 2005).

Social networks serve as sources of information and advice (Jack and Anderson, 2002), they act as a motivational influence (Bygrave and Minniti, 2000) and lastly, they assist entrepreneurs in identifying viable opportunities (Hite, 2005; Anderson and Miller, 2003; Reynolds, 1991).

In more developed contexts, where entrepreneurs come from higher socio-economic groupings, they will have a higher likelihood of acquiring the most useful forms of social capital and the more effective those ties are, they may create a greater incentive to attempt new venture creation (Anderson and Miller, 2003). It also has to be noted that a supportive social context can help convince the entrepreneur that an opportunity is both feasible and desirable to pursue (Boyd and Vozikis, 1994).

A significant barrier for some women in business reported in the literature has been networking. Studies have shown that few men business owners included women in their close business networks (Gould and Parzen, 1990).

Women business owners were often excluded from ‘old boy’s clubs’, as they were perceived to have more effective and less “instrumental” motives in building relationships, and relied more on spouses for information and support than on outside advisors (Buttner, 1993; Canadian Advisory Council, 1991).

Networks of contacts, important to both men and women business owners, differed in content and size.

Women’s networks tended to be composed of women and were smaller than men’s networks (Aldrich, Reece, and Dubini, 1989). In a Canadian study of women business owners, it was found that they worked in a “glass box”: isolated by overload, they had not the necessary time to cultivate or use important support networks (Canadian Advisory Council, 1991). The organized collectivization of women into societies or associations was thus a concept that was not yet seen as necessary at that time.

A similar study of women networking has however concluded that women are as active as men entrepreneurs in networking to obtain assistance, and as successful as men in obtaining high-quality assistance (Aldrich, Reece & Dubini, 1997).

On the other hand, Moore and Buttner (1997) conclude that women use networks primarily for sounding boards rather than resource acquisition. There is the lack of contextualization in these findings, so it is difficult to draw a solid conclusion from them.

How women create and use networks could be presumed to be connected to their environments and their business size, nature, and purpose. For instance, Sawyer and McGee (1998) found significant differences between personal networks of new firm owner/managers and those of more mature firms. They also showed that there are strong relationships between environmental uncertainty and networking activity and intensity.

Chell (1996) has shown the importance of analysing relationships between personal networks and labour market inequalities to better understand how certain individuals develop aspirations, access resources and build support for an enterprise.

Chell's point is interesting, as it points out that women may only seek to a member of association give certain circumstances. This may help us understand the conditions under which women will seek to be part of a network or association, area for future study.

Brush (1999), on the other hand, suggests that network uses rely on business needs, which vary according to size, scope and sector. All this means that research exploring the function of networks in business leadership should be carefully placed.

The links between relational dynamics, individual needs and values, leadership approaches and outcomes should also be analysed and even compared in terms of what women owner leaders business define as business success.

Arenius & Kovalainen (2006) posit that social capital is related to dense networks, often consisting of connections with self-employment, and is expected to be positively related to participation in new business formation.

Past literature on social capital does not give empirical evidence of women in South Africa that are part of associations, although the white paper results described in section 2.2, the myth that women do not use networks to advance their business was disproven, from a an online survey of 870 women entrepreneurs.

In the context of this research, social capital is the membership of the woman business owner to an association linked to themselves, their profession, and their career or business.

These associations include:

- Endeavour South Africa
- Business women's association of South Africa (BWASA)
- South African Women Entrepreneurs network (SAWEN)
- Durban chamber of Commerce (DCC)-Women in business sector.

Some of the key benefits of social networks for entrepreneurs include: reliable, exclusive information (Smith and Lohrke, 2008). These interactions create reciprocal goodwill (Fuller and Lewis, 2002) an asset that resides in relationships and includes feelings of gratitude, respect and friendship. However, all of this cannot be developed without trust, which emerges through repeated exchanges in a context of goodwill (De Carolis and Saporito, 2006)

2.5 Literature Conclusion

The first part of the literature review was on the white paper called myths and marvels, which gave some insight into the traits of women entrepreneurs in the South African context. Next the chapter looked at the barriers and conflicts encountered by small business owners. This was done from an international perspective as this topic has not been exhaustively studied in the South African context but similarities between the two contexts were evident.

The definitions of human capital and of social capital were discussed as well as some of the benefits associated with them. This drew in the context within which the research aims to be executed.

Literature on the definition of women owned enterprises could have been included, but was not due to the fact that women belonging to an association could have defined their enterprises using many different criteria.

The process of identifying the exact definition of a woman owned enterprise is not as clear as separating them according to business size or profitability. Also literature on the South African women entrepreneur is in its infancy and more time would be required if this was to be included in this review.

The first limitation of using the above mentioned inclusion criteria combined with the lack of South African based literature is that a few assumptions have to be made.

The assumption being that the women entrepreneurs are assumed to be belonging to associations and are joining them on a professional level. Also that a woman owned enterprise is any formally incorporated enterprise.

This definition does, regrettably, exclude many women in business as the South African entrepreneurship landscape has many informal businesses, but access to information on this will be met with too much difficulty. The limitations will be further discussed in chapter four.

CHAPTER 3: RESEARCH HYPOTHESES

The hypothesis method was used to test the possibility of a correlation between a number of dependent and independent variables generated during the research problem phase of the study. The purpose of the research was highlighted in section 1.4 which included the research questions which were specifically identified as a result of the following items the researcher found to be the limited focus of prior studies :

- Defining entrepreneurship
- Entrepreneurship in South Africa and in the world
- Reasons women were not as active as men
- The characteristics of women entrepreneurs compared to men
- The barriers women face as business owners, with the inclusion of the most popular topic, lack of access to funding.

Propositions are generally used when the outcome of the study is known, although one can imagine the probability of a correlation existing between the dependant and independent variables, the true outcome cannot be estimated with certainty, hence the use of hypothesis testing methods.

Hypothesis 1 is related to the **Human Capital Element** of the research and is thus looking at aspects of education, knowledge, wisdom, expertise, intuition and the ability of women entrepreneurs to realise tasks and goals.

- **Hypothesis 1a:**

The level of education will be positively associated with business performance.

- **Hypothesis 1b:**

Number of years in business or age of business will have a positive association with business performance.

- **Hypothesis 1c:**

Age of entrepreneur will be positively associated with business performance.

Hypothesis 2 is based on the **Social Capital Element** of the research and is thus looking at the density of networks that consist of connections, with the emphasis being on the membership to women's entrepreneurial associations.

- **Hypothesis 2a:**

Business performance will be positively associated with membership to a society or club for entrepreneurs

- **Hypothesis 2b:**

The greater the number of networks the entrepreneur belongs to, the more positive the association with business performance is.

Statistical hypothesis testing methods are used to prove or disprove what is being hypothesised, this will be found in the discussion in chapter six.

CHAPTER 4: METHODOLOGY AND DESIGN

4.1 Introduction

The focus of the present research is on the analysis of the contribution of human capital and social capital towards the success of women owned businesses in South Africa. It was an exploratory study that used a mixed approach of both qualitative and quantitative data collection and analysis techniques. The unit of analysis was women in business owners in South Africa that fit the criteria of owning and running businesses.

In an attempt to determine the impact of women entrepreneurs' individual capabilities including education, prior experience on the growth and ultimate success of their businesses, an online questionnaire was designed. Data collected were exported to SPSS for analysis. As mentioned above, the research was aimed to gather information that is both of a quantitative and qualitative nature. The questionnaire used a variety of scaled, open-ended, rank order, dichotomous, and multiple choice questions. The possible barriers and contributing factors to growth mentioned in the questionnaire were based on a number of studies (Buttner, 1993; Hitt et al., 2003; Grave and Zacharakis, 2004; Hisrich et al., 2005).

The questionnaire was designed to assess the following: demographics of the women entrepreneurs in South Africa, their general entrepreneurial characteristics, management skills, social and psychological factors, educational and occupational influences, and their membership to any associations.

The findings are divided into the hypothesis identified in chapter three above and are discussed in chapter 6.

4.2 Contribution to literature:

The research aims to contribute to the existing body of literature in three ways:

- a) By increasing the understanding of the make-up of a South African female entrepreneur in the context of the topic.
- b) By moving the discussion away from conventional entrepreneurship topics, into niche discussions and lastly,
- c) By highlighting the effects of Human and Social Capital on women owned businesses.

This is depicted in the following diagram:

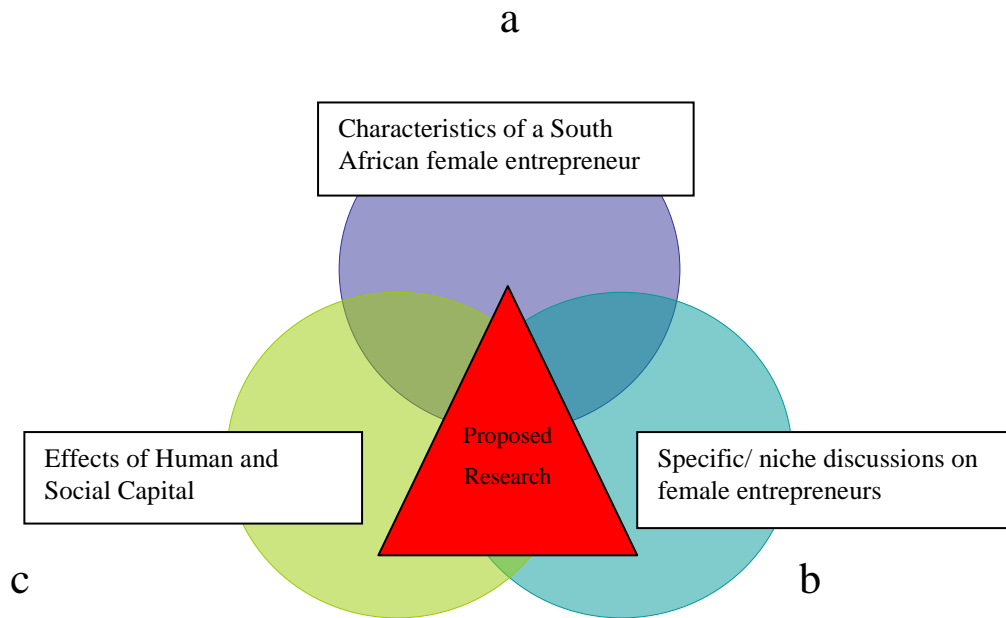


Figure 2: Contribution to literature

4.3 Identification of the population and sample

Thirty eight per cent of established businesses are women owned (Ntsika, 1995). Although the population can be defined based on the actual number that this 38% represents, the study limited the definition to women entrepreneurs that had some membership in a network or group etc.

Thus, the researcher wished to obtain the sample from the membership of women entrepreneur associations in SA. These member associations would be sampled in a way to ensure greater heterogeneity and to decrease against any possible bias (Lerner et al. 1997).

A response rate of 25-30% was deemed as acceptable. Due to the lack of access to the databases listed during the study design phase for interrogation, the sample was limited to the women members of the Durban Chamber of Commerce (DCC). An online survey was sent to the census of 280 members of the DCC. The number of individuals on the database was approximately 400, with almost half the electronic mail addresses returning with 'non-delivery' or 'delivery error' messages.

One of the limitations of using this particular database was that the DCC allows access to female members that were 'women in business' in general. A large proportion of the survey respondents (approximately 100) stated they were not female entrepreneurs, but were in business or even contemplating becoming self-employed. As a result, only 180 individuals were successfully recruited into the study.

The response rate of those that fit the women entrepreneur criteria was therefore only 17%. That is, out of a sample of 180 respondents only 31 responded.

Seventeen per cent being below the threshold level of 25-30%. The number of observations used was $N=29$ as two respondents stated that they were in-fact not entrepreneurs.

On the positive side, survey data revealed that 32% of these women did not belong to the DCC only, but they also belonged to other associations for women entrepreneurs or women in commerce, which gave the benefit of diversity as some of the respondents belonged to more than one association.

The subjects were given two weeks within which to respond to the questionnaire from time of delivery. The acceptable response rate was 25-30%. The quota was not filled after the initial two week period, and a follow-up email was sent after another week. This process continued on a weekly basis until the required response rate was attained or time required for the survey to be closed. Data was collected through filled questionnaires facilitated by Survey Monkey web application detailed in later sections of this chapter, an example of which is attached in appendix 2.

4.4 Statistical plan

Since the number of observation obtained is considered small i.e. $n=29$, non-parametric statistics were used. The Statistical Analysis System (SAS) was used to run generalised linear model (GLM) procedures.

The SPSS software was used to run descriptive statistics. Since the researcher was looking for a test of difference, Chi-squared and Kruskal-Wallis equality-of-populations rank test and where appropriate Mann Whitney tests were applied to the analysis. The statistical plan was devised by a qualified statistician.

