



**MBA 2005 / 6**

# **Major Factors Contributing to the Sustainable Profitability of South African Indian Family Businesses**

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University of Pretoria, in partial fulfilment of the requirements for the  
degree of Master of Business Administration**

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## ABSTRACT

Indians arrived in South Africa since 1860 predominantly as indentured labourers. Despite over a century of pointed hostility towards Indian entrepreneurs, they managed to endure hardship and thrive. Today they run some of the most successful family businesses in South Africa. Family businesses internationally have had a reputation of struggling to survive beyond the first generation.

This study attempted to identify factors that contributed to family business survival. Of the factors identified, which of these factors were adopted to a significantly greater extent by highly profitable family businesses as compared to family businesses exhibiting average profitability.

Two family business groups were studied. A control group and a success group. Both groups were profitable companies; however the success group had a higher profitability for the past five years as compared to the control group.

Thirteen factors were identified as key contributors to family business longevity. All thirteen factors were adopted by 45% of the Indian businesses. Of these eight factors: strategic planning, governance structures, succession planning, open family communication, family networks, trust, cultural values alignment and harmonious family relations were proved to be adopted to a significantly higher extent by the highly profitable companies.

## DECLARATION

I declare that this research project is my own, unaided work. It is submitted in partial fulfilment of the requirements of the degree of Master of Business Administration for the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other university.

.....  
**Sugenthiran Moodley**

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**Date**

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- The Indian business men and women who participated in this survey

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## **ABBREVIATIONS**

|       |                                       |
|-------|---------------------------------------|
| NCSS  | Number Crunching Statistical Software |
| NOPAT | Net Operating Profit after Tax        |
| DTI   | Department of Trade and Industry      |

## **Chapter 1 : Introduction and Problem Definition**

### **1.1. Introduction**

In 2005, Family Business Magazine compiled a list of 250 of the world's largest family businesses, spread across at least 28 countries. Each had annual revenues of at least \$US 1.2billion. Most of these companies currently dominate their national economies. Taken as a whole, by any measure, they constitute a significant force in the global economy.

Conservative estimates of worldwide businesses owned or managed by families range between 65% and 90% (Gersick, Davis, McCollon and Lansberg, 1997, p. 2; Sharma, Chua and Chrisman, 2000, p. 233; Van Der Merwe, 1999; Zimmerer and Scarborough, 2002, p. 19; Venter, 2002, p. 32).

In some of the most powerful Western countries, family businesses form the majority of all businesses:

France (60%), Germany (60%), Portugal (70%), Belgium (70%), United Kingdom (70%), the Netherlands (74%), Australia (75%), Sweden (79%) and the USA (95%) (International Family Enterprise Research Academy (IFERA), 2003).

This may inadvertently imply a view that family businesses are homogeneous, overlooking fundamental national differences. In Europe, Birley (1996) collected data on the extent to which an owner's personal goals affected business decisions and found significant differences. For example, the Austrians, Finns,

Danes and Spaniards sacrifice growth and control for protecting income and investment; the owners in Belgium, Luxembourg, the Netherlands and Switzerland consider maintaining their businesses at current size to be high priority. The Greeks and Austrians had the tendency to be Dynasts, where their primary goals were to grow the business, protect the investment, and pass it on to the next generation.

## **1.2. Motivation for the research**

In South Africa, more than 84% of the more than 1.4 million formally registered businesses are family businesses and up to 60% of companies listed on the Johannesburg Stock Exchange (JSE) Securities Exchange are family businesses (Ackerman, 2001, p. 325). Family businesses have the potential to significantly contribute to the creation of economic and social empowerment opportunities in South Africa (Venter, 2002, p. 32).

Despite their considerable contribution to the economy and their potential for job creation, the poor survival rate of family businesses is a source of major concern.

As few as three out of ten family businesses survive into the second generation (Beckhard and Dyer, 1983) and less than 15% survive into the third generation (Morris, Williams, Allen and Avila, 1997).

The Indian community of South Africa is made up of various ethnic and cultural origins: Hindi, Gujarati, Tamil, Telegu, Hindu and Muslim. Indians are

predominantly an immigrant group, the majority of whom arrived in South Africa as indigent labourers from 1860. They were subjected to a wide range of carefully planned and consistently administered discriminatory laws, practices and statutory interventions targeted specifically at preventing the development of Indian businesses. The intensity and unforgiving perseverance of the government of the time at administering these constraints should have deterred any possibility of Indians thinking of pursuing business ventures. Yet, in spite of restrictions on space, job reservation, the non-availability of loans and the complexities of apartheid, Indian businesses have proven to be resilient and have performed well, both from a survival and from an economic perspective.

A striking observation of the Indian family businesses is that the majority of them are family owned businesses.

### **1.3. The Research Problem**

Considering the prominence and contribution that family businesses make to the economy, one would have expected vibrant debate and extensive analysis on family businesses in South Africa, yet this is not evident. South African academics and economic commentators have largely overlooked family businesses (Venter, 2002, p. 33; Maas, 1999).

Against this background, the research problem investigated in this study is:

**Determining the extent to which Factors Contributing to Sustainable Profitability are being applied by South African Indian Family Businesses**

The primary aim of this research is to:

- 1.3.1 perform a literature study to identify the factors that contribute to the survival of Family businesses;
- 1.3.2. empirically test those factors identified in literature, for applicability to South African Indian family businesses;
- 1.3.3. determine to what extent South African Indian Family Businesses exhibiting high profitability adopt each of the identified factors in their businesses as compared to South African Indian Family Businesses exhibiting average profitability

## **Chapter 2 : Theory and Literature Review**

### **2.1 Definitions**

#### **2.1.1 Family**

The term “extended family” and “family” tends to be used loosely in literature. Some authors have taken the effort to define the terms while others have not. Even popular authors such as Comhaire (1953) in his study of the economic change and the extended family in Belgium, Thomas Smith (1961) in his study of landlords’ sons in businesses in Japan, Barth (1963) in his study in Eastfjord, Khalaf and Shawyri (1966) in their study of family firms in Lebanon and Benedict (1968) in his East African study have not defined the term family or extended family. It is therefore crucial that the use of the terms nuclear family, extended family and joint family be understood in the context that the author is implying, when reviewing such authors’ work, as these terms are used interchangeably.

Murdoch (1961) defines an extended family as consisting of two or more nuclear families affiliated through the extension of the parent–child relation rather than of the husband–wife relation i.e. by joining the family of a married adult to that of his parents. Murdoch (1961) gives as an example a patriarchal family, which constitutes an older man, his wife, his unmarried children and his married sons and their wives and children. They live under a single roof or in a cluster of dwellings.



The nuclear family is a conjugal unit consisting of two generations: husband, wife and unmarried children. The moment the sons marry, this ceases to be a nuclear family. Joint family refers to a family where there is an individual such as a widowed mother or sister in a two-generation nuclear family.

Owens (1968) provides a variation to the term extended family, distinguishing between commensal and co-parcenary families. The term family refers to the hearth group, the group that budgets and eats together. He refers to a family with one married couple as nuclear and two married couples, related to each other, as joint. In Lineal joint families, the husbands are related as father and son. In a Collateral joint family, the couples are related through a brother–brother tie. Owens (1968) emphasizes that in a co-parcenary family, members are owners of joint property. It is clear who the head is and that certain role relations are expected among co-parceners.

Jithoo (1978) suggests that joint family is a compound and fluid definition. It must include a minimal genealogical specification of two or more related elementary families. They can form a group that is co-residential, but not commensal, nor co-parcenary; or a group that is co-residential, co-parcenary, but not commensal; or even a dispersed group that is still co-parcenary, but not co-residential and therefore not commensal.

Jithoo (1978) further emphasizes those key characteristics common to joint families are that the head of the family is either the father in a lineal joint family or the senior brother is, in a collateral joint family and that these heads have

undisputed authority, which is accepted and respected by all the members of the household. Although consultations and discussions do take place between father and son and among brothers, the ultimate power lies with the head of the family.

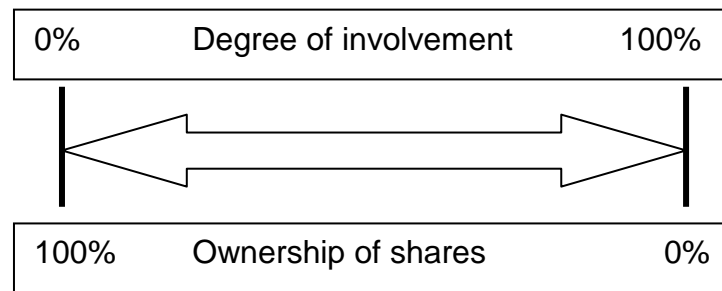
In the research undertaken by Jithoo (1978) on Indian businesses in Natal, out of 120 businesses, 88% were joint and 12% nuclear. Further, the 88% were joint family businesses in the co-parcenary sense even though a substantial proportion was not joint in the co-resident sense.