The Survey Monkey survey tool (www.surveymonkey.com) was used as the web application from which the entrepreneurs could access the online questionnaire. Approximately 280 registered members of the DCC were informed through e-mail about the web link. Data was collected through completed questionnaires. The advantage of adopting online questionnaire methods include reduced costs, increased response rate as compared with a postal survey, shortened data collection-analysis-presentation cycles, and enhanced interactivity of research materials (Stanton and Rogelberg, 2001).

Statistical analysis using SPSS was applied to analyse a portion of the quantitative data gathered by the online responses. In addition, any qualitative data collected was inductively analysed and interpreted in relation to open-ended questions. This is a shortfall of the study as it opens it up to the researcher's interpretation bias.

The main research questions tested were:

- Is there a relationship between the performance of women owned enterprises and the identified factor of *human capital*?
- How much of a contribution to the performance of women owned enterprises will the identified factor of *social capital* make for their enterprises?
- To what extent does membership to an association for entrepreneurship influence the success of the business?

4.5 Dependent Variables

1. Business Performance expressed in terms of:

- a) Profitability expressed as multiple levels : loss, and increasing levels of profitability and
- b) Average number of employees.

Business performance in the proposed research was represented by a set of dependant variables. Performance measures were based on indicators previously used by Brush and Hisrich, (1991).

2. Type of Business Chosen expressed in terms of:

- Sales
- Consulting
- Design/Art/Architecture
- Public Relations and Advertising
- Personnel and Business Services
- Computer Related Business
- Manufacturing
- Secretarial
- Educational Services
- Law/Medical Services
- Distribution and Construction and
- Finance

4.6 Independent variables

Two independent variables were interrogated:

1. Human Capital comprising:

a) Education level, expressed in terms of:

Level 0: no Grade 12

Level 1: Grade 12

Level 2: Junior degree or diploma

Level 3: Post graduate degree or further

b) Age of business: which expresses the number of years the business has been in existence.

Ranges from 6 months-10 years

c) Age of entrepreneur expressed as categorical variables:

>25

25-34

35-44

45-54

>55

2. Social capital measured in terms of:

a) Network Affiliation

These variables are based on whether or not the respondent belongs to a network or association. Included on the list was HPCSA, BWA, BOF, SIOPSA, EAPASA, SAACI, SAWIC and Endeavor.

b) Number of networks

These described the number of networks the respondent belonged to, as some respondents belonged to more than one network. Expressed as:

0= no network affiliation

1=belonging to one network

2=belonging to >1 network

c) Entrepreneurs' definition of their own network

This variable was added as an independent variable, although hypothesis tests were not applied to it.

The respondents were given the following options from which to choose their definition of a network:

- Old Colleagues
 - Family and friends
- } Informal/'strong' expressed as 0
- Associations/Professional bodies
 - Other networks
- } Formal/'weak' expressed as 1

The listed options fall into both the formal and informal network definitions. It is important to distinguish between formal and informal relationships (Birley, 1985) or what are known as ‘strong’ and ‘weak’ ties (Anderson and Miller, 2003) within the entrepreneurs’ network.

Formal relationships are those with banks, accountants, lawyers and so on. Informal relationships include family, friends and colleagues. This category may be less informed, but will be willing to listen and give advice (Myers, 2008).

In the context of this study, the formal or ‘weak relationship’ networks will be the associations and professional bodies category and the informal or ‘strong relationship’ are the family and friends and old colleagues categories.

Past literature states that entrepreneurs are most likely to use informal relationships rather than the formal ones (Birley 1985).

This may correlate with the proposition that the formal relationships are ‘arms-length’ relationships that provide novel information (Anderson and Miller, 2003) but do not have the important factor of trust (De Carolis and Saporito, 2006) that comes from the ‘strong’ ties the entrepreneur may have with family and friends (Anderson and Miller, 2003).

4.8 Limitations of the research

a) Research Limitations:

The first limitation was referred to in chapter one, the researcher made reference to what the researcher found as limitations in terms of the focus of prior studies when it came to the understanding of a South African female entrepreneur. These were listed as:

- The barriers women face as business owners, with the inclusion of the most common topic, lack of access to funding.
- Defining entrepreneurship, entrepreneurs in South Africa and in the world.
- Reasons women were not as active as men, the characteristics of women entrepreneurs compared to men.

The second limitation identified was the fact that past research has categorised women's leadership styles as compared to that of men's and this could remove the individuality and uniqueness of women i.e. the way women lead and manage their companies. This discussion is also found in chapter one.

Another limitation is that because a lot of use was made of international studies, the South African businesswomen's plight may not be fully represented in the conclusions reached by the researchers in the international studies. Therefore a gap this research study seeks to fill is to understand the motives and use of networks and the gathering of Human Capital by South African women business owners.

b) Methodology limitations

The main limitations of this study pertained to the fact that only one of the five identified databases was accessed. Access to other databases was limited, and the single database that was accessed did contain a proportion of out-dated information. Some individuals listed on the database for example, were women in business in general, not just female entrepreneurs.

Non-qualifying participants were filtered out of the data set that was used for analysis. Lastly, the response rate was smaller than the required 25-30% response rate.

CHAPTER 5: RESULTS

5.1 Introduction:

This chapter will present the results of the online survey submitted to members of the Durban Chamber of Commerce *Women in Business* database. This association accepts women involved in commerce from all regions of South Africa. Respondents were asked to confirm their required entrepreneurial status, in order to qualify for the survey. Respondents that failed to confirm that they were women business owners were removed from the data set.

5.2 Results for online survey

This section is divided into three subsections, section 5.2.1 is the sample characteristics, section 5.2.2 is the descriptive statistics section and 5.2.3 is the statistical test section.

5.2.1 Sample Characteristics for survey data

A total of $n=31$ women entrepreneurs responded to the online survey successfully sent to a 180 members to the DCC. The response rate was therefore 17%. However there were 2 non-qualifiers, and after filtration, the number of qualifying observations became $n=29$. One of the limitations were lack of access to large women entrepreneurs databases.

Fortunately, the Chamber of Commerce allowed access to its female members that were ‘woman in business’ in general. This association has members of which a certain, unknown proportion have self-owned businesses.

The survey data revealed that 32% of these women did not belong to the DCC only, but they also belonged to other associations for women entrepreneurs or women in commerce.

It should be noted that a substantial proportion of members responded stating that they in fact were not women entrepreneurs with self owned businesses. These individuals did not participate in the study.

5.2.2 Descriptive statistics

The standard practice is to have these results presented or clustered around the research hypothesis. In order to build the context and clarity, the results of all 16 questions will be presented, although not all the questions are directly related to the hypothesis being tested.

Question 1: Confirmation of being an entrepreneur

The database was for a network for women in business and that definition could have included non-entrepreneurial women.

Two of the 31 respondents (95%) were not entrepreneurs, and were thus removed from the sample as the covering letter gave instruction for non-entrepreneurial women to ignore the survey.

Question 2: Race

Figure 2 depicts the demographic nature of the sample. The majority of respondents were African, followed by White, Indian and Asian.

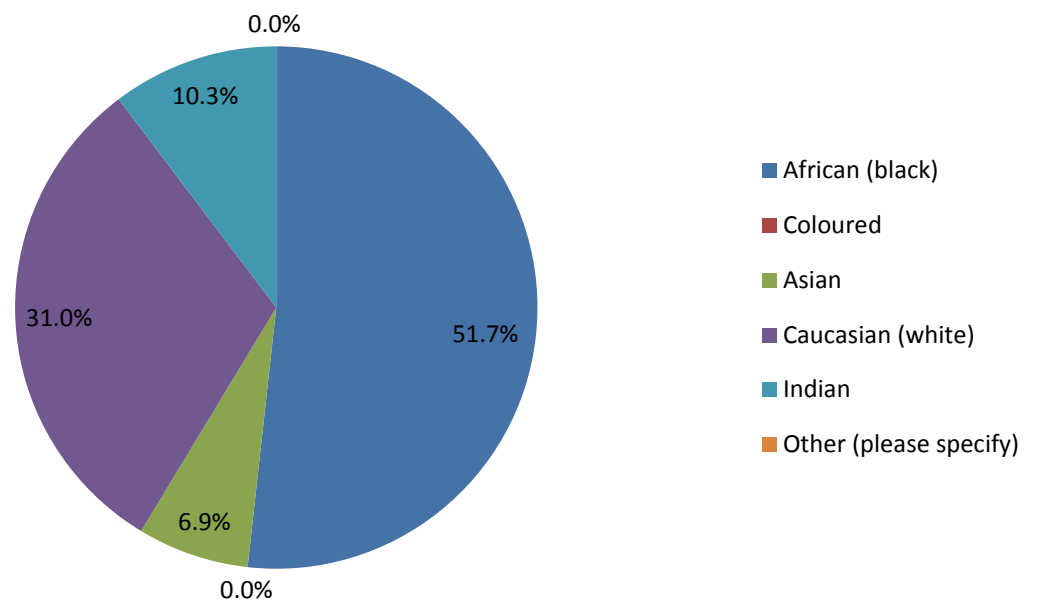


Figure 3: Race of respondent

Question 3: Highest school grade passed

A large proportion (75%) of entrepreneurs had atleast grade 12 high school education.

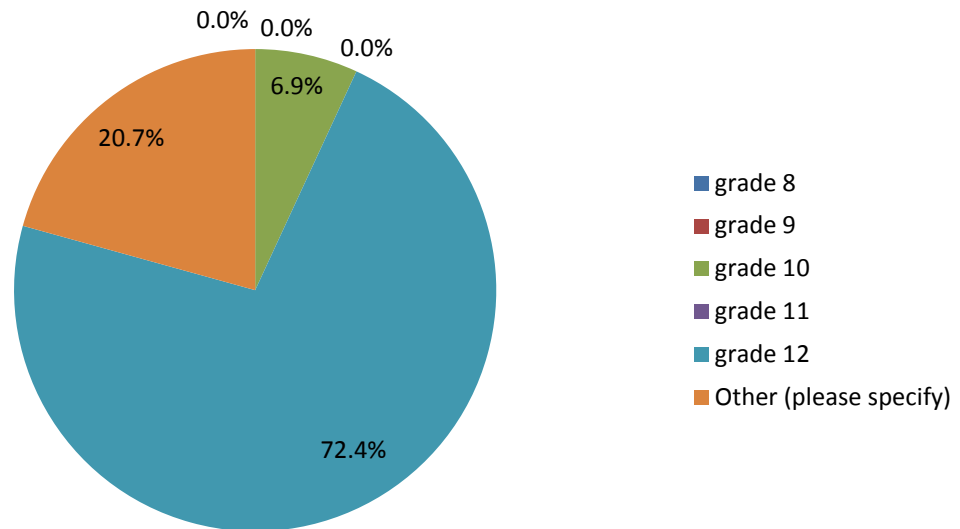


Figure 4: Highest school grade passed

Question 4: Post Grade 12 qualification

The table shows that 30% of the respondents have a diploma or degree and just over 25% of the respondents have a masters degree or its equivalent.

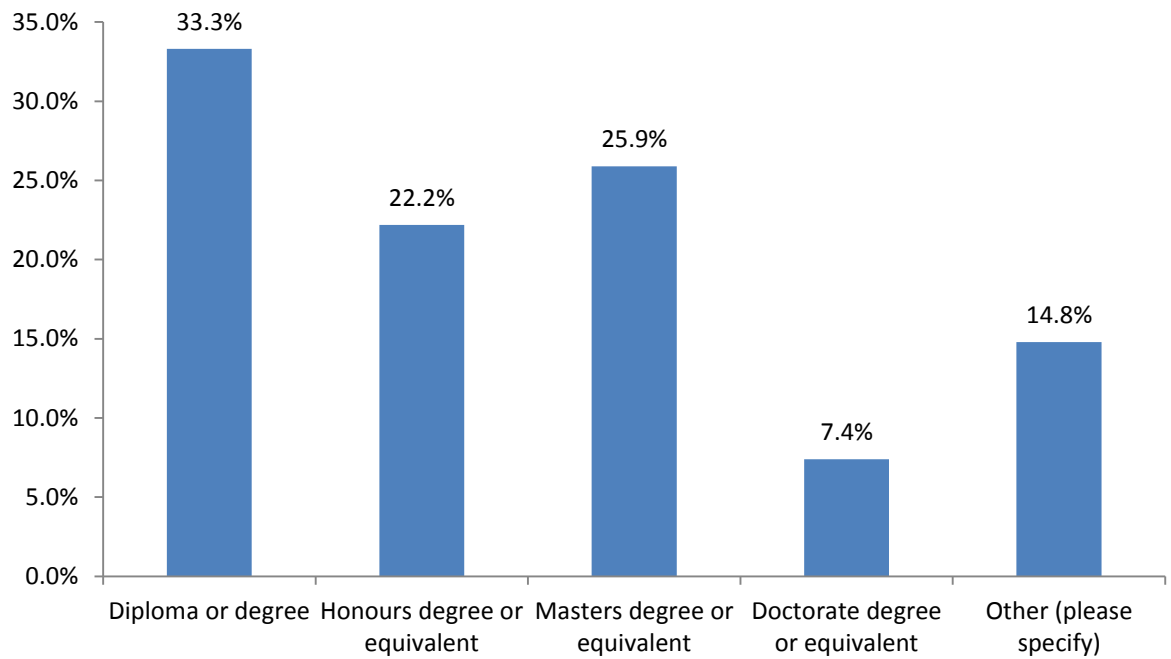


Figure 5: Post Grade 12 qualification

Question 5: Age group

Fifty-one percent of the respondents were in the 25 to 34 years age group. While the second largest number of responses came from the 35-44 years age group.

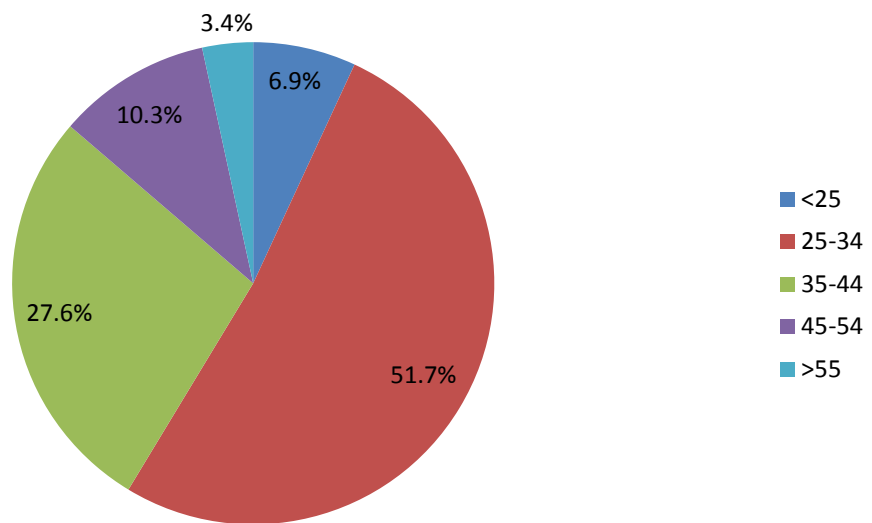


Figure 6: Age group

Question 6: Nature of Business

Consulting services and ‘other’ businesses were most frequently cited as the main nature of the business venture.

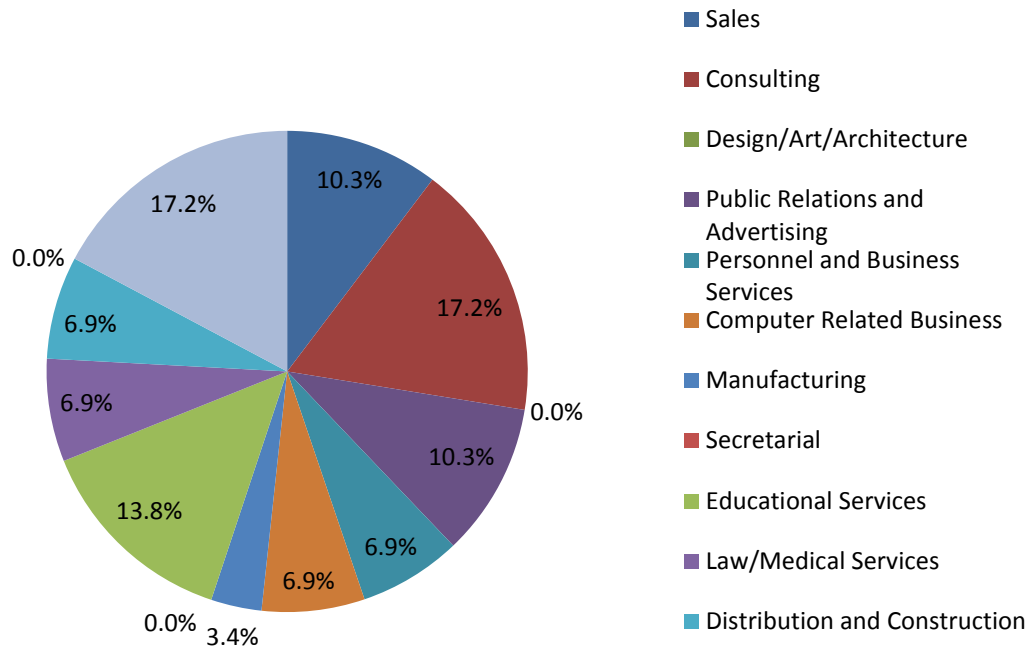


Figure 7: Nature of Business

Question 7: Form of Incorporation

Most businesses were incorporated as Closed Corporations cc, followed by sole ownership Interestingly there were low partnership type of incorporation businesses.

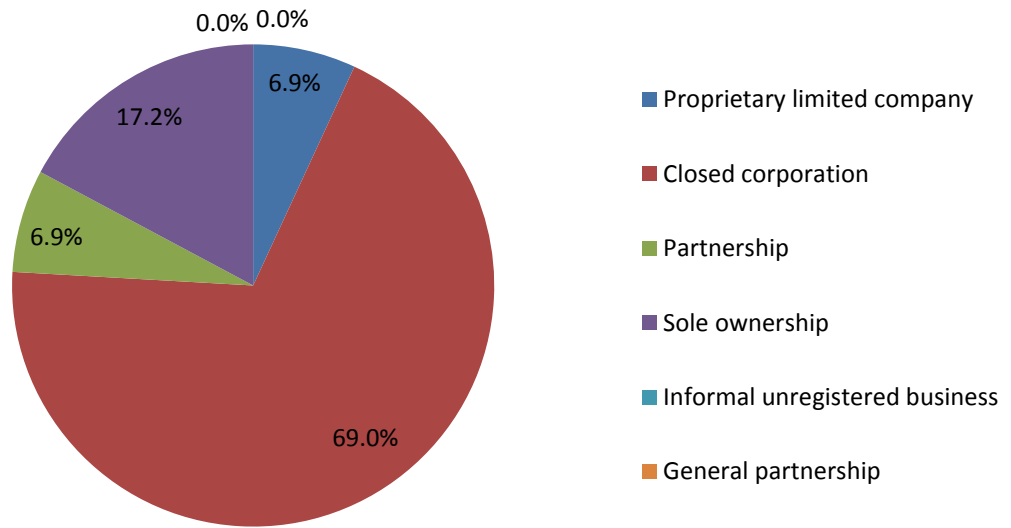


Figure 8: Form of Incorporation

Question 8: Age of Business

The average business age was 4.9 years, most businesses were therefore younger than 5 years of age. There was an outlier of an entrepreneur that has been in business for 25 years. Exclusion of the outlier generated the average age of 4.1 years. This is one of our performance measures to be analysed in chapter 6.

Question 9: Number of employees

The average number of employees was highly influenced by the outlier at 1000 employees. Including the outlier meant the average number of employees was at 43 people per entrepreneur, while excluding the outlier saw this figure at 8 which is probably more realistic. This is one of our performance measures to be discussed in chapter 6.

Question10: Management strengths

The entrepreneurs cited dealing with people and idea generation and product innovation as their greatest management strengths, whilst finance: securing capital, forecasting, budgeting, and book keeping were their weakest management strengths. These were organised using three categories, agree, neutral and disagree.

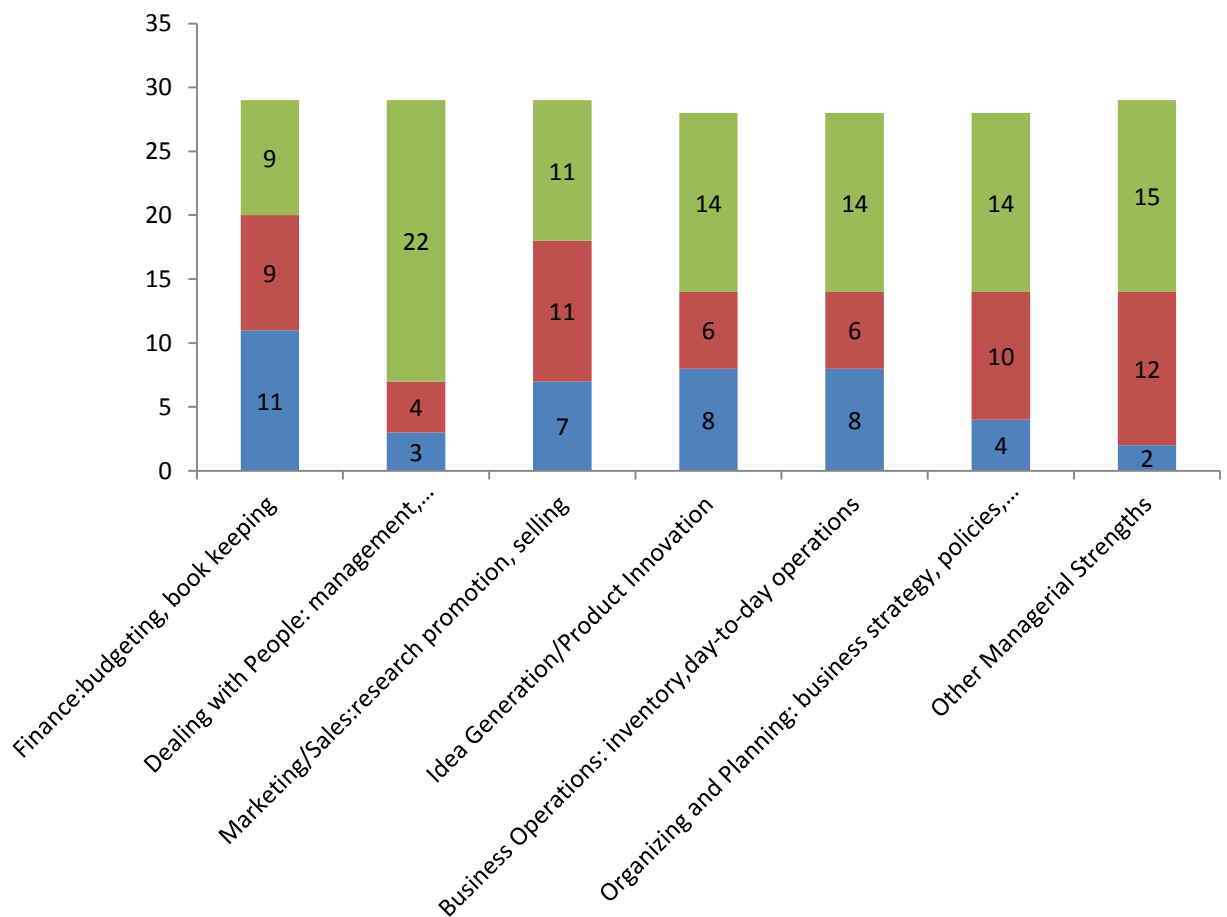


Figure 9: Management strengths

Question 11: Management strengths

The most frequently cited start-up problems were obtaining lines of credit and a lack of financial planning experience. Weak collateral position was also highly frequent. Entrepreneurs cited personal problems and legal problems as the least frequent start-up problems.