### **2.1.2 Family Business**

The concept of family business is itself highly contentious. Researchers have explored the meaning of the term and offered interpretations and typologies based upon variables such as the involvement of other family members, concentration of ownership and management within the family, intention to achieve management succession within the family business and actual succession having taken place.

The degree of family members' involvement in the business can range from ownership of shares only and no participation, to full participation in management, or somewhere in between.

**Figure 2.1.2: Spectrum of involvement and ownership of shares**



In the simplest and broadest definitions, a family firm may be defined as any enterprise that involves more than one member of a family. Under this definition, the majority of businesses may be described as ‘family’, as the majority of the firms in any economy are likely to involve in some way spouses, children or other family members.

Westhead (1997), in a major comparative study of family and non-family businesses, argue that family businesses should meet at least three of the following four conditions: having undergone an inter-generational transition; having more than 50% of shareholding owned by family; where more than 50% of family members are involved in day to day management and where the company speaks of itself as a family business.

Shanker and Astrachan (1996, p. 109) propose a three-level definition, with broad, middle and narrow definitions as follows:

Broad: effective control of strategic direction intended to remain in family, little direct family involvement

Middle: founder/descendant runs company, legal control of voting stock, some family involvement

Narrow: multiple generations, family involvement in running and owning, more than one member of owners' family having significant management responsibility, a lot of family involvement.

While firms in Shanker and Astrachan's (1996) 'broad' and 'middle' categories may not differ markedly from the business population at large, those in the 'narrow' category are clearly distinctive in the level of family involvement and most notably the involvement of multiple generations. Fletcher (2000, p. 157) argues that inter-generational transition is the ultimate challenge and defining feature of the family business.

These factors contribute to the complexity in defining the term "family business" (Neubauer and Lank, 1998). Lansberg, Perow and Rogolsky (1988, p. 1) suggest that it is not surprising that attempting to define the term "family business" can quickly become a very complicated exercise. While there are some commonalities among most of the definitions, academics are still unable to reach consensus.

Based on literature review, the broad definition offered by Handler (1989, p. 262) of family business is the definition chosen as the basis for this study:

"A family business is defined as an organization whose major operating decisions and plans for leadership succession are influenced by family

members serving in management or on the board.” Handler (1989) adds that in addition to the influence of family members, comes the attitudes of family members towards the issue of succession. It is therefore cautionary to not only consider the definition in isolation, but to take cognizance of the cultural context within which the family operates as well.

## **2.3 Literature identification of the independent variables**

### **2.3.1 Strategic Planning**

Strategic planning is deciding on a choice of action that has important consequences and resource demands for the family business. It involves not only the conscious choice of what to pursue, but equally importantly what not to pursue. From a family business perspective, strategic planning is not only about an industry and market perspective, but also equally importantly about a family perspective as well. It includes brainstorming, project management and detailed contemplation of the choices that are available to the business. McCann (2003) suggests that strategic planning is important for two reasons. Firstly, an intense sense of collaboration is created by the very process of committing a project to writing for the key stakeholders to review. Secondly, by reducing to writing and obtaining feedback from key stakeholders, the content of a plan is usually vastly improved.

Poza (1989) states that family businesses must consider growth strategies to avoid the decline and liquidation of the family business, to promote continuity

and family unity, and to save jobs and create wealth. Mintzberg (1994) observed that family businesses preferred privacy, and planning may be neglected because it requires sharing what might be considered confidential information. Mead (1994) states that the preference for privacy can influence growth when family managers will not share knowledge of the family business with non-family managers.

Daily and Dollinger (1992) using the typology of Defender, Prospector, Analyser and Reactor strategies, found that family businesses tend to adopt either the Defender strategy (“We stick to what we know how to do, and do it as well as or better than anyone else”) or the Prospector strategy (“We have a specific program to be innovators and are willing to take the necessary risks of promising new products and services”) more often than non-family businesses. Greenwald and Associates (1993) found that the Prospector strategy is considered a growth strategy, although growth is not a highly ranked goal among family businesses.

Zinger and Mount (1993) found in a study of the top priorities of family firms, that they do not see new products and services as prosperity. They hypothesized that family businesses are more inclined to adopt strategies that allow them to accomplish family goals, such as maintaining family control and avoiding debt.

Deloitte and Touche (1996) found this to be in stark contrast to Fortune 1000 companies, which include growth as one of their most important goals.

Greenwald and Associates (1993), in a national survey of 614 family businesses, found that 56% of those businesses had no written business plan. In a survey of 303 family businesses, Andersen and Narus (1984) discovered that 69% had no strategic plan. On the other hand, Rue and Ibrahim (1996) noted that for family businesses in Georgia, half of their sample reported written long-range plans and 97% reported specific plans to grow. They found that family businesses that set goals, set goals for growth, plan for growth through equipment acquisition, through marketing, through hiring of key personnel or through new product expansion was likely to be more successful. Upton, Teal and Felan (2001) found that researchers surmise that fast growth businesses are more likely to engage in strategic planning than their slower growth counterparts.

It is therefore hypothesized that:

H<sup>1</sup> : There is a positive relationship between Strategic Planning and sustainable business profitability in successful South African Indian family businesses

### **2.3.2 Governance Structures**

The existence of good governance structures can go a long way towards avoiding many of the typical situations that may erupt in family businesses. (Egan, 1998; Martin, 2001; Neubauer and Lank, 1998; Ward, 1997). Largely, the successful activities of a family owned business depend on the awareness

of the importance of a sound governance structure. The simplest and most direct governance structure has two components: governance of the business (e.g. Board of directors) and governance within the family (e.g. family council), (Egan, 1998).

Astrachan and Kolenko, (1994, p. 259) found a positive correlation between governance structure and organizational survival across family generations. Egan (1998, p. 3) maintains that a business with a governance void begins to experience problems when the business passes to the second generation. Businesses that survive this transition have a sound, acceptable governance structure. It could be argued that the existence of any advisory body will influence the governance structures of family businesses (Venter, 2002).

The complex stakeholder structure that involves family members, top management, and the board of directors makes the governance of family businesses a particularly challenging task (Neuebauer and Lank, 1998). The owner family members play multiple roles in managing and governing the business (Tagiuri and Davis, 1996), thereby blurring the governance relationships. Family members as managers make the most important business decisions, while the emotional attachment to family business ownership may detract from the business's focus on economic goals (Gallo and Sveen, 1991).

Neuebauer and Lank (1998) state that in addition to management supervision and control, family businesses need to develop governance structures that promote cohesion and shared vision within the family and which reduce harmful



conflict. Mustakallio and Aution (2001) state that this may be achieved by employing formal controls that minimize opportunism, or by the implementation of social controls that promotes social interaction and the formation of a shared vision among the various stakeholders.

Advisory councils as well as review councils are recommended as alternatives to the traditional board for family businesses that are not too large or complex. Jonovic (1989, p. 35) and Lansberg (1999b, p. 282–300) suggest that family councils can also function as boards in many small and medium sized family businesses.

It is therefore hypothesized that:

H<sup>2</sup> : There is a positive relationship between the existence of suitable Governance Structures and sustainable business profitability in successful South African Indian family businesses

### **2.3.3 Succession Planning**

Succession Planning is in direct conflict with the entrepreneur's need for control, power and meaning (Handler and Kram, 1988). Handler (1989) found that the degree of mutual respect and understanding between the next generation successor and the founder is a key factor affecting succession. Handler and Kram (1998) and Dyer (1992) found that the founder's family members may not want to accept the founder's mortality and may see the founder as the only

person able to manage family conflicts and keep the family unit together. They are therefore reluctant to see the founder relinquish the role. Family members may also be seen as disloyal if they enter discussions regarding the retirement of the founder and are usually unwilling to engage in such discussions.

Sharma (1997, p. 239) also found a positive relationship between management succession planning and satisfaction of both owner managers and successors with the succession process itself. Rosenblatt, De Mik, Anderson and Johnson (1985) found that family business owners often resisted succession planning and that this in turn diminished the probability that the business would survive beyond the first generation.

Other researchers suggest that the importance of succession planning to business continuity has been overstated (Aronoff ,1998; Astrachan and Ward , 1998, p. 181; Kirby and Lee, 1996, p. 75). Astrachan and Kolenko, (1994, p. 251) revealed that while boards of directors, strategic planning and frequent family meetings are correlated with business longevity over multiple generations, succession planning is not. Santiago (2000, p. 15) in similar studies found that succession planning is not necessarily important for the survival of family businesses.

It is therefore hypothesized that:

H<sup>3</sup> : There is a positive relationship between Succession Planning and sustainable business profitability in successful South African Indian family businesses

#### **2.3.4 Shared Vision**

A shared vision provides a common framework by which to assess available information and to focus on relevant issues. When all the constituents in the family business share a common vision, opportunism is reduced and the sharing of information increases (Dyer and Singh, 1998). This provides for richer information exchange for strategic decisions. Shared vision also promotes co-operative behaviour through clarified role interactions (Ring and Van de Ven, 1994). Established role interactions and shared vision reduce the threat of opportunistic behaviour and help establish a social norm of reciprocity, which reinforces commitment to jointly agreed decisions (Uzzi, 1996).