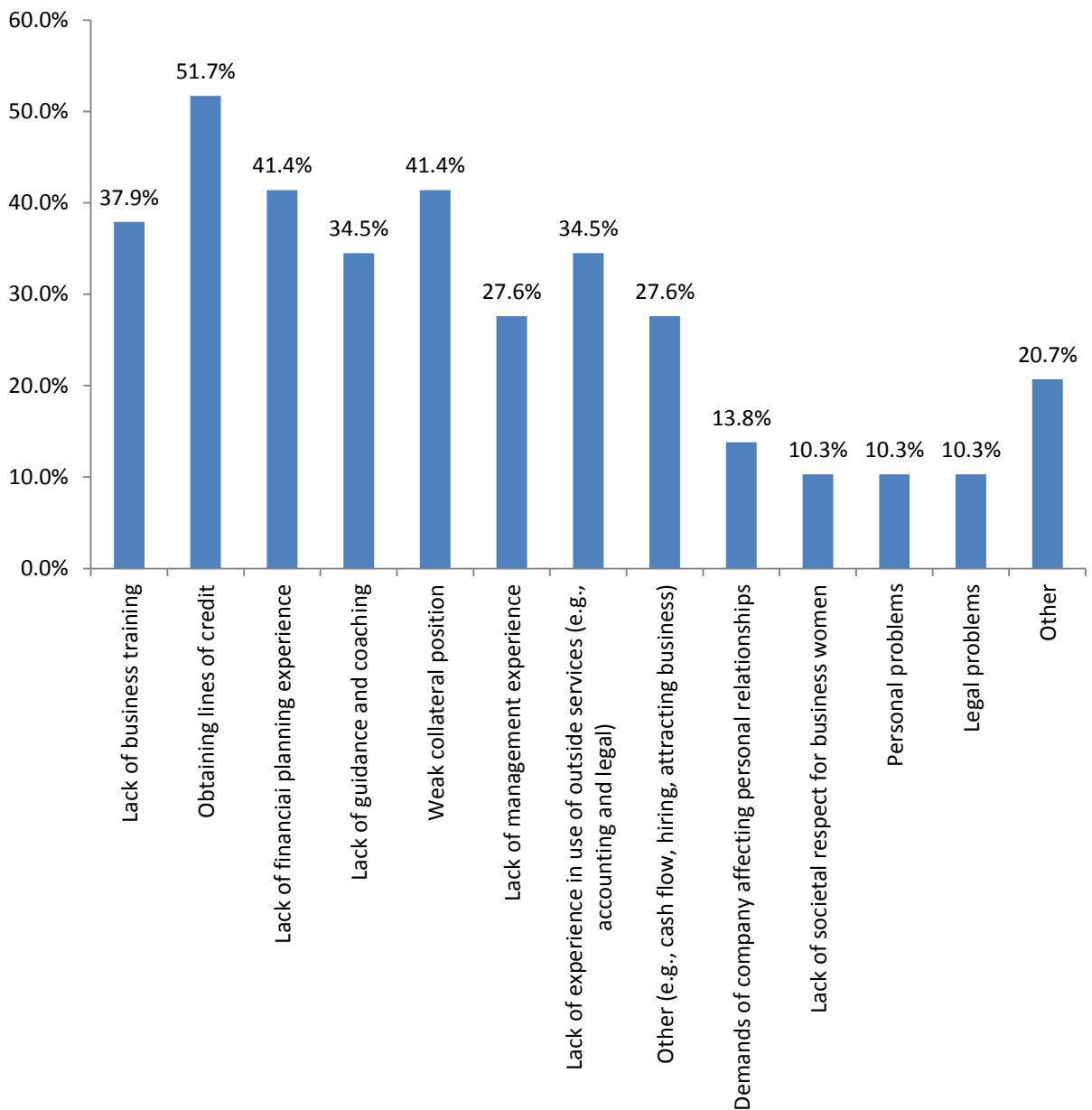


Figure 10: Management strengths

Question 12: Growth of business

This was measured in a number of ways: table 1) number of employees, table 2) profits and loss and table 3) the number of branches. The results of table 2 and 3 were used as the dependant variables for business performance.

Table 2: Number of employees

1) Number of employees	0-5	5-10	10-20	20	30	>30
year 1	26	1	2	0	0	0
year 2	18	5	2	0	0	0
year 3	14	2	2	1	0	1
year 4	9	3	3	0	0	0
year 5	7	2	2	1	2	0
Average	14.8	2.6	2.2	0.4	0.4	0.2

Over the last 5 years of company history, firms employing 0-5 staff diminished, whilst the number of companies employing 20-30 staff increased, demonstrating a general trend toward expansion and growth of the businesses over time.

Table 3: Annual profit and loss

2) Annual Profit/Loss in Rands	Loss (R'000)	R 0- R100 000	R 100 000- R500 000	R 500 000- R1000 000	> R 1000 000
year 1	14	12	3	0	0
year 2	7	11	5	2	0
year 3	6	6	6	2	0
year 4	5	4	4	2	0
year 5	4	5	2	1	2

The profitability track record over five years (Table x) shows that as the years progressed, the number of entrepreneurs moving from loss to high profit of greater than R 1 million has increased.

Loss makers decreased from 14 in year 1 to just 4 in year 5. Low profit makers (R0-100 000 category) declined steadily from 12 in year 1 to 5, and profit makers in the intermediate category (R100 000-R 500 000) increased until year 3 then declined thereafter, presumably as they shifted into higher profitability categories. In the row marked year 5, in the column of year 5, it is evident that four entrepreneurs were making a loss, and by the category of >R1000 000 profits has dwindled to only 2 entrepreneurs. This means only 7% of the entrepreneurs made a profit in year 5 and no one had reached the profit level in previous years.

Lastly, the greatest number of responses was found in the loss making categories as well as in the R0- R100 0000 categories. The significance of this characteristic will be highlighted in chapters to follow.

Table 4: Number of branches

3) No. of branches	1	2	3	4	5	6	7	8	9	10	>10
year 1	27	1	0	0	0	0	0	0	0	0	1
year 2	21	2	1	0	0	0	0	0	0	0	0
year 3	18	1	0	0	0	0	0	0	0	0	0
year 4	13	0	0	0	0	1	0	0	0	0	0
year 5	12	0	0	0	0	0	0	0	1	0	1

Only one entrepreneur had more than 10 branches by year 5, the average number of branches were one for each entrepreneur throughout the years.

Question 13: Attitude to previous experience and education

A large proportion of entrepreneurs felt that previous employment had helped them in starting their new businesses. A large proportion disagreed that previous entrepreneurial experience is important in boosting the success of their new venture. The element of the level of education having an impact on entrepreneurial business success generated what appeared to be a bi-modal frequency distribution, as an equal proportion of entrepreneurs agreed with the element and an equal proportion of entrepreneurs disagreed with the element. A high frequency of entrepreneurs strongly disagreed with the fact that the level of education was directly related to the level of success in their self owned businesses.

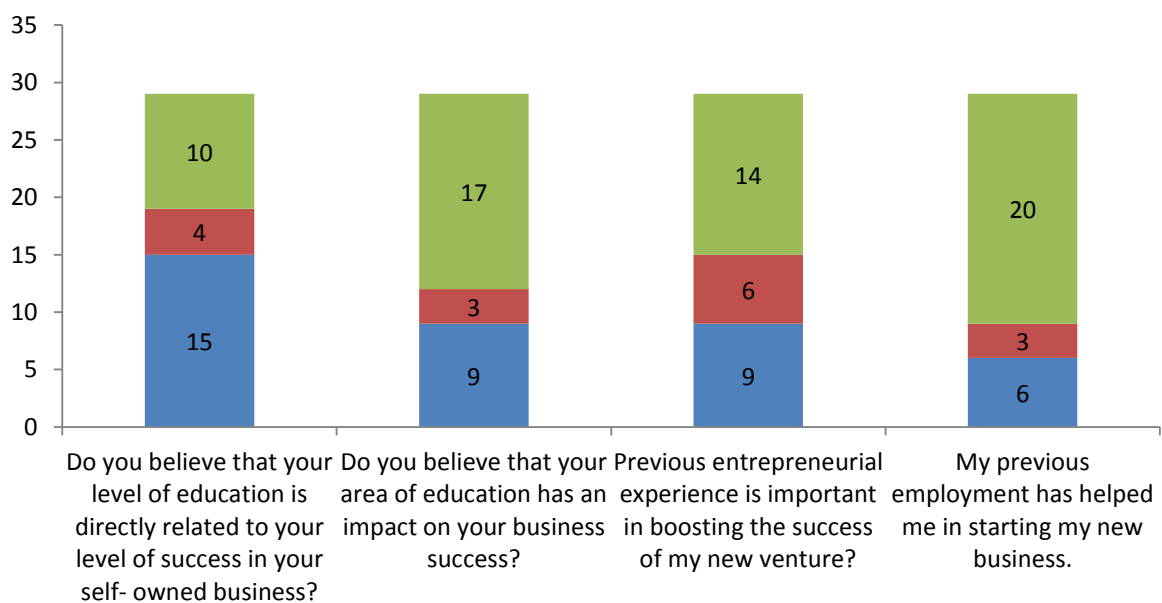


Figure 11: Attitude to previous experience and education

Question 14: Network membership

Entrepreneurs reported being members of HPCSA, BWA, BOF, SIOPSA, EAPASA, SAACI, SAWIC and Endeavor. Only 13 respondents answered this question, 9 stated the name of their association, while the remaining 4 answered no, the remaining 18 left the space blank which is assumed to be a ‘no’ answer. All no or ‘blank’ answers were shaded.

Table 5: Network membership

Respondent	Do you belong to any associations/networks/groups/professional bodies for woman entrepreneurs? If Yes, please specify.
1.	
2.	
3.	
4.	BWA
5.	NO
6.	
7.	
8.	
9.	
10.	
11.	N/A
12.	
13.	NO
14.	



15.	
16.	
17.	
18.	NO
19.	SOUTH AFRICAN WOMEN ENTERPRISE NETWORK COMPLIANCE INSTITUTE OF SOUTH AFRICA
20.	
21.	HPCSA, BWA BOF SIOPSA EAPASA
22.	SAACI
23.	BWA SAWIC
24.	KZNBWIB, WOMEN IN FINANCE, BWA, SAWEN
25.	
26.	
27.	WOMEN IN FINANCE, SAWEN
28.	
29.	KZN WIB TRESTLE GROUP FOUNDATION
30.	ENDEVOR

Question: 15: Definition of a network

Most entrepreneurs felt that the definition of a network fitted best with the category of ‘old colleagues’, although the spread between all the choices was even. The category of family and friends as well as ‘other networks’ generated equal responses. Because the question did not ask the entrepreneurs to ‘pick one option’, it is evident that these entrepreneurs’ definition of a network fits into more than one category.

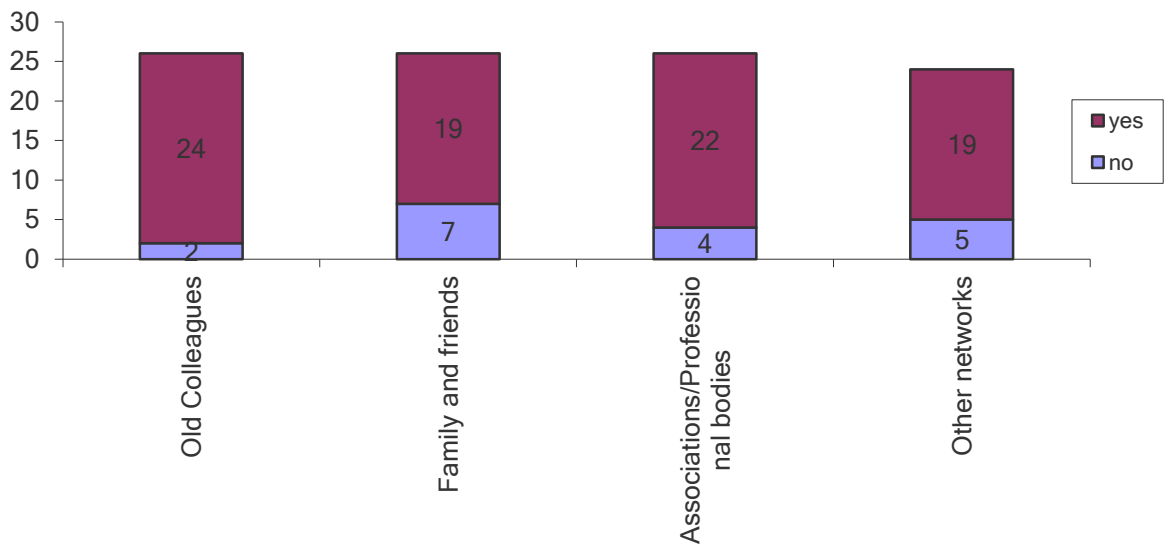


Figure 12: Definition of a network

Question 16: Attitude to networks and business success

Most entrepreneurs agreed and strongly agreed that the more networks they have, the more success they will have with their businesses. However, some disagreed that being part of an association had been a great contributor to the success of the business. Most entrepreneurs however agreed and strongly agreed that women entrepreneurs can benefit greatly from being part of an association.

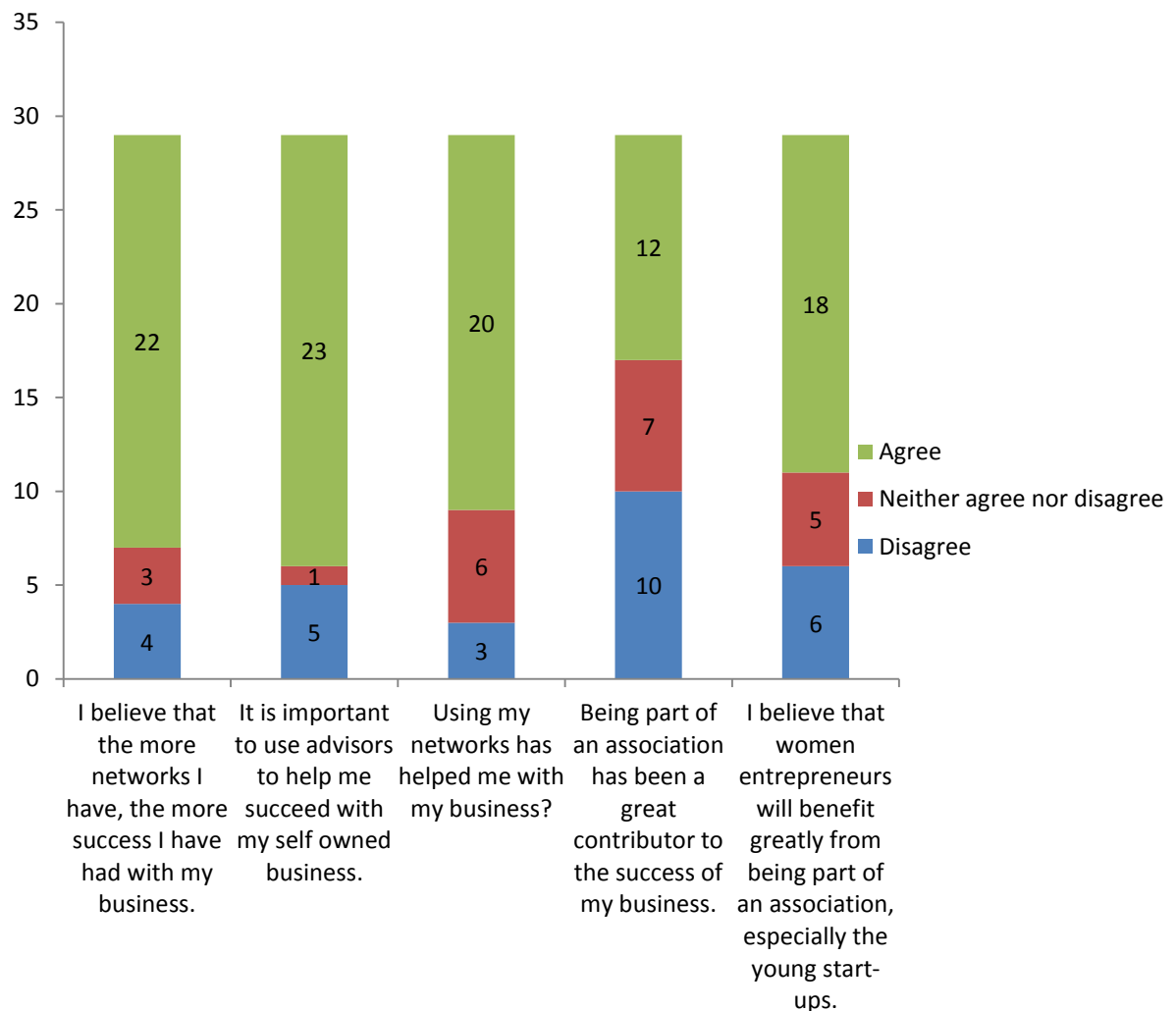


Figure 13: Attitude to networks and business success

5.2.3 Statistical Analyses

Pearson Chi-square test was used to test for association between two categorical variables, while Kruskal-Wallis test was used to test for association between a categorical variable and a continuous or ordinal variable.

Due to the small sample size, category levels were merged where possible to just three levels, in order to increase the strength of the statistics. For example, the variable of entrepreneur age (AGE-ENT) comprised 5 categorical levels i.e. <25, 25-35, 35-45, 45-55 and >55 years of age. This variable was reduced to **<35 yrs; 35-45yrs and >45 yrs** i.e. 3 levels. Levels of some variable such as the nature or type of business, which had 10 categories, were not merged in any way, and GLM was not applied as the sample size was too small for the large number of categories. Such variables were therefore analysed using descriptive statistics only. Results shown hereunder are further incorporated in Chapter 6 in relation to all of the hypotheses stated in Chapter 3.

The dependent variables represented business success in terms of profitability and number of employees. The two dependent variables were therefore denoted 'PROFITABILITY' and 'EMPLOYEES' respectively.

The predictor variables, or independent variables that were analysed by GLM were as follows:

1. Education (Human Capital element- part of hypothesis 1)
2. Membership (to societies, associations or clubs for entrepreneurs- Social Capital element - part of hypothesis 2)
3. Age of entrepreneur (Human Capital element - part of hypothesis 1)
4. Age of business (Human Capital element - part of hypothesis 1).

A contingency table was drawn up for the independent variable 'EDUCATION' and the two dependent variables of 'PROFITABILITY' and 'EMPLOYEES'. There was no significant association between profitability and education ($p = 0.907$). The pattern of responses in the profitability levels were not significantly different.

Kruskal-Wallis test showed that education did not significantly influence profitability either ($p=0.4513$). The Pearson's Chi square is somewhat limited to testing for a the association of just two categorical variables, typically an independent variable and a dependent variable. Further tests were therefore conducted using generalised linear model methodology (GLM).

Generalised Linear Model (GLM) Procedures

The advantage of GLM is that one can use more than one predictor independent variable in a test, and one can mix categorical and continuous variable. Additional independent variables tested were the age of the entrepreneur (AGE-ENT), and the age of the business (AGE-BUS), in addition to the education variable EDUCATION.

GLM was used to determine the level of influence of the AGE-ENT and AGE-BUS variables on ‘PROFITABILITY’ and number of EMPLOYEES’ denoting business size. The SAS outputs are included in Appendix 2 for reference.

The GLM methodology was first used incorporating predictor variables individually, and then simultaneously.

As the sample size was small, there was no significance found in the relationship between the dependant and independent variables used in the hypothesis testing section above. Thus, the GLM procedures were used as an alternative statistical method to test the validity of the findings of the Chi Square and Kruskal-Wallis equality-of-populations rank tests.

The GLM procedures were tested on Hypothesis 1a, b and c only. The data were evaluated using the SAS software application. The dependent variables of ‘number employees’ and ‘profitability’ were firstly transformed to log values to make them more acceptable for analyses. No significant differences between education levels were found for both ‘number of employees’ ($P=0.3981$) and ‘profitability’ ($p=0.4003$).

The R-square value for ‘number of employees’ yielded a figure of 0.155, implying that ‘education’ accounts for only 15.5% of the variation of ‘number of employees’ variable. Similarly, the ‘education’ variable accounts for only 14.9% of the variation of the ‘profitability’ variable.

These results are in-line with those of the Chi Square and Kruskal-Wallis equality-of-populations rank test.

The GLM methodology was then used incorporating three predictor variables of EDUCATION, AGE-ENT and AGE-BUS simultaneously. The P values are tabulated below for easy reference.

Table 6: P values for GLM statistical analysis for independent variables

Dependent Variable: EMPLOYEES		
INDEPENDENT VARIABLES	F Value	P > F
EDUCATION	1.05	0.3687
AGE-ENT	0.09	0.9152
AGE-BUS	2.88	0.1054
R-Square	0.276027	

Table 7: P values for GLM statistical analysis for independent variables

Dependent Variable: PROFITABILITY		
INDEPENDENT VARIABLES	F Value	P > F
EDUCATION	1.4	0.2677
AGE-ENT	0.44	0.6467
AGE-BUS	4.55	0.0449
R-Square	0.25176	

The study tested which predictor independent variables were significant in predicting the dependent variables of ‘EMPLOYEES’ and ‘PROFITABILITY’ using GLM procedures.

From the above tables, it is evident that for the given sample size of n=28, EDUCATION did not significantly influence EMPLOYEES (P=0.3687) nor PROFITABILITY (P=0.2677). The age of the entrepreneur variable, AGE-ENT also did not influence the dependent variable ‘EMPLOYEES’ nor ‘PROFITABILITY’ yielding P=0.9152 and P=0.6467 respectively.

Interestingly however, the age of the business independent variable ‘AGE-BUS’ had a significant influence on ‘PROFITABILITY’ at the 5% confidence levels, yielding probability statistic of $P=0.0449$, and a weaker but significant influence at the 10% level on EMPLOYEES, yielding $P=0.104$. The R^2 values of 0.276 and 0.251 imply that collectively, the three predictor variables of EDUCATION, AGE-ENT and AGE-BUS account for 27.6% and 25.1% respectively, of the variance in the dependent variables ‘PROFITABILITY’ and ‘EMPLOYEES’. This R^2 figure is somewhat low, implying that there may be other variables need to improve the model to higher R^2 values.

CHAPTER 6: DISCUSSION OF RESULTS

6.1 Introduction

This chapter aims to show depth of insight into the findings in terms of the context of the study and will do so by analysing the results found in chapter 5 in accordance with the hypothesis outlined in Chapter 3. The discussion will follow the same pattern found in Chapter 3, in that it will be separated into the two main themes being that of the Human Capital element and that of the Social Capital element.

A total of n=31 women entrepreneurs responded to the online survey sent to the census of 180 members of the Durban Chamber of Commerce (DCC) women in business. The response rate was 17%, but cognisance must be taken of the fact that the database used also includes members who in fact are not having self-owned businesses. This fact therefore may in part explain the low response rate. Two observations from the n=31 data set were eliminated since they stated on the survey that they were in fact not entrepreneurs.

6.2 Discussion

6.2.1 Hypothesis 1: Human Capital Element

This section is looking at the education knowledge, wisdom, expertise, intuition and the ability of women entrepreneurs to realise tasks and goals

Result of Hypothesis 1a: *The level of education will be positively associated with business performance.*

This hypothesis was tested using the Pearson's Chi-Squared test.

The independent variable was the level of education.

The Dependant variable, and indicators of business performance were i) profitability and ii) the average number of employees iii) number of branches.

i. Profitability:

The P value obtained from the test was 0.907.

$P > 0.05$, indicating that the level education is not a significant indicator of business performance in terms of profitability.

The Chi-square test results were as follows:

- Pearson $\chi^2(4) = 1.0188$ $P = 0.907$
- There is no significant association between profitability and Education ($P = 0.907$). The pattern of responses in the profitability levels is not significantly different.

The Scatter plot representation is as follows:

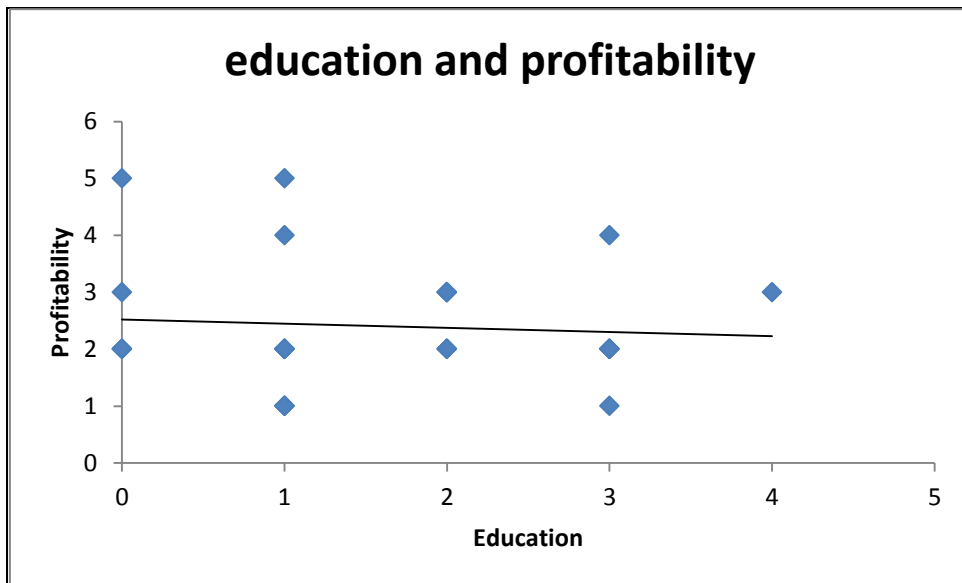


Figure 14: Scatter plot education and profitability

The trend-line is at a slight downward angle, which may indicate a negative correlation between education and profitability. This suggests that for our sample, the higher the levels or education for the entrepreneur, the less profits the business was making.

ii. Average number of employees

The P value obtained from the Kruskal-Wallis test was 0.451. $P > 0.05$, indicating that education is not a significant indicator of business performance in terms of average number of employees.

The Kruskal-Wallis results were as follows:

Kruskal-Wallis equality-of-populations rank test

Chi-squared = 1.591 with 2 d.f.

Probability = 0.4513

Chi-squared with ties = 1.622 with 2 d.f.

Probability = 0.4444

Average number of employees are not significantly different between the levels of education ($P = 0.4513$).