Chua, Chrisman and Sharma (1999) deduced that the family business is a unity since family business is managed with the intention of shaping and pursuing a vision of the business that is potentially sustainable across generations of the family. Its vision is shaped and pursued by a dominant coalition controlled by a family or a small number of families. Chua, Chrisman and Sharma (1999) found that the particular family members to whom the vision belongs are not specified apart from the owner or the managing member and neither is it stipulated that the vision must serve only the interests of the family because the desired future may be partly concerned with society in general.

The sustainability of the vision across generations includes those descriptions that insist upon the availability of a family successor, since such availability facilitates the sustained pursuit of a vision across generations. Since it is the potential sustainability of the vision that is important, the definition also permits

the vision to change, although members would not anticipate the vision to change as frequently as would business goals or strategies. Therefore, a business that changes its vision does not cease to be a family business if two conditions are met:

- (1) That the dominant coalition instituting the change is controlled by members of the family, and
- (2) That the vision for the business continues to operate as a vehicle for achieving a desired future state of the family

In a family business, a shared vision involves family members' collective ideas about the future of the business, including desired business domains, desired growth rates and financial performance. Frequent interaction enables family members to forge a joint view of the goals of the family business. Ongoing interactions create a shared language and collective narratives that provide a common basis for shared cognition (Nahapiet and Ghoshal, 1998).

It is therefore hypothesized that:

- H<sup>4</sup> : There is a positive relationship between the existence of a Shared Vision and sustainable business profitability in successful South African Indian family businesses

### **2.3.5 Ethnic Entrepreneurial Growth**

Ethnic entrepreneurial concentration provides jobs for family members and other relatives. As the family establishes itself economically, it invites other

family members to join. The new ethnic entrepreneurial migrants begin work in the ethnic enterprise and when they have later established economically, they invite other family members to join.

Poutziouris (2001) states that entrepreneurial survivors face the challenge of ensuring the development of both their family businesses and the general business system to sustain survival and growth of the family business into the next generation. Growth can take forms such as exploitation of economies of scale, modernization of technology base, diversification and mergers via strategic alliances.

Davidson, Lindmark and Oloffson (1998) provide empirical evidence suggesting that the large majority of independent start-ups begin by being very small and remain one to three person entities throughout their existence. The literature in general rarely shows a strong interest in how or in which forms businesses expand.

It is therefore hypothesized that:

H<sup>5</sup> : There is a positive relationship between Ethnic Entrepreneurial Growth and sustainable business profitability in successful South African Indian family businesses

### **2.3.6 Open Family Communication**

Open family communication is closely linked to family trust. A culture of open family communication, reinforced by structured processes, is an integral precondition to creating a successful family business (Martin, 2001, p. 92; Neubauer and Lank, 1998; Ward, 1997).

According to Martin (2001), the place to start is with communication between family members themselves, regarding family matters. Martin (2001) indicates that a second area of open communication requires regular flow of information from the family company to family members.

Families that have grown to a multi-generational stage may require a formal structure, such as a family council. The family council meets several times a year to discuss family issues, including performance of the family company or investments. Such meetings provide an open forum for family members to discuss outstanding matters with each other. The council may have key functional responsibilities such as nomination of family directors to the company board. The family council can also serve as an educational and mentoring facility for the younger generation. Most importantly, it helps to create and sustain a culture of mutual trust within the family (Martin, 2001).

Martin (2001) indicates that the second area of open communication requires a regular flow of information from the family company to family members. The closed mode of keeping key financial data from all but a small circle of family members must be avoided. Why should shareholders of a family business receive less information than shareholders of a public company, who receive

quarterly financial reports? In addition, how can a meaningful family business be put into place in a culture of secrecy?

According to Martin (2001), the maintenance of these two communication processes among the family members and between the family and its business or wealth structure creates the knowledge and competency required by family members who will have responsible roles in the family governance model. Together with the accumulated experience of being exposed to financial results and discussing them with other family members, there develops some of the understanding required for good governance. Company and investment performance become more familiar subjects for family, rather than unknown distant, data. It is Martin's (2001) opinion that what is at the heart of this entire communication process is the creation of trust among family members. Openness and inclusion creates trust, and family trust creates family harmony.

It is therefore hypothesized that:

H<sup>6</sup> : There is a positive relationship between Open Family Communication and sustainable business profitability in successful South African Indian family businesses

### **2.3.7 Family Networks**

South African Indians created an enterprise-friendly microclimate in an environment that was not friendly to entrepreneurs in general, not friendly to Indians in general, and pointedly and specifically hostile to successful Indian

entrepreneurs. Godsell (1990) proposed that a major contributor to this was the family network, going further to draw distinction between the strategic and organic network. Godsell (1990) suggests that organic networks develop naturally in communities that are full of rich linkages such as bonds of family, religion and culture and that reciprocity is neither intentional nor immediate. Because many networks exist in a community, individual effort is usually put into one network and benefits may derive from a completely different network. Vather (1991) suggests that Indian festivals such as Diwali, engagement ceremonies such as weddings, and society functions such as temple fund raising evenings provide the context within which networks develop. Old alliances, friendships and associations are revisited and cemented at such occasions.

It is therefore hypothesized that:

H<sup>7</sup> : There is a positive relationship between Family Networks and sustainable business profitability in successful South African Indian family businesses

### **2.3.8 Trust**

Trust derives from a number of diverse areas including social exchange theory, contractual relationships (Macniel, 1980), trust theory (Gambetta, 1988), organizational theory, literature on moral development and literature on buyer-seller exchange relations (Tynan and O'Malley, 1997).



Trust plays a crucial role in business survival and success. Mayer, Davis and Schoorman (1995) provide a useful working definition of trust: “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustee, irrespective of the ability to monitor and control that other party”. Groebel (1991) define trust as a positive expectation that another will not, through words, actions or decisions, act opportunistically. The two most important elements of the definition imply familiarity and risk. The majority of definitions of trust focus on the ability to test the variations of trust in an exchange relationship, and rely on the notion of trust as a belief or expectation of relationships (Tynan and O’Malley, 1997).

A significant body of literature emphasizes the role of trust in organizational governance (Powell, 1987; Bradach and Eccles, 1989; Kramer and Tyler, 1996; Rosseau and Sitkjin). Steier (2001) states that, used effectively, trust represents a major source of competitive advantage for a business. Researchers recognize that trust potentially contributes to lower transaction costs, while contributing to more effective managerial co-ordination and collaboration within the business (Steier, 2001; Mayer, 1995). Wicks and Jones (1999) reinforce the notion that organizations sometimes over invest or under invest in trust and that what should be objective is striking a balance in which trust is at an optimal level.

According to Arrow (1974), as a governance mechanism, trust provides some clear advantages: “Trust is an important lubricant of a social system. It is

extremely efficient; it saves people a lot of trouble to have a fair degree of reliance on other people's word".

In family business relationships where results depend on the behavioural intent of partners, trust is particularly crucial (Johnson and Cullen, 2002). Although family enterprises are challenged to develop governance mechanisms that permit building and sustaining of optimal trust, relatively little is known about the dynamics of trust within these unique organizational forms (Steier, 2001).

It is therefore hypothesized that:

H<sup>8</sup> : There is a positive relationship between Trust and sustainable business profitability in successful South African Indian family businesses

### **2.3.9 Commitment**

Literature distinguishes between three distinct types of commitment based on underlying motives: affective commitment; cost induced commitment and obligation-based commitment. Breinic and Zabkar's (1998) understanding of commitment is based upon affective motives such as emotional attachments, belonging and respect for a partner, which is in the form of a liking to develop and strengthen the relationship with another person or group (Hewett and O'Bearden, 2001). Affective commitment is explained by some in terms of congruence of valuing goals among participants. This means that relationship

participants have common beliefs regarding behaviour, goals and policies (Buchanan, 1974).

The literature focusing on relationships, concentrates on the environment of a western-country and not on the international or cross-cultural scenario (Hewett and O'Bearden, 2001; Johnson and Cullen, 2002). The same is true when defining commitment and trust. Not a lot of researchers involve the cross-cultural components of trust and commitment in business relationships. Johnson and Cullen (2002), imply that the issue of commitment in cultural exchange has become compelling when expanding to foreign markets.

Within the family business context, commitment is defined as “the desire to continue relationships at work to ensure its continuance” (Wilson, 1995, p. 2) or as “an explicit or implicit pledge or relational continuity between partners” (Dwyer, Schurr and Oh, 1987, p. 14).

It is therefore hypothesized that:

H<sup>9</sup> : There is a positive relationship between Commitment and sustainable business profitability in successful South African Indian family businesses

### **2.3.10 Expert Outside Advice**

Calling on the advice of persons outside of the business can vary in range and form. Involvement of outside experts can be in the form of consulting

relationships such as that of the relationship with legal experts, estate planners and financial planners to broader involvement at the board level.