The Scatter plot representation is as follows:

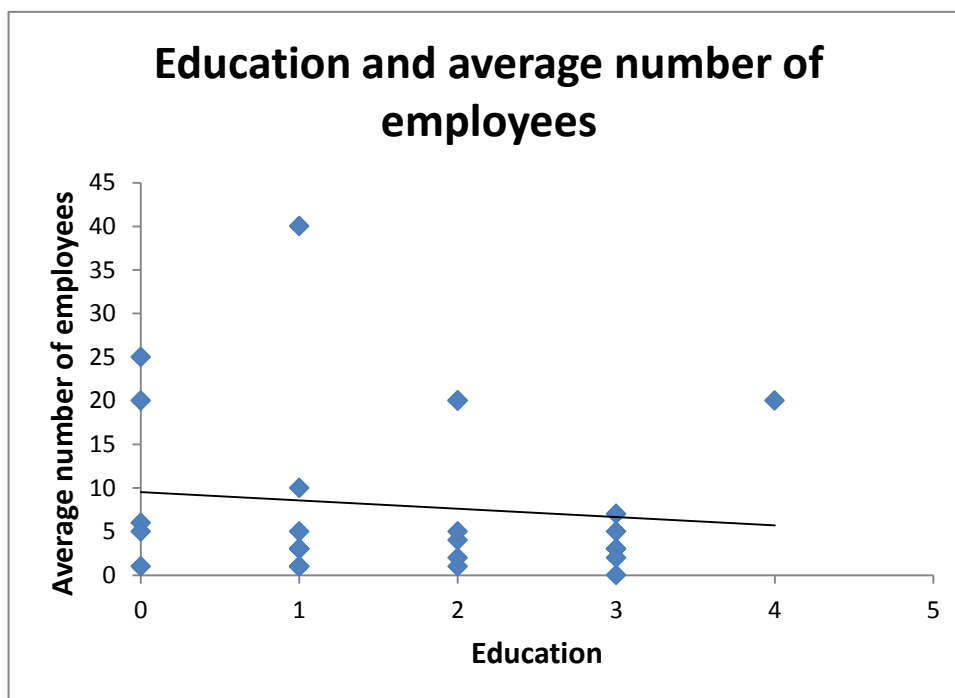


Figure 15: Scatter plot education and number of employees

The trend-line is at a slight negative slope, which may indicate a negative correlation between education and number of employees. This suggests that for our sample, the higher the levels of education for the entrepreneur, the less people their business is employing. However the sample size was small, and the P value was 0.3687 indicating non-significance.

In summary, when analysed with the performance measures of i) profitability, and ii) the average number of employees, education is not a significant predictor of business performance. Furthermore, the Scatter plot representations of the relationships between the dependant and independent variables suggest that education can have a slightly negative impact on business performance.

Hypothesis 1b: *Number of years in business or age of business, will have a positive association with business performance.*

This hypothesis was tested using the Pearson's Chi-Squared test.

The Independent variable will be the number of years in business.

The Dependant variable, and indicators of business performance will again be

i) profitability and ii) the average number of employees.

i. Profitability:

The P value obtained from the test was 0.0449. $P < 0.05$, indicating that AGE-BUS is a significant indicator of business performance in terms of profitability

The Scatter plot representation is as follows:

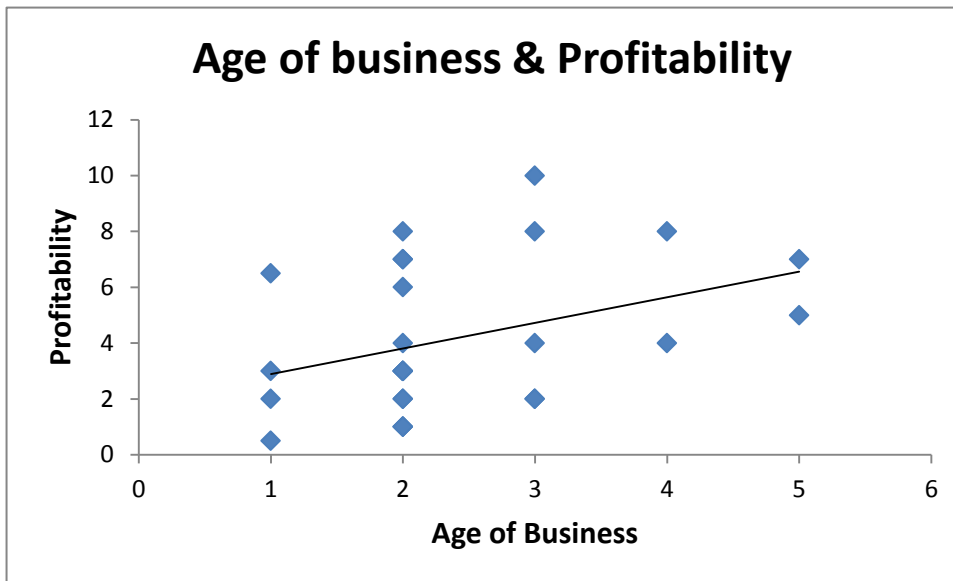


Figure 16: Scatter plot age of business and profitability

The trend-line is at a positive slope, which indicates a positive correlation between age of business and profitability. This suggests that for our sample, the longer the business has been running, the greater the profits it generates.

ii. Average number of employees

This finding was significant at the 10% level only ($P=0.1054$). This is in line with the findings of the relationship between age of business and the levels of profitability above.

The Scatter plot representation is as follows:

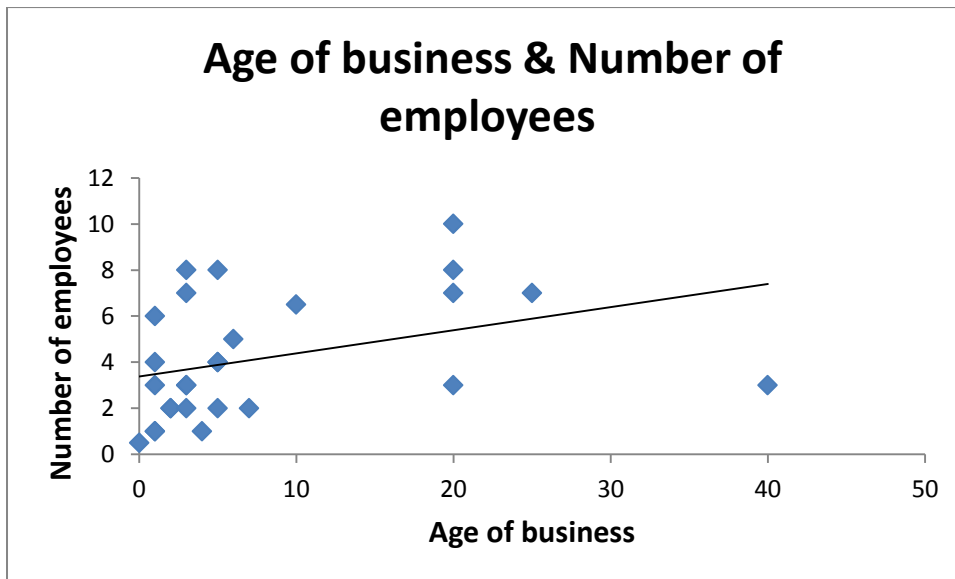


Figure 17: Scatter plot education and profitability

The trend-line is at a positive slope, which indicates a positive correlation between age of business and profitability. This suggests that for our sample, the longer the business has been running, the greater the number of employees.

Hypothesis 1c: *Age of entrepreneur will be positively associated with business performance.*

This hypothesis was tested using the GLM model. The independent variable was be the age of entrepreneur.

The Dependant variable, and indicators of business performance were i) profitability and ii) the average number of employees.

i. Profitability:

The P value obtained from the test was 0.6467. $P > 0.05$, indicating that the AGE-ENT education is not a significant indicator of business performance in terms of profitability.

The Scatter plot representation is as follows:

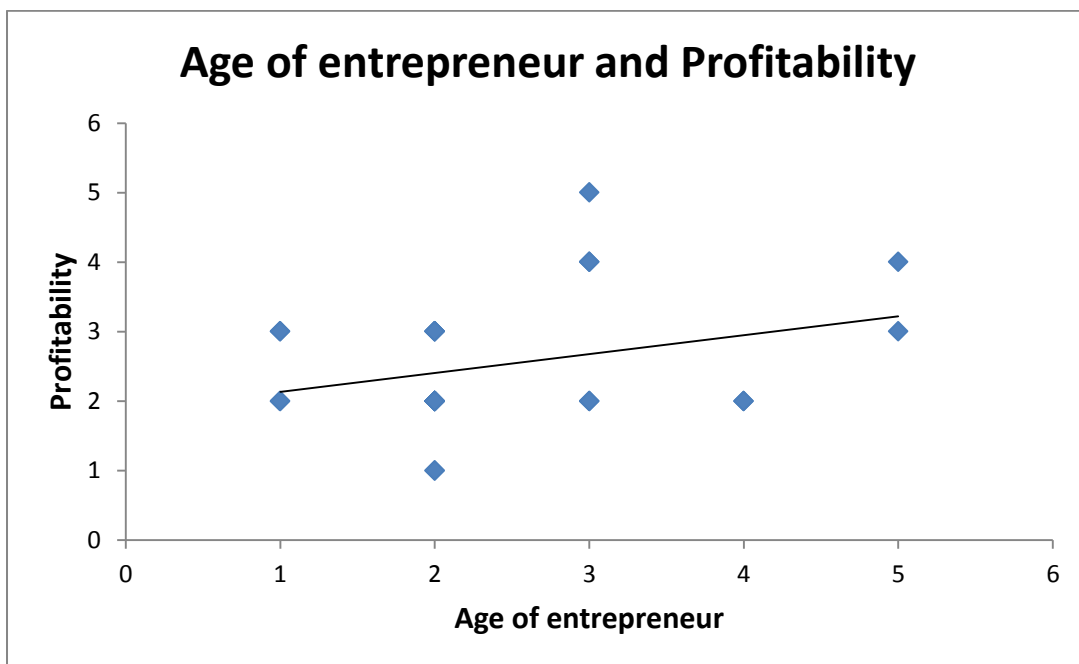


Figure 18: Scatter plot age of entrepreneur and profitability

The trend-line is at a definite upward angle, which may indicate a positive correlation between age of entrepreneur and profitability. This suggests that for our sample, the older the entrepreneur is, the greater the levels of profitability.

Summary of findings:

There is a negative, but not significant correlation at the 95% confidence level, between education and business performance, as tested by hypothesis 1a. This shows the level of education does not necessarily imply the success of your business. In fact, for this sample, education levels seem to hinder business performance.

This study used the work of numerous model papers to guide the processes used for achieving its objectives. One such paper by Bosma, Praag, Thurik and de Wit (2002) called *The Value of Human and Social Capital: Investments for the Business Performance of Startups* stated that the main finding of their research was that “the level of talent of a small business founder is not the unique determinant of performance.

Rather, investment in industry-specific and entrepreneurship specific human capital, contributes significantly to the explanation of the cross-sectional variance of the performance of small firm founders. More precisely: industry-specific investments in human capital such as experience in the specific industry enhance performance.” In terms of this study, the sample of entrepreneurs could enhance their business success by educating themselves in more industry specific fields related to their businesses.

The Scatter plot representing Hypothesis 1b show a very positive and significant correlation ($P=0.0449$) exists between business performance and the age of the business. On the other hand, the age of the entrepreneur had no influence on business performance ($P=0.9152$ and $P= 0.6467$ for ‘EMPLOYEES’ and ‘PROFITABILITY’ respectively).

In a similar study, Bosma et al. (2002) ‘AGE’ appears not to affect business performance measures, although the findings of Bosma et al. (2002), state that entrepreneurship specific human investments, such as previous experience in starting a business can generate start-ups with a greater potential for success and can increase the firm’s survival time.

The variables of ‘AGE-BUS’ of business and ‘AGE-ENT’ of entrepreneur for this study speak to the previous start-up experience mentioned above. Furthermore, Bosma et al. (2002) stated that “highly-educated people make more profits, while those who have experience as an employee create more employment”.

As a conclusion, the study agrees that Hypothesis 1: Human Capital does influence the performance of the business, but statistical significance was gain for the independent variable AGE-ENT only.

6.2.2 Hypothesis 2: Social Capital Element

This section of the research is looking at the density of networks that consist of connections, with the emphasis being on the membership to women’s entrepreneurial associations. Not all the variables were successfully tested with the Pearson’s χ^2 although graphical representations enabled interpretation.

Hypothesis 2a: *Business performance will be positively associated with membership to a society or club for entrepreneurs*

The Dependant variable, and indicators of business performance were i) ‘PROFITABILITY’ variable and ii) the number of employees – ‘EMPLOYEE’ variable.