Some researchers have suggested that the use of external advisers, such as family councils and boards of directors could generally play an important role in governance planning and business success (Dickinson, 2000, p. 93; Squires, 1998, p. 72; Theune, 2000; p. 30 and Venter, 2002).

Malone (1989) found a positive correlation between the percentage of outsiders on the Board of Directors and the level of strategic governance in the business. Sound governance can go a long way towards avoiding many of the typical situations that may erupt in family businesses (Egan, 1998; Martin, 2001; Venter, 2002).

Neubauer and Lank (1998) found that external board members might radically change the conditions for the ongoing ideological battle in the family business.

If external board members favour managerialism, traditional defensive family businesses dominated by paternalism are hesitant to invite them to participate. On the other hand, genuine entrepreneurial firms may consider access to managerial competencies as just another resource to exploit when growth is pursued aggressively. Johanisson and Huse (2000) propose that in order to understand board operation and recruitment of outside advice, it is crucial to keep in mind the differences in kind between co-existing but competing ideologies in the family business.

Hoy and Verster (1994) state that since family members may lack objectivity in business decisions and have emotional attachments to the core business, family businesses need outside board members (in addition to family board members) to obtain more varied and objective advice. By adopting this structure, the family's emotional attachment to the core business is reduced and entrepreneurial activities are evaluated on merit and not on emotion. As a result, links between the entrepreneurial driving forces are strengthened.

Seymour (1993, p. 280) found that results of prior research suggested that the potential mediating effect of an active Board of Directors on management succession planning should be investigated. The proper governance structure that represents the diverse needs of the new generation, and allows the business to continue to grow and prosper, is important.

Various researchers argue that outside board members bring fresh perspectives and new direction (Jain, 1980), monitor progress and act as arbitrators (Lane, 1989; Mace, 1971), assist in succession (Harris, 1989), act as catalysts for change (Mueller, 1988), act as sounding boards for the owner managers and are the low cost consultants (Heidrich, 1988). Conversely others (Ford, 1988) and Jonovic (1989) question the value of outside board members. Ford (1998) and Jonovic (1989) suggest that outsiders lack intimate knowledge of the company and its environments, and may not be generally available and lack authority and a definable shareholder interest.

It is therefore hypothesized that:

H<sup>10</sup> : There is a positive relationship between the use of Expert Outside Advice and sustainable business profitability in successful South African Indian family businesses

### **2.3.11 Needs and Cultural Values Alignment**

Values represent basic convictions that a specific mode of conduct or end state of existence is personally or socially preferable to an opposite or converse mode of conduct or end state of existence. Values have both content and intensity attributes. The content attribute says that a mode of conduct or end state of existence is important. The intensity attributes specifies how important it is. When we rank the individual's values in terms of their intensity, we obtain that person's value system. Values differ across cultures; therefore, an understanding of these differences should be helpful in explaining and predicting behaviour of employees from different cultures.

Values are not only influenced by culture but are also very diverse when different cultures are compared (De Mooij, 1997). Brenic and Zabkar (2001) explain that values have cognitive, affective and behavioural components. The family dynamic cannot be ignored in the entrepreneurial process of entrepreneurial family businesses (Maas, 1999). According to Craig and Lindsay (2002), the family monitors and reviews business activities to determine

whether they put at risk family traditions, cultures, values and assets in the core family business.

Hoy and Verster (1994) and Neubauer and Lank (1998) found that in family business, the family, ownership and management are inextricably intertwined. This can result in a blurring among these variables, which in turn can modify decision making in the business. McWhinney (1998) found that generational family businesses typically develop traditions, values and customs that are reflected in their administration and business strategies. Family business cultures thus become resistant to change (Dyer, 1986; Harvey and Evans, 1994; Schein, 1995; Gersick, 1997). They are more likely to be more heavily resistant to change than other organizations, because the feelings and emotions related to change are likely to be deeper and more intense than those in non-family businesses (Dyer, 1994). This resistance to change permeates the way that things are done in family business as opposed to traditional businesses.

Muske (2002) states that in family businesses, governance receives the family imprinting and becomes a synthesis (sometimes a compromise) between the family values and the business rule. It reflects all the critical steps in organizational development; the delegation process of managerial activities and the creation of a managerial style; the involvement of the family members in the management bodies; the entrepreneurial succession process; and the opening of equity capital to third parties (Ward and Dolan, 1998; Gersick, Davis, McCollom, Hampton and Lansberg, 1997).

Gopalkrishnan and Shapiro (2000) found that ethnic entrepreneurs are intricately connected to family and community sources of support. This is in contrast to the rugged, individualistic and self-made entrepreneur, which is the paragon of Western business literature. Moreover, the cultural ties and specific cultural factors, of which identity is one, enable the ethnic entrepreneur to view business conduct and strategies rather than margins. These and other cultural explanations enable these authors to suggest several implications of ethnic competition in the economy. They suggest that the spread of such entrepreneurship across national borders may be characteristic of the next phase of globalization, one that merges and extends the historical nexus of cultural identity and trade in interesting ways (Gopalkrishnan and Shapiro, 2000).

It is therefore hypothesized that:

H<sup>11</sup> : There is a positive relationship between the Needs Alignment and sustainable business profitability in successful South African Indian family businesses

H<sup>12</sup> : There is a positive relationship between the Cultural Values Alignment and sustainable business profitability in successful South African Indian family businesses



### 2.3.12 Family Harmony

Scott and Perren (1994, p. 4) observe that, “Family events were by far regarded as the most important aspects of people’s lives”. Bernadus (1997) indicate that most people consider family harmony as the most important aspect of their lives. The idea of “the family” is so powerful in the family business network that the family ideology will determine what is correct and proper in governing their business, and what is somewhat wrong. Research in the nature of family ideology has also failed to recognize a considerable number of practical and theoretical difficulties facing any who wish to study family harmony.

The most serious problem for anyone wishing to study family harmony is his or her proximity to the topic. Family harmony is not a matter of bias, but rather of the strength of beliefs about family lives. Venter (2002, p. 204) indicates that various researchers have provided empirical support for the constructive relationship between harmonious family relationships and their influence of the succession process (Dumas, 1992, p. 108; Malone, 1989, p. 349 ; Santiago, 2000 , p. 29).

A positive relationship between perceived family harmony and continuity planning have been discovered in empirical results of Malone (1989, p. 349). Therefore, there is a greater possibility that business continuity will be planned if the extent of family harmony is considerable. These results are consistent with the conclusions of Handler (1994, p. 213), who examined the relationship between a positive succession process and the mutual respect and support

achieved by the successor with the predecessor during succession (Venter, 2002, p. 204).

Sharma (1997, p. 233) finds that there is a negative correlation relationship between perceived family harmony and the satisfaction with the succession process as experienced by incumbents. However, for both the founders and successors in her study, (Venter, 2002, p. 205) found that family harmony has a positive relationship with the extent of mutual acceptance of individual relationship and the extent of mutual acceptance of individual roles among family members.

It is therefore hypothesized that:

H<sup>13</sup> : There is a positive relationship between Harmonious Family Relationship and sustainable business profitability in successful South African Indian family businesses

## **2.4 Business Success**

Business success, in the traditional business sense may broadly be defined in terms of profitability, revenue and market share. In the family business context, additional considerations such as freedom from debt, number of generations in business and security of employment for other family members complement the traditional definition.

Having a goal of profitability and creating a strategy to achieve it are what separate successful entrepreneurs from the rest of the pack (Timmons, 1999). Within the process of a harvest strategy, the seeds of renewal and investment are sown, as a recycling of entrepreneurial talent and capital is at the very heart of good governance (Timmons, 1999). Successful, entrepreneurial companies organize and manage for the long haul in ways that perpetuate the opportunity process of economic regeneration, innovation, great profitability and renewal.

## **2.5 Literature Review Summary**

### **2.5.1 Strategic Planning**

Strategic Planning is crucial to a family business's survival and success. In a family business context, it has both an industry perspective as well as a family perspective. By undertaking strategic planning, greater collaboration and depth of feedback from key stakeholders are achieved. Strategic planning enforces the consideration of strategies that avoid liquidation and decline of the family business. One reason that makes certain family businesses reluctant to undertake strategic planning is the reluctance to share confidential information. This has a direct impact in the growth potential of the business. Researchers have found that fast growth businesses are more likely to engage in strategic planning than their slower growth counterparts.

**Table 2.1: Academic studies to test the strategic planning construct**

| Source                 | Year of Study | Respondents  | Likert Scale | Items | Cronbach Alpha Coefficient |
|------------------------|---------------|--------------|--------------|-------|----------------------------|
| Astrachan and Kolenko  | 1994          | Not Reported | 7            | 8     | Not Reported               |
| Mustakallio and Aution | 2001          | 192          | 7            | 6     | 0.74                       |
| Adendorff              | 2005          | 331          | 7            | 7     | 0.94                       |

In this study, a seven-item scale was used, drawn from the literature to specifically test the strategic planning construct in South African Indian family businesses.