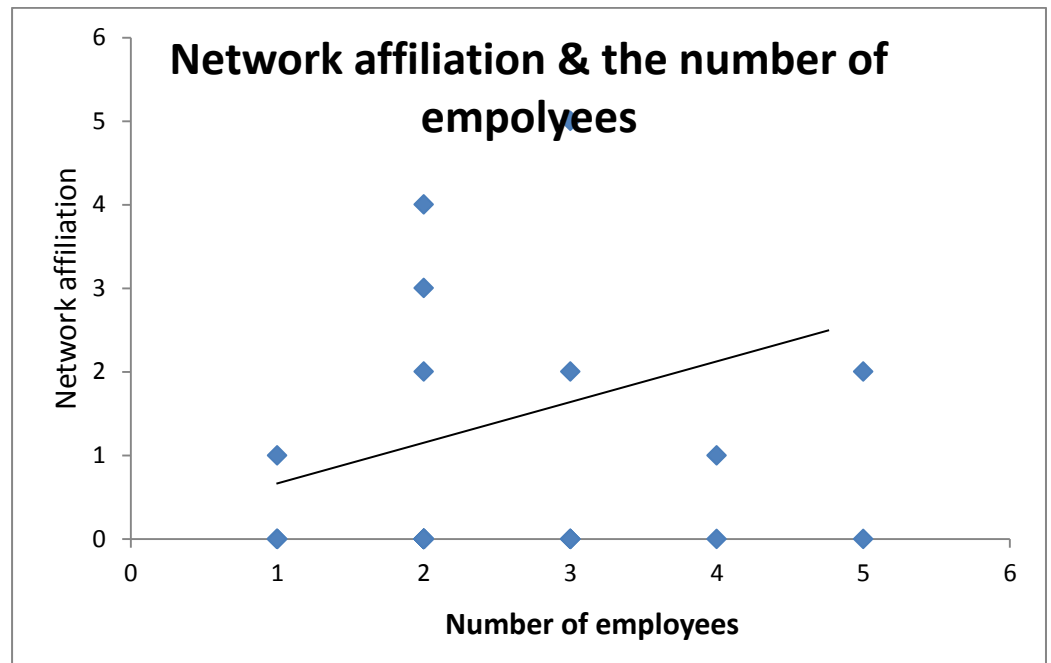
i. Profitability:

The Scatter-plot for both tests revealed almost no correlation between all variables.

The chi-square test results are as follows:

$$\text{Pearson Chi}^2 (2) = 2.7378 \quad \text{Pr} = 0.254$$

ii. Average number of employees



The trend-line is at distinct upward angle, which may indicate a positive correlation between network affiliation and average number of employees. This suggests that for our sample, the entrepreneurs that belong to a network, create greater employment.

Hypothesis 2b: *The greater the number of networks the entrepreneur belongs to, the more positive the association with business performance is.*

i. Profitability:

The graphical representation is as follows:

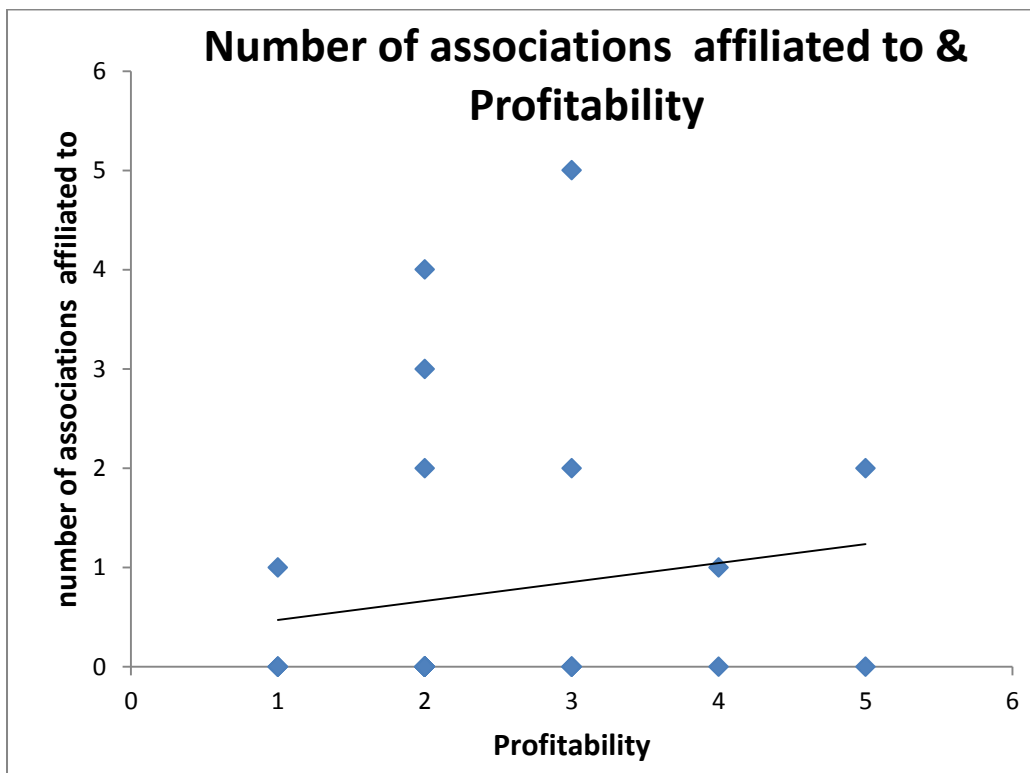


Figure 20: Scatter plot number of networks and profitability

The trend-line is at a slight positive slope, indicating that the number of associations an entrepreneur belongs to, may be associated with increased profitability.

ii. average number of employees

The graphical representation is as follows:

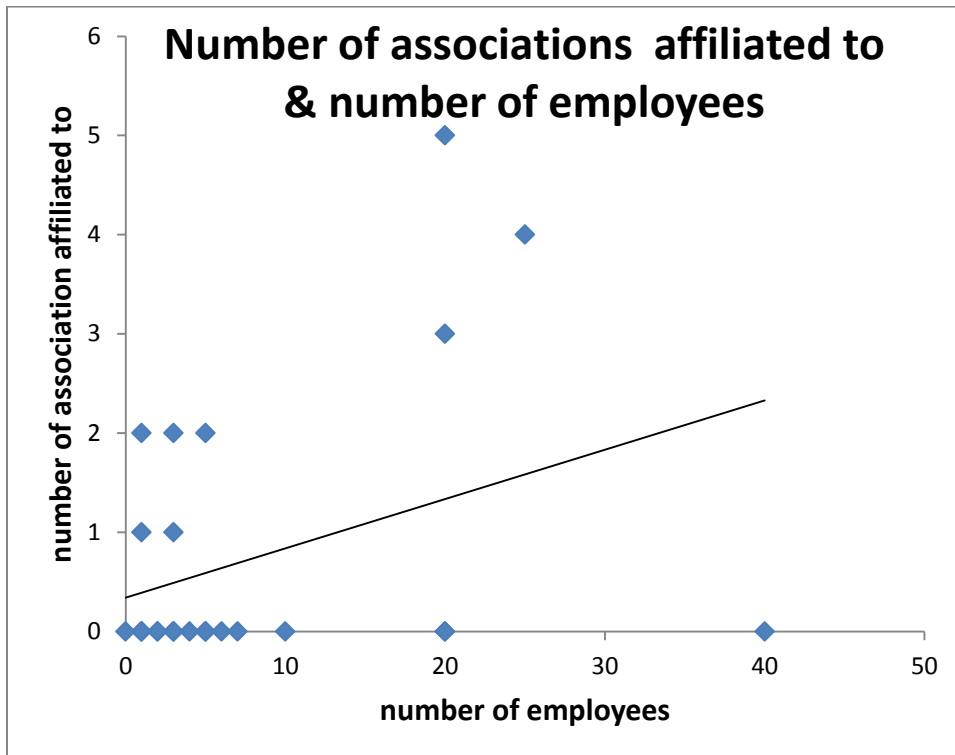


Figure 21: Scatter plot number of networks and average number of employees

The trend-line is at distinct upward angle, which may indicate a positive correlation between the number of networks to which the entrepreneur belongs and the number of employees the business has.

In summary, the relationship between network affiliation and business performance showed to be positive, as did that of network affiliation and number of employees.

Bosma (2002) stated that Social Capital, entrepreneurship-specific investments, such as the membership of an association for small business founders can generate more promising start-ups.

The sample size could have been the hindrance of our findings and rendered them inaccurate. The hypothesis testing methods applied to the social capital elements were another limitation to the findings. As a conclusion, the study agrees that Hypothesis 2: Social Capital does influence the performance of the business, although not empirically proven by the methodology used by this study.

6.4 Concerns

This section will briefly discuss the research objectives, and the concerns that stem from the sample achieved.

As outlined in chapter one, the main objective of this study is to contribute to this knowledge domain by conducting an analysis of the contribution or hindrance to growth and success in established women-owned enterprises from the aspect of Human Capital as well as Social Capital. The result found in section 6.2 partly achieved this. The hypothesis tests showed an either negative or positive relationship between the dependant and independent variables.

It must be stated though, due to the size of the sample, many relationships between the variables were found to be insignificant and the deductions made were based on correlations and trend analysis presented in the graphical representations of results, i.e. the Scatter plots/charts. The hypothesis testing methods applied to the social capital elements were the greatest limitation to the findings.

CHAPTER 7: CONCLUSION

7.1 Introduction

Despite the fact that the need for this research has been well motivated, there are a few general factors that affect the credibility of research findings:

Reliability: Will data collection techniques yield consistent results? The threats include:

- Subject bias: Respondents may be reluctant to disclose their levels of connectivity and some of the help they have received from such networks. The same may be true for the opposite angle as they may exaggerate their networks and create the impression of being very well connected.
- Observer error: Unstructured interviews may result in information that does not correlate. It is therefore important to illicit structure in the interviews and questions posed.

Validity- to see if the data findings are legitimate, the threats include:

- History: opinions on the importance of either factor may be altered if there is a dramatic shift in the environment
- Mortality: being unable to track a leading expert that may have pertinent information to the study especially considering that the subject may be a relatively high net-worth individual.

Theory on the effects of Human Capital and Social Capital for women owned SME's has been found in other countries with similar economic characteristics such as Israel.

The amount of information in this regard is poor in the South African context, especially when it comes to women entrepreneurs. This project aims to move a step closer to bridging the information gap on this topic.

7.2 Research conclusions

This section highlights the main findings of the research by pulling the results together in a cohesive and summarised manner.

Human capital:

The test for hypothesis 1a found that there is a negative but not statistically significant correlation between education and business performance. This implies that level of education does not necessarily mean the success of the business, and for this sample at least, education levels seem to hinder business performance. Hypothesis 1b tested the relationship between education levels and business type/nature of business. The Scatter plot showed a slightly positive or neutral relationship which may imply that education levels do not affect the nature of the business the entrepreneur is in. The Scatter plot representing Hypothesis 1c and 1d show that a very positive correlation exists between business performance and the age of both the entrepreneur and that of the business. Testing hypothesis using graphical correlation methods assisted in showing the trends of relationships between human capital and business performance.

As a conclusion, the study agrees that Hypothesis 1: Human Capital, does influence the performance of the business, and was statistically proven for the age of business AGE-

BUS variable at the 5% level for PROFITABILITY and the 10% level for EMPLOYEES.

Social capital:

In summary, the relationship between network affiliation and profitability showed to be a positive relationship as did that of network affiliation and number of employees. Using graphical correlation methods to test these hypotheses was not ideal, although it assisted in visually illustrating the trends of the relationships between Social Capital and business performance.

In order to verify the hypothesis that Social Capital does influence the performance of the business, the study of Bosma et al. (2002) was consulted as it stated that Social Capital appears to influence performance. The study went on to state that “if business owners plan to gather their information via commercial relations, this improves several performance measures”.

Furthermore, when entrepreneurs gather information from such commercial relationships, it further increases the survival time and the generated employment. Contact with other entrepreneurs in networks, has a positive effect on the employment the business founder generates. Our study used ‘number of employees’ as a dependent variable representing business performance and a very positive slope was evident in the graphical representations.

Interestingly, Bosma et al. also stated that the effect of networks is insignificant on the other performance measures. This could explain the slightly positive or neutral angle of the trend lines when the relationship between network affiliation and profits was tested for our sample. Bosma et al. (2002) found Social Capital to be an indicator of business

performance in terms of employment created and this study came to the same conclusion.

A variable that was listed in chapter 4, but not tested as it did not form part of the hypothesis was the Definition of a Network. The options given to respondents as categories for the definition were ‘Old colleagues’, ‘Family and friends’, ‘professional networks’ and ‘other networks’. The findings of Bosma et al. (2002) were invaluable as they answered this studies’ unanswered question: does the definition of a network have an influence on business performance. Bosma et al. (2002) stated that “the emotional support of a spouse appears also to be of importance: those who enjoy it earn approximately 40% more than their fellow entrepreneurs who experience no support”.

Family and friends form a part of the ‘informal or stronger relationships’ as identified by (Birley, 1985; Anderson and Miller,2003) and the findings are congruent to the Bosma et al.(2002) study. On the whole, we conclude that there is sufficient support for hypothesis 2: Social Capital positively affects entrepreneurial performance.

Thus Hypothesis 2: Social Capital does influence the performance of the business, although not empirically proven by the methodology used by this study.

7.3 Future research

An opportunity for further research was found in a few sections of the document, this is as a result of the international context within which women entrepreneurs are analysed

and thus the South African women entrepreneur needs more research to be conducted.

Some of the opportunities were as follows:

7.3.1 Barriers to women entrepreneurs

This is specifically looking at the difficulty of reaching a work-life balance of a self-employed woman. This was highlighted by the fact that women go into self-employment as a result of a need to create this work-life balance, but that very same need may be a hindrance to the growth and success of their small businesses.

7.3.2 Social capital

Chell (1996) has shown the importance of analysing relationships between personal networks and labour market inequalities to better understand how certain individuals develop aspirations, access resources and build support for an enterprise. Chell's point is interesting, as it points out that women may only seek to become a member of an association given certain circumstances. This may help us understand the conditions under which women will seek to be part of a network or association.

The white paper on Female entrepreneurship did note that 46% of the 870 sample of women entrepreneurs had made use of personal networks in the past 12 months (Myers, 2011) the reasons behind which can be analysed in further studies.

7.3.2 Human capital

Investments in human capital can improve entrepreneurial performance (Van Praag Cramer, 2001). Human Capital was the element against which this study was written, what was found was not the fact that human capital, in the form of the level of education, is a good predictor of business performance. Instead, this element had a negative relationship with business performance.

The need for further study will be found in looking into whether the notion of specific industry investment in human capital would be a better predictor of business performance as put forward by Bosma et al. (2002).

GLOSSARY:

BOF	BOF Networx
BWSA	Business Women’s Association of South Africa
DCC	Durban Chamber of Commerce
EAPASA	Employee Assistance Professionals Association South Africa
Endeavour	International organisation for small business networks
GEM	Global Entrepreneurship monitor
HPCSA	Health Professional Council for South Africa
Ntsika	South African Para-statal: National Agency for SMME’s.
NFWBO	National Foundation for Women Business Owners
OECD	The Organisation for Economic Co-operation and Development
SA	South Africa
SAACI	South African Association for the Conference Industry
SAWEN	South African women entrepreneurs’ network

SAWIC	South African Women in Construction
SIOPSA	Society for Industrial and Organisational Psychology of South Africa
SME	Small Medium Enterprise
SMME	Small, Micro and Medium Enterprises
TEA	Total Entrepreneurial Activity

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APPENDICES

Appendix 1: Consistency Matrix

The role of human and social capital in relation to the entrepreneurial success of women owned Small and Medium enterprises.

PROPOSITIONS/QUESTIONS/ HYPOTHESIS	LITERATURE REVIEW	DATA COLLECTION TOOL	ANALYSIS
Hypothesis 1a: The level of education will be positively associated with business performance.	Chapter 2, Section 2.4.	Surveymonkey questionnaire tool.	Pearson's Chi-square test.
Hypothesis 1a: The level of education will be positively associated with business performance.	Chapter 2, Section 2.4.	Surveymonkey questionnaire tool.	Pearson's Chi-square test.



Hypothesis 1c: Age of entrepreneur will be positively associated with business performance.	Chapter 2, Section 2.4.	SurveyMonkey questionnaire tool.	Pearson's Chi-square test.
Hypothesis 2a: Business performance will be positively associated with membership to a society or club for entrepreneurs	Chapter 2, Section 2.5.	SurveyMonkey questionnaire tool.	Pearson's Chi-square test.
Hypothesis 2b: The greater the number of networks the entrepreneur belongs to, the more positive the association with business performance is.	Chapter 2, Section 2.5	SurveyMonkey questionnaire tool.	Scatter Plot analysis

Appendix 2 : Sample Questionnaire

(Actual Questionnaire available in soft copy)

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Gordon Institute of Business Science



INTRODUCTION

Good day. I am Benzi Kuzwayo, an MBA student from The Gordon Institute of Business Science (GIBS), I am currently conducting research on The role of human and social capital in relation to the success of women owned enterprises in South Africa and I wish to conduct a survey on the Topic. I would be greatly appreciative if you could answer the following questions which will take approximately 15 minutes of your time.

Your personal information will remain confidential and will not be shared with any other organization.

INSTRUCTIONS TO THE RESPONDENT

Please cover all the sections applicable to the questionnaire.

Please ensure that all answers are recorded exactly as indicated and answered in your own words.

I confirm I am a woman small business owner:

Yes	No

SECTION A:

Please answer the following questions

QUESTION 1: Demographic section (PLEASE MARK RELEVANT ANSWER WITH X)

Race of respondent:

African (Black)

1

Brown (Coloured)	2
Asian	3
Caucasian (White)	4
Other (Please specify):	5

V4-6

Education level/ Qualifications

1. Highest school level passed
2. Post Matriculation Education: degrees or diplomas

QUESTION 2 (PLEASE MARK RELEVANT ANSWER WITH X)

Please indicate your age:	
Less than 25	1
25 – 34	2
35 – 44	3
45 – 54	4
55 >	5

QUESTION 3: ABOUT THE BUSINESS (please tick relevant selection)

What is the nature of business venture

Sales
Consulting
Design/Art/Architecture
Public Relations and Advertising
Personnel and Business Services
Computer.Related Business
Manufacturing
Secretarial
Educational Services
Law/Medical Services
Distribution and Construction
Finance
Other

Incorporation of business

Proprietary limited company
Closed corporation

Partnership
Sole ownership
Informal unregistered business
General partnership
Other

Age of business _____

GROSS BUSINESS REVENUES

Less than R30,000

R30,000-R99,999

R100,000-R499,999

R500,000-R999,999

R1,000,000-R4,999,999

R5,000,000 and over

SIZE OF FIRM BY NUMBER OF EMPLOYEES

Number of Employees	
Percentage of Firms by Type of Employees	

Full Time	
Part Time	
Family	
Employment patterns of the business	

QUESTION 4: ABOUT THE ENTREPRENEURAL JOURNEY

MOST RECENT PAST EXPERIENCE OF ENTREPRENEUR (please use own opinion)

Education	
Administration	
Secretarial	
Art/Photography	
Marketing/Personnel	
Sales	



Consulting	
Finance	
Executive	
Homemaker	

ENTREPRENEURS' SELF-APPRAISAL OF MANAGEMENT SKILLS

Poor	
Fair	
Good	
Very Good	
Excellent	
No Opinion	

MANAGEMENT SKILL (please state your own opinion)

Finance: securing capital forecasting, budgeting, book keeping
Dealing with People: management, development, and training
Marketing/Sales: marketing research, promotion, selling
Idea Generation/Product Innovation
Business Operations: inventory, production, day-to-day operations
Organizing and Planning: business strategy, policies, and organization

STARTUP PROBLEMS

Lack of business training
Obtaining lines of credit
Lack of financial planning experience
Lack of guidance and coaching
Weak collateral position
Lack of management experience
Lack of experience in use of outside services (e.g., accounting and legal)



Other (e.g., cash flow, hiring, attracting business)
Demands of company affecting personal relationships
Lack of societal respect for business women
Personal problems
Legal problems

PROBLEMS IN CURRENT OPERATIONS (please state own opinion)

Lack of experience in financial planning	
Other (attracting business, cash flow, hiring, and organization)	
Demands of company affecting personal relationships	
Weak collateral position	
Obtaining lines of credit	



Lack of business training	
Lack of guidance and counsel	
Lack of involvement with business colleagues	
Lack of management experience	
Lack of experience in use of outside services	
Legal problems	
Personal problems.	

(please mark all relevant answers with x)

How many businesses have you started over the past 15 years as a woman entrepreneur?	
1-3	1
4-6	2
7-9	3
10>	4

V8 (please fill in relevant answers)

How has your business grown over the years			
	Number	of	Profit
			Number
			of

	employees		Branches
Year 1-2			
Year 2-4			
Year 4-6			
Year 6-8			
Year 8-10			
Year 10+			

SECTION B

Impact of Human capital

INSTRUCTIONS TO RESPONDENT
<p>Please answer the following questions by making use of the scale below.</p> <p>Please mark the relevant answer with X</p> <p>Please answer all the questions</p> <p>Example of the scale is provided below</p>

1. Strongly Disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly agree
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QUESTION 1

Please indicate your attitude towards the following statements below:

Criteria:	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Do you believe that your level of education is directly related to your level of success in your self-owned business?	1	2	3	4	5
Previous entrepreneurial	1	2	3	4	5



experience is important in boosting the success of my new venture?					
My previous employment has helped me in starting my new business.	1	2	3	4	5
I have sufficient business skills	1	2	3	4	5
My business planning skills have helped run my new business.	1	2	3	4	5

Section C

The Impact of Social Capital 1 (PLEASE MARK RELEVANT ANSWER WITH X)

Do you belong to any associations for woman entrepreneurs? If so please name them.	
Yes	1



	2
	3
	4
	5
No	

Into which category does your definition of a network fit for you? (Please Tick one or more)	Old colleagues and friends	Family and friends	Business referrals	Association membership	Other (Please specify)
I believe that the more networks I have, the more success I will have with my self-owned business.	1	2	3	4	5
It is important to use advisors to help me succeed with my self-owned business.	1	2	3	4	5
Using my mentor (eg. Experienced industry colleague) has helped me succeed in my self owned business.	1	2	3	4	5



Being part of an association has been a great contributor to the success of my business.	1	2	3	4	5
I believe that women entrepreneurs will benefit greatly from being part of an association, especially the young start-ups.	1	2	3	4	5

CLOSING MESSAGE TO RESPONDENT

I would like to Thank You for participating in this survey, the results from the questions are available for your interest.

Appendix3: Statistical Output SAS

The SAS System

The GLM Procedure

Class Level Information		
Class	Levels	Values
education	3	0 1 2
Ageent	3	1 2 3

Data for Analysis of employees	
Number of Observations Read	28
Number of Observations Used	26

Data for Analysis of profitability	
Number of Observations Read	28
Number of Observations Used	27

Note: Variables in each group are consistent with respect to the presence or absence of missing values.

The SAS System

The GLM Procedure

Dependent Variable: employees

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	8.56390262	1.71278052	1.53	0.2268
Error	20	22.46172971	1.12308649		
Corrected Total	25	31.02563232			

R-Square	Coeff Var	Root MSE	employees Mean
0.276027	69.51977	1.059758	1.524398

Source	DF	Type I SS	Mean Square	F Value	Pr > F
education	2	1.73771520	0.86885760	0.77	0.4747
Ageent	2	3.59532451	1.79766225	1.60	0.2266
Agebus	1	3.23086291	3.23086291	2.88	0.1054

Source	DF	Type III SS	Mean Square	F Value	Pr > F
education	2	2.35699036	1.17849518	1.05	0.3687
Ageent	2	0.19984060	0.09992030	0.09	0.9152
Agebus	1	3.23086291	3.23086291	2.88	0.1054

The SAS System

The GLM Procedure

Least Squares Means

education	employees LSMEAN	Standard Error	Pr > t	LSMEAN Number
0	1.84316368	0.50303205	0.0015	1
1	1.02833856	0.44792525	0.0326	2
2	1.57529261	0.37910304	0.0005	3

Least Squares Means for effect education

Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: employees

i/j	1	2	3
1		0.2079	0.6554
2	0.2079		0.2620
3	0.6554	0.2620	

Note: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

Ageent	employees LSMEAN	Standard Error	Pr > t	LSMEAN Number
1	1.24633025	0.81579956	0.1422	1
2	1.55054090	0.34963719	0.0003	2
3	1.64992370	0.37160957	0.0003	3

Least Squares Means for effect Ageent			
Pr > t for H0: LSMean(i)=LSMean(j)			
Dependent Variable: employees			
i/j	1	2	3
1		0.7272	0.6777
2	0.7272		0.8569
3	0.6777	0.8569	

Note: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

The SAS System

The GLM Procedure

Dependent Variable: profitability

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	1.29839898	0.25967980	1.41	0.2602
Error	21	3.85888556	0.18375646		
Corrected Total	26	5.15728454			

R-Square	Coeff Var	Root MSE	profitability Mean
0.251760	54.62395	0.428668	0.784762

Source	DF	Type I SS	Mean Square	F Value	Pr > F
education	2	0.34967267	0.17483633	0.95	0.4022
Age-ent	2	0.11241885	0.05620943	0.31	0.7397
Age-bus	1	0.83630746	0.83630746	4.55	0.0449



Source	DF	Type III SS	Mean Square	F Value	Pr > F
education	2	0.51602311	0.25801155	1.40	0.2677
Ageent	2	0.16353157	0.08176578	0.44	0.6467
Agebus	1	0.83630746	0.83630746	4.55	0.0449

The SAS System

The GLM Procedure

Least Squares Means

education	profitability LSMEAN	Standard Error	Pr > t	LSMEAN Number
0	0.98389993	0.20235130	<.0001	1
1	0.59215187	0.18030395	0.0035	2
2	0.83327547	0.15113624	<.0001	3

Least Squares Means for effect education

Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: profitability

i/j	1	2	3
1		0.1368	0.5335
2	0.1368		0.2167
3	0.5335	0.2167	

Note: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

Age-ent	profitability LSMEAN	Standard Error	Pr > t	LSMEAN Number
1	0.82241937	0.32628412	0.0199	1
2	0.89675291	0.13853076	<.0001	2
3	0.69015499	0.15220145	0.0002	3

Least Squares Means for effect Age-ent

Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: profitability

i/j	1	2	3
1		0.8312	0.7336
2	0.8312		0.3585
3	0.7336	0.3585	

Note: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