## 2.5.2 Governance Structures

A positive correlation was found between governance structures and survival of businesses across generations. Governance in the family business covers two dimensions: governance of the business and governance of the family. Advisory councils and review councils were suggested as alternatives to the traditional boards of directors. Family councils were also considered suitable bodies for small and medium sized family businesses.

**Table 2.2: Academic studies to test the governance structures construct:**

| Source                | Year of Study | Respondents  | Likert Scale | Items | Cronbach Alpha Coefficient |
|-----------------------|---------------|--------------|--------------|-------|----------------------------|
| Astrachan and Kolenko | 1994          | Not Reported | 7            | 3     | Not Reported               |
| Adendorff             | 2005          | 331          | 7            | 5     | 0.94                       |

In this study, a five-item scale was used, drawn from the literature to specifically test the governance structures construct in South African Indian family businesses.

### 2.5.3 Succession Planning

Some researchers have found that in the absence of succession planning, there was a diminished probability that the business would survive beyond the first generation. Family members not wanting to be seen as disloyal refrain from entering discussions regarding the retirement and successor to the founder. Others suggest that the importance of succession planning is overstated and that succession planning is not necessarily correlated with business longevity.

**Table 2.3: Academic studies to test the succession planning construct:**

| Source                 | Year of Study | Likert Scale | Items | Cronbach Alpha Coefficient |
|------------------------|---------------|--------------|-------|----------------------------|
| Malone                 | 1989          | 5            | 5     | 0.78                       |
| Lansberg and Astrachan | 1994          | 5            | 2     | 0.70                       |
| Sharma                 | 1997          | 5            | 5     | 0.86                       |
| Venter                 | 2002          | 5            | 5     | 0.64                       |
| Adendorff              | 2005          | 7            | 6     | 0.88                       |

In this study, a six-item scale was used, drawn from the literature to specifically test the succession-planning construct in South African Indian family businesses.

## 2.5.4 Shared Vision

Shared vision involves family members' collective ideas about the future of the business, including desired business domains, desired growth rates and financial performance. Shared vision allows joint views of the goals of the family business. Authors suggest that when constituents share a common vision, opportunism is reduced and sharing of information increases, allowing for the richer exchange of information for strategic decisions.

**Table 2.4: Academic studies to test the Shared Vision construct**

| Source                    | Year of Study | Likert Scale | Items | Cronbach Alpha Coefficient |
|---------------------------|---------------|--------------|-------|----------------------------|
| Uzzi                      | 1996          | 5            | 5     | Not Reported               |
| Chua, Chrisman and Sharma | 1999          | 5            | 5     | Not Reported               |
| Dooley                    | 1999          | 5            | 5     | Not Reported               |
| Mustakallio and Autio     | 2001          | 5            | 3     | 0.77                       |
| Adendorff                 | 2005          | 7            | 5     | 0.76                       |

In this study, a five-item scale was used, drawn from the literature to specifically test the shared vision construct in South African Indian family businesses.

## 2.5.5 Ethnic Entrepreneurial Growth

The literature rarely shows strong interest in how or in which forms businesses expand. There exists empirical evidence that suggest that the large majority of independent start-ups begin by being very small and remain one to three

person entities throughout their existence. Family businesses have the ability to detect emerging expansion opportunities and to align existing resources in new ways. Adendorff (2005) developed an eight-item scale following interviews with South African Greek family business entrepreneurs. In this study, an eight-item scale was used, drawn from the literature to specifically test the ethnic entrepreneurial construct in South African Indian family businesses.

### **2.5.6 Open Family Communication**

Open family communication implies the free flow of information from and between family members about family business matters such as business performance as well as intra-family matters. The suggestion is that families that have grown to multi-generational businesses may require the means of a family council that could effectively enhance open family communication. Open communication enhances the competency and knowledge required by participating family members to contribute meaningfully. Openness and inclusion create trust, and family trust creates family harmony. In this study, a four-item scale has been used, based on the theory of Martin (2001) and Neubauer and Lank (1997), to specifically test the open family communication construct in South African Indian family businesses.

### **2.5.7 Family Networks**

Despite particularly pointed and specific hostility towards Indians in general, they managed to maintain a micro world of entrepreneurialism. The family network was a historical pillar of strength for Indians. Networks exist as either

strategic or organic networks. Godsell (1990) suggests that organic networks were a major contributor to the success of South African Indian Family businesses and that family occasions and festivals provide the context within which these networks develop. In this study, a five-item scale was used, based on the research done by Godsell (1990), to specifically test the family network construct in South African Indian family businesses.

### 2.5.8 Trust

Trust plays a crucial role in business survival and success. When used effectively, trust provides a major source of competitive advantage for a business. Trust is particularly crucial in family businesses where results depend on the behavioural intent of partners. The majority of definitions of trust focus on the ability to test the variations of trust in an exchange relationship, and rely on the notion of trust as a belief or expectation of relationships.

**Table 2.5: Academic studies to test the Trust construct**

| Source    | Year of Study | Likert Scale | Items | Cronbach Alpha Coefficient |
|-----------|---------------|--------------|-------|----------------------------|
| Sornfeld  | 2002          | 5            | 4     | Not Reported               |
| Venter    | 2002          | 5            | 5     | 0.89                       |
| Adendorff | 2005          | 7            | 5     | 0.86                       |

In this study, a five-item scale was been used, drawn from the literature to specifically test the trust construct in South African Indian family businesses.



### 2.5.9 Commitment

Within the family business context, commitment is defined as the desire to continue relationships at work to ensure its continuance as well as the commitment of the family members to operating the business within the family. It reflects the value which family place on the business and their willingness to work together. Commitment of family members to the business is a salient factor in determining the business's resilience.

**Table 2.6: Academic studies to test the Commitment construct**

| Source                 | Year of Study | Likert Scale | Items | Cronbach Alpha Coefficient |
|------------------------|---------------|--------------|-------|----------------------------|
| Lansberg and Astrachan | 1994          | 5            | 3     | 0.70                       |
| Sharma                 | 1997          | 5            | 5     | 0.73                       |
| Adendorff              | 2005          | 7            | 6     | 0.84                       |

In this study, a six-item scale was used, drawn from the literature to specifically test the commitment construct in South African Indian family businesses.

### 2.5.10 Expert Outside Advice

Family businesses in general consult with various outside consultants such as accountants, attorneys and others to assist the board or are consulted as an alternative to the board of directors. South African Indian families make use of advice in the form of expert opinion from their earlier generation of South African elders who are specialists in their respective fields. In this case, the

variable outside advice refers to the extent to which South African Indian family businesses make use of expert outside advice in assisting with governing and advising the family and the board of directors.

**Table 2.7: Academic studies to test the Expert Outside Advice construct**

| Source    | Year of Study | Likert Scale | Items | Cronbach Alpha Coefficient |
|-----------|---------------|--------------|-------|----------------------------|
| Sharma    | 1997          | 5            | 6     | 0.46                       |
| Adendorff | 2005          | 7            | 6     | 0.82                       |

In this study, a six-item scale was used, drawn from the literature to specifically test the expert outside advice construct in South African Indian family businesses.

### **2.5.11 Needs and Cultural Values Alignment**

Generational family businesses typically develop traditions, values and customs that are reflected in their administration and business strategies. Family business cultures thus become resistant to change. Family businesses are inclined to be more resistant to change than other organizations are, because the feelings and emotions related to change are likely to be deeper and more intense than in non-family businesses. Needs alignment in this context is the alignment of personal needs with the career interest in relation to opportunities offered through and by family business.

In this study, an eight-item and a four-item scale has been drawn from the literature to specifically test the cultural values alignment and needs alignment constructs respectively in South African Indian family businesses.

### 2.5.12 Family Harmony

Family events are by far regarded as the most important aspects of people's lives. Many researchers have provided empirical evidence for the constructive relationship between harmonious family relationships and their influence of the succession process.

**Table 2.8: Academic studies to test the Family Harmony construct**

| Source                 | Year of Study | Likert Scale | Items | Cronbach Alpha Coefficient |
|------------------------|---------------|--------------|-------|----------------------------|
| Malone                 | 1989          | 5            | 5     | 0.66                       |
| Lansberg and Astrachan | 1994          | 5            | 36    | 0.70                       |
| Sharma                 | 1997          | 5            | 5     | 0.92                       |
| Venter                 | 2002          | 5            | 6     | 0.89                       |
| Adendorff              | 2005          | 7            | 6     | 0.82                       |

In this study, a six-item scale was used, drawn from the literature to specifically test the family harmony construct in South African Indian family businesses.

### **Chapter 3 : Research Hypotheses**

Business Success in the traditional sense is a function of profit, turnover and market share. However, in the family business sense, the definition of business success is complemented by various additional variables. Variables such as freedom from debt, ability to create employment for other family members and the potential to build a legacy are some of the additional variables that family business owners interpret in the context of business success. Thus, defining business success in a family business context is a complex construct, as was also found in the literature survey. The multi-variable approach necessary, although complex is possible. However, it is beyond the scope of this study.

In order to remove ambiguity for the respondents and to ensure reliability of the measuring instrument, a more objective, verifiable variable was sought. Business profitability was short listed as the most appropriate variable for three main reasons:

- business profitability is the most widely used and accepted measure of business success in traditional non-family and family businesses;
- business profitability figures are readily accessible from the family business financials;
- business profitability provides a common basis from which a single family business's progress can be tracked over a given time period. It also makes it possible to do inter-company comparisons between family businesses and non-family businesses.

Net Operating Profit after Taxes (NOPAT) is chosen as the most appropriate form of profit, as the dependant variable.

From the literature survey, thirteen factors were identified as contributing to business survival and longevity. In the majority of cases, the link between the factors was more directly related to business survival and longevity. However both business survival and business longevity are indirectly measurable through profitability. Hence these factors identified in the literature are chosen as the independent variables.

Positive relationships between the thirteen independent variables and the single dependant variable are hypothesized for South African Indian Family businesses.

The following hypotheses will be empirically tested:

H<sup>1</sup> : There is a positive relationship between Strategic Planning and sustainable business profitability in South African Indian family businesses

H<sup>2</sup> : There is a positive relationship between Governance Structures and sustainable business profitability in South African Indian family businesses

- H<sup>3</sup> : There is a positive relationship between Succession Planning and sustainable business profitability in South African Indian family businesses
- H<sup>4</sup> : There is a positive relationship between Shared Vision and sustainable business profitability in South African Indian family businesses
- H<sup>5</sup> : There is a positive relationship between Ethnic Entrepreneurship and sustainable business profitability in South African Indian family businesses
- H<sup>6</sup> : There is a positive relationship between Commitment and sustainable business profitability in South Africa Indian family businesses
- H<sup>7</sup> : There is a positive relationship between Open Family Communication and sustainable business profitability in South African Indian family businesses
- H<sup>8</sup> : There is a positive relationship between Family Networks and sustainable business profitability in South African Indian family businesses

- H<sup>9</sup> : There is a positive relationship between Trust and sustainable business profitability in South African Indian family businesses
- H<sup>10</sup> : There is a positive relationship between the Use of Outside Expert Advice and sustainable business profitability in South African Indian family businesses
- H<sup>11</sup> : There is a positive relationship between Cultural Values Alignment and sustainable business profitability in South African Indian family businesses
- H<sup>12</sup> : There is a positive relationship between Needs Alignment and sustainable business profitability in South African Indian family businesses
- H<sup>13</sup> : There is a positive relationship between Family Harmony and sustainable business profitability in South African Indian family businesses

## **Chapter 4 : Research Methodology**

### **4.1. Population of Relevance**

The total population is all Indian family businesses in South Africa. The population of relevance is profitable Indian family businesses that have been in business for at least the period 2000 to 2005. Since this study is particularly interested in the factors that influence the sustainable business profitability of Indian family businesses in South Africa, interviews were carried out with the founder or owner and where this was not possible, with the identified successor.

### **4.2. Sampling Method and Size of sample**

No list distinguishing Indian family businesses from any other group was found to exist after contacting the Indian business chamber, the Department of Trade and Industry and Statistics South Africa to try and obtain such a list. It was finally concluded that the size of the total population was not determinable through this method. This method was then abandoned and replaced with a non – probability sampling method. Initial contact was made with Indian Businesses referred by friends and family in different provinces and from these initial contacts, further possible respondents were introduced. The snow ball sampling technique was used. By using the snowball technique, a reasonable spread of Indian family businesses across provinces and across industry types were accessed.



### **4.3. Data Collection Tool**

A questionnaire was chosen as the appropriate data collection tool for this study. Tull and Hawkins (1993) defined the questionnaire as “a formalized set of questions for eliciting information”. Tull and Hawkins (1993) state that good questionnaire construction involves seven major decision areas: preliminary considerations, question content, question wording, response format, question sequence, physical characteristics of the questionnaire and pre-test. Zikmund (2000, p. 300) states that a questionnaire should have four main objectives: Firstly, it should convert the information needed into a set of specific questions that the respondents will be willing and able to answer. Secondly, the questionnaire should motivate the respondents to co-operate and complete the interview. Thirdly, response errors and inaccurate answers should be minimized by the questionnaire and finally, the questionnaire should collect only the relevant information necessary to solve the problem. Cooper and Schindler (2001, p. 337) suggest the following criteria for deciding on the question content: Should the question be asked? Is the question of proper scope and coverage? Can the respondents answer the questions adequately as asked?

The initial questionnaire, which took into consideration the above, was sent to a convenience sample of ten respondents as a preliminary test. These respondents were invited to provide critical feedback on the questionnaire. The feedback was taken into account and incorporated into the final questionnaire (annexure A). Following the recommendations by Grossnickle and Raskin (2001), the questions were initially clustered around themes. However, in the

pre-test questionnaire it was discovered that clustering of the questions biased the respondent's answers. The answering of the first question in the particular theme formed the reference answer for further questions on the same theme. This observation resulted in the need to change the question sequence from initially being grouped by theme to being randomly spread.

The questionnaire was inclusive predominantly of the questions used in Adendorff's (2005) study for South African Greek family businesses. All the factors that could influence sustainable business profitability as determined in the literature survey were included. Questions were worded as statements and respondents were required to respond in terms of degree of agreement or disagreement on a five point Likert scale.

A covering letter describing the importance of the research and the value of the respondent's participation was sent to each respondent. A follow up telephone call was made to reassure the respondent of the confidentiality of the information supplied and to clarify any further questions that the respondent may have had.

To cater for language differences, additional questionnaires were prepared in Hindi, Tamil, Telegu and Gujarati. Where necessary, translations of specific questions were done by a person with vernacular skill to capture the nuances and subtleties that may have been lost during the translation. Suitable words to suit the vocabulary level of the respondents were chosen carefully.

#### 4.4 Data Collection Method

In a minority of cases, the respondents who had the questionnaires electronically sent to them were not progressing with it, and the reasons for the lack of progress were not immediately obvious. Following initial telephonic clarifications, it emerged that these respondents were ambivalent about the confidentiality of the information requested. With such respondents, a face to face meeting was necessary to reassure them and to progress the completion and submission of the questionnaire. In the majority of cases though, the electronic dissemination of questionnaires was done. Three forms of electronic media were used: fax, email and online. The fax route by far proved to be the most effective. In the emailed versions, respondents printed the survey, filled them in by hand and faxed through the survey. The poorest response was via the on line method. Even though those respondent's that had received on line surveys had access to personal computers and had originally requested the online version, they still after receiving the online version printed the survey and preferred to fill in by hand and fax the completed surveys rather than submitting on line. This was not evident during the pre-test phase and only began emerging after several of the surveys were returned.

Interviews on average took about ninety minutes to complete.

A total of two hundred and thirty one questionnaires were sent to potential respondents. Eighty three correctly completed questionnaires were received. Hence a response rate of 36% was achieved.

## **4.5 Data Analysis**

### **4.5.1 Data Cleaning**

The initial data set needed to be examined for missing data, data validity, outliers and normality in order for the output from the statistical analysis to have integrity and to have been available for meaningful interpretation.

### **4.5.2 Missing data**

In all cases where missing data existed, the respective respondent was contacted telephonically and granted the opportunity to fill in the missing data. This data was then included with the original data set. In a few cases this was not possible, and an average value was used for missing data.

### **4.5.3 Data Validity**

Multiple questions derived from the literature around a single construct were randomly placed in the questionnaire. These questions were then re-grouped and reviewed for extreme answers to similar questions. Where similar questions resulted in extreme responses, these were identified, isolated, removed and the contact was made with the respondent to clarify whether the extremes were in fact the response intended. If it was, then the extreme response remained. However, where the respondent chose to change the original response, the modified response was then input. In the majority of cases, this was possible

telephonically. In many cases the respondent was unavailable. In such cases, the respondent's response to other similar questions in the questionnaire was used as the reference to approximate what the researcher felt was more in line with the respondent's intended response. This modified response was then added to the original data set.

#### **4.5.4 Outliers**

Outliers are data points that appear to be inconsistent with the rest of the data. Outliers can significantly distort descriptive statistics, skewness, kurtosis and confidence limits. Visualisation techniques were used to identify outliers. Two graphical plots: box plots and normal probability plots, were used to visually identify the outliers. Once the outlier data was identified, the data was reprocessed without the outlier to examine if it significantly influenced the original statistical outputs. In all cases where it did, such outlier data was removed and replaced with a median value response. In cases where it did not significantly distort the statistical output, the decision was made to retain the outlier data as a valid data point.

#### **4.5.5 Normality**

The test for normality is an essential part of data analysis. If data is normally distributed, then the use of parametric statistics is possible. If the data is not normal, then the use of parametric statistical techniques is not viable and only

non-parametric statistical methods can be used. The NCSS program used in this research performed seven tests to formally test for normality.

#### **4.5.6 Statistical Software**

The statistical software Number Crunching Statistical Software (NCSS) was used to run the statistical tests. This software provided all the relevant statistical tests and analysis necessary for this study.

#### **4.6 Ordinal Scale**

Interval variables are continuous variables that may be either positive or negative. Examples of interval variables are age, time and temperature. An interval should keep the same importance throughout the scale. For example, the temperature difference between 35 and 40 degrees Celsius is the same as the temperature difference between 75 and 80 degrees Celsius.

An ordinal scale classifies data into distinct categories in which ranking is implied. Unlike the interval scale, it is not continuous. An ordinal scale implies identity and is usually expressed numerically on a 1-to-5 Likert scale. The numbers 1 to 5 merely represent codes for categories where 1 could represent strongly agree, and 5 could represent strongly disagree. The same number would be used for the perceptions that are the same (Parasuraman, 1991). However, ordinal scales do not account for the amount of differences between the categories. The ordering implies only which category is greater, better or more preferred, but not by how much. Despite this limitation, the ordinal scale is

a stronger form of measurement than nominal scaling because the observed value classified into one category possesses more of a property than does an observed value classified into another category (Berenson, Levine and Krehbiel, 2005).

#### **4.7 Hypothesis Testing**

A hypothesis is a theory, assertion or claim about a particular parameter. The null hypothesis ( $H^0$ ) is always one of the status quo. Although information is available only about the sample, the sample statistic is used to make inferences about the entire population. There is always an alternative hypothesis ( $H^a$ ) which is the opposite of the null hypothesis. The alternative hypothesis will be true if the null hypothesis is false. The methodology necessary to reject the null hypothesis is called hypothesis testing. Sample evidence may be used to prove that it is far more likely that the alternative hypothesis is true. In order for the null hypotheses to be rejected, there must be sufficient statistical evidence to prove that the alternative hypothesis is true. If on the other hand it was not possible to reject the null hypothesis, then there isn't sufficient evidence to prove the alternative hypothesis. The failure to prove the alternative hypothesis does not mean that the null hypothesis has been proven to be true.

Prior to applying a hypothesis test, it is crucial that each assumption is examined carefully, to determine which assumptions are met by the data. Tests for random sample, sample independence, normality and equal variance are the minimum tests that need to be reviewed prior to choosing the appropriate statistical test. Normal data with equal variance, normal data with unequal

variance, non-normal data with equal variance and non-normal data with unequal variance are the possible permutations that arise from the initial assumptions.

#### **4.8 Research Limitations**

- The choice of Indian owned businesses is based on a convenient sampling method, the snow ball technique. This introduces a level of subjectivity and bias in the sample.
- Due to language limitations, some respondents may interpret words in a different way from others, hence biasing the response.
- Due to the fact that a large number of the interviews were carried out face to face, interviewer bias may be present.
- The respondent in the majority of cases was the owner or the founder of the business. Such individuals have strong emotional attachment to the business and the opportunity to provide biased responses exists.



## Chapter 5 : Results

### 5.1. Introduction

The sample consisted of 83 South African Indian family owned businesses. Seventy one (71) of the 83 respondents were the founders or current business leaders of their respective companies and the remaining 12 respondents were the identified successors. Demographic data was collected for all 83 companies. The pre-qualification for the choice of samples was that the business had to have been profitable for the period 2000 to 2005. Business information was collected on market share, turnover, growth and net operating profit after tax (NOPAT). The total sample of 83 was further split into two groups using NOPAT as the distinguishing variable. The companies that indicated a NOPAT of up to 20% were classified as the **control group** of companies and the companies that indicated a NOPAT in excess of 20% were classified as the **success group** of companies. The basis of the categorisation was that companies that had on average had a NOPAT in excess of 20% for the period 2000 to 2005 were definitely outperforming the average companies, in this case the control group of companies.

The success group of companies could have equally and more appropriately been called the successful group of companies; however, this would have created confusion. Since all 83 companies in the sample were profitable, they were successful. Also, reference to successful companies elsewhere in this report would have caused confusion. It was therefore decided that in order to

ensure that there was no confusion as to which group the study was referring to, the word success group was retained.

## 5.2 Demographic Data

A demographic variable on which information was obtained is as follows:

- Gender
- Respondent's role in the business
- Business Type and Classification
- Ethnic factors : Religion and Language
- Geographical Factors : Place of birth and Place of business
- Business Inter - Generational factors
- Family Business definition factors as perceived by the respondent

**Table 5.2.1. : Gender of Respondents**

| GENDER | FREQUENCY | PERCENT | CUMULATIVE FREQUENCY | CUMULATIVE PERCENT |
|--------|-----------|---------|----------------------|--------------------|
| MALE   | 77        | 93      | 77                   | 93                 |
| FEMALE | 6         | 7       | 83                   | 100                |

From the total sample of 83 respondents, 77 (93%) were male and 6 (7%) were female. This male dominance is reflective of the strong paternalistic leadership observed in the sample group.

**Table 5.2.2. : Role of Respondent in the business**

| ROLE                 | FREQUENCY | PERCENT | CUMULATIVE FREQUENCY | CUMULATIVE PERCENT |
|----------------------|-----------|---------|----------------------|--------------------|
| BUSINESS HEAD        | 71        | 86      | 71                   | 86                 |
| IDENTIFIED SUCCESSOR | 12        | 14      | 83                   | 100                |

Seventy one (86%) of the respondents were the current business leaders of the family business and 12 (14%) were the identified successors or direct descendants of the business leaders. The target respondent was the current business leader, however in some cases, when the business leader was unavailable to be present at the interview, we were directed to the successor. The role of the successor was not directly communicated, but was deduced during the interview. Of the 12 identified successors, all 12 were direct family to the current business leader.

**Table 5.2.3. : Business Type and Classification**

| TYPE OF BUSINESS                | FREQUENCY | PERCENT | CUMULATIVE FREQUENCY | CUMULATIVE PERCENT |
|---------------------------------|-----------|---------|----------------------|--------------------|
| SERVICE                         | 9         | 11      | 9                    | 11                 |
| PRODUCT                         | 74        | 89      | 83                   | 100                |
| BUSINESS CLASSIFICATION         | FREQUENCY | PERCENT | CUMULATIVE FREQUENCY | CUMULATIVE PERCENT |
| MANUFACTURER / PRIMARY PRODUCER | 13        | 16      | 13                   | 16                 |
| WHOLESALE                       | 15        | 18      | 28                   | 34                 |
| RETAILER                        | 46        | 55      | 74                   | 89                 |
| KNOWLEDGE / CONSULTING/SERVICES | 9         | 11      | 83                   | 100                |

Of the 83 businesses interviewed, 74 (89%) were in product related businesses and 9 (11%) were in service businesses. Of the 74 product related businesses: 13 (16%), 15 (18%) and 46 (55%) were in the manufacturing, wholesaling and retailing of products respectively. The reason for the significantly higher proportion of retailers 46 (55%) is ascribed to the bias typically associated with snow ball sampling. There is insufficient information to draw any conclusions from the representivity of the above businesses to the general population of South African Indian family owned businesses.

**Table 5.2.4. : Religion**

| RELIGION  | FREQUENCY | PERCENT | CUMULATIVE FREQUENCY | CUMULATIVE PERCENT |
|-----------|-----------|---------|----------------------|--------------------|
| HINDU     | 39        | 47      | 39                   | 47                 |
| GUJARATI  | 11        | 13      | 50                   | 60                 |
| CHRISTIAN | 8         | 10      | 58                   | 70                 |
| MUSLIM    | 24        | 29      | 82                   | 99                 |
| OTHER     | 1         | 1       | 83                   | 100                |

**Table 5.2.5. : Primary Language**

| PRIMARY LANGUAGE | FREQUENCY | PERCENT | CUMULATIVE FREQUENCY | CUMULATIVE PERCENT |
|------------------|-----------|---------|----------------------|--------------------|
| HINDI            | 8         | 10      | 8                    | 10                 |
| TAMIL            | 2         | 2       | 10                   | 12                 |
| TELEGU           | 6         | 7       | 16                   | 19                 |
| GUJARATI         | 14        | 17      | 30                   | 36                 |
| URDU             | 5         | 6       | 35                   | 42                 |
| ENGLISH          | 48        | 58      | 83                   | 100                |
| AFRIKAANS        | 0         | 0       | 83                   | 100                |
| OTHER            | 0         | 0       | 83                   | 100                |

The majority (47%) of the sample respondents belonged to the Hindu religion. If Gujarati, a subset of the Hindu religion is added, the data reflects that 50 (60%) of the total sample was represented by the combined Hindu religion. This is not proportionately representative of South African Indian family owned businesses and is attributable to the bias introduced by snow ball sampling. 48 (58%) of the respondents selected English as their primary language. An apparent anomaly is that there was a higher number of Gujarati speaking respondents than the number of Gujarati businesses interviewed. This is as a result of a number of Islamic respondents choosing Gujarati as their first language instead of Urdu. The choice of Gujarati as the choice of first language for Muslims has historical traditions dating back to Muslim residence in the state of Gujarat in India. Many Muslim businesses operated out of the state of Gujarat and as a result, Gujarati has been retained by their descendants as their primary language. Of note also is that only 16 (19%) of the total 39 Hindu respondents had a vernacular language being Tamil, Telegu or Hindi as their first language. This was surprisingly low.

**Table 5.2.6. : Origin Data**

| PLACE OF BIRTH                   | FREQUENCY | PERCENT | CUMULATIVE FREQUENCY | CUMULATIVE PERCENT |
|----------------------------------|-----------|---------|----------------------|--------------------|
| SOUTH AFRICA                     | 71        | 86      | 71                   | 86                 |
| INDIA                            | 9         | 11      | 80                   | 97                 |
| AFRICA<br>(But not South Africa) | 2         | 3       | 82                   | 99                 |
| OTHER                            | 1         | 1       | 83                   | 100                |

Seventy one (86%) of the respondents were born in South Africa and 12 (15%) originated from outside of South Africa. Nine (11%) of the 12 respondents were born in India. The two respondents that were from Africa were from Uganda and Kenya and the one remaining respondent who indicated other, originated from Mauritius.

**Table 5.2.7. : Geographical Data**

| PROVINCE OF BUSINESS | FREQUENCY | PERCENT | CUMULATIVE FREQUENCY | CUMULATIVE PERCENT |
|----------------------|-----------|---------|----------------------|--------------------|
| GAUTENG              | 29        | 35      | 29                   | 35                 |
| KZN                  | 34        | 41      | 63                   | 76                 |
| LIMPOPO              | 2         | 2       | 65                   | 78                 |
| MPUMALANGA           | 5         | 6       | 70                   | 84                 |
| WESTERN CAPE         | 3         | 4       | 73                   | 88                 |
| EASTERN CAPE         | 8         | 10      | 81                   | 98                 |
| FREE STATE           | 0         | 0       | 81                   | 98                 |
| NORTH WEST PROVINCE  | 2         | 2       | 83                   | 100                |
| NORTHERN CAPE        | 0         | 0       | 83                   | 100                |

Twenty nine (35%) and 34 (41%) of respondents cumulatively constituted the 76% of the sample that were based in the Gauteng and Kwa-Zulu Natal regions respectively.

**Table 5.2.8. : Family Business Inter - Generational Data**

| <b>LENGTH OF STAY IN SOUTH AFRICA</b> | <b>FREQUENCY</b> | <b>PERCENT</b> | <b>CUMULATIVE FREQUENCY</b> | <b>CUMULATIVE PERCENT</b> |
|---------------------------------------|------------------|----------------|-----------------------------|---------------------------|
| LESS THAN 5 YEARS                     | 0                | 0              | 0                           | 0                         |
| 6 TO 10 YEARS                         | 0                | 0              | 0                           | 0                         |
| 11 TO 15 YEARS                        | 0                | 0              | 0                           | 0                         |
| 16 TO 20 YEARS                        | 7                | 8              | 7                           | 8                         |
| LONGER THAN 20 YEARS                  | 76               | 92             | 83                          | 100                       |
| <b>GENERATIONS IN FAMILY BUSINESS</b> | <b>FREQUENCY</b> | <b>PERCENT</b> | <b>CUMULATIVE FREQUENCY</b> | <b>CUMULATIVE PERCENT</b> |
| FIRST                                 | 51               | 61             | 51                          | 61                        |
| SECOND                                | 24               | 29             | 75                          | 90                        |
| THIRD                                 | 8                | 10             | 83                          | 100                       |
| FOURTH                                | 0                | 0              | 83                          | 100                       |
| FIFTH & LATER                         | 0                | 0              | 83                          | 100                       |

Seventy six (92%) of the respondents were born and have been residing in South Africa for more than 20 years and the remaining 7 (8%) who were born elsewhere have been living in South Africa from 16 to 20 years. Fifty one (61%) and 24 (29%) of the respondents reflected first and second generation businesses. Only 8 (10%) of the businesses were third generation business leaders. There were no businesses in their fourth or fifth generations in this sample.

**Table 5.2.9. : Family Business Definition Perception**

| <b>FAMILY BUSINESS DEFINITION</b> | <b>FREQUENCY</b> | <b>PERCENT</b> | <b>CUMULATIVE FREQUENCY</b> | <b>CUMULATIVE PERCENT</b> |
|-----------------------------------|------------------|----------------|-----------------------------|---------------------------|
| SHAREHOLDING                      | 25               | 30             | 25                          | 30                        |
| DECISION MAKING                   | 5                | 6              | 30                          | 36                        |
| FAMILY INVOLVEMENT                | 48               | 58             | 78                          | 94                        |
| LEADERSHIP SUCCESSION DECISIONS   | 3                | 4              | 81                          | 98                        |
| NONE OF THE ABOVE                 | 2                | 2              | 83                          | 100                       |

Twenty five (30%) and 48 (58%) respondents constituting the majority (88%) of the respondents ranked shareholding and family involvement as the two main reasons for them defining their businesses as family businesses respectively.

**Table 5.2.10.: Family members employed in the business**

| <b>FAMILY MEMBERS EMPLOYED IN THE BUSINESS</b> | <b>FREQUENCY</b> | <b>PERCENT</b> | <b>CUMULATIVE FREQUENCY</b> | <b>CUMULATIVE PERCENT</b> |
|--|------------------|----------------|-----------------------------|---------------------------|
| FROM 1 TO 5                                    | 27               | 33             | 27                          | 33                        |
| 6 TO 10  | 29               | 35             | 56                          | 68                        |
| 11 TO 15                                       | 12               | 14             | 68                          | 82                        |
| 16 TO 20                                       | 10               | 12             | 78                          | 94                        |
| GREATER THAN 20                                | 5                | 6              | 83                          | 100                       |

Sixty eight (82%) of the respondents employ between 1 and 15 family members in their businesses. Twenty percent of the businesses employ more than 16



family members in their businesses. This indicates that family businesses are potentially significant contributors to job creation in South Africa. It must be emphasized that although not captured or specifically asked, that the total number of people employed by the above businesses was much higher than the numbers indicated in the above table. The question sought only to determine the family members directly involved in the business.

### 5.3 BUSINESS METRICS

**Table 5.3.1. : Average NOPAT as a % of turnover**

| <b>% NETT PROFIT (NOPAT)</b> | <b>FREQUENCY</b> | <b>PERCENT</b> | <b>CUMULATIVE FREQUENCY</b> | <b>CUMULATIVE PERCENT</b> |
|------------------------------|------------------|----------------|-----------------------------|---------------------------|
| LESS THAN 0 %                | 0                | 0              | 0                           | 0                         |
| FROM 0% TO 10%               | 11               | 13             | 11                          | 13                        |
| 11% TO 20%                   | 27               | 33             | 38                          | 46                        |
| 21% TO 30%                   | 20               | 24             | 58                          | 70                        |
| 31% TO 40%                   | 18               | 22             | 76                          | 92                        |
| 41% TO 50%                   | 5                | 6              | 81                          | 98                        |
| GREATER THAN 50%             | 2                | 2              | 83                          | 100                       |

In terms of this research, successful companies were differentiated from the control group of companies using NOPAT as a percentage of turnover as the criterion. The control group, defined as companies with NOPAT up to 20% consisted of 38 (46%) companies. The remaining companies which exceeded 20% NOPAT for the past 5 years were defined as success companies and constituted the remaining 45 (54%) of companies.

**Table 5.3.2. : Average Annual Turnover for period the 2000 to 2005**

| <b>TURNOVER</b>   | <b>FREQUENCY</b> | <b>PERCENT</b> | <b>CUMULATIVE FREQUENCY</b> | <b>CUMULATIVE PERCENT</b> |
|-------------------|------------------|----------------|-----------------------------|---------------------------|
| LESS THAN R 0.1M  | 0                | 0              | 0                           | 0                         |
| R0.1M TO R1M      | 5                | 6              | 5                           | 6                         |
| R1M TO R3M        | 14               | 17             | 19                          | 23                        |
| R3M TO R5M        | 24               | 29             | 43                          | 52                        |
| R5M TO R10M       | 18               | 22             | 61                          | 74                        |
| R10M TO R25M      | 17               | 20             | 78                          | 94                        |
| R25M TO R50M      | 4                | 5              | 82                          | 99                        |
| GREATER THAN R50M | 1                | 1              | 83                          | 100                       |

From the total 83 companies surveyed, 73 (88%) of these companies' turnovers were in the range of R1 million to R 25 million. All 45 of the companies identified as success companies fell within this turnover range. The remaining 28 companies in this range were made up of companies from the control group. Companies with turnovers less than R1 million and greater than R25 million constituted the remaining 10 control companies.

**Table 5.3.3. : Average Annual Growth Rate**

| <b>GROWTH</b>    | <b>FREQUENCY</b> | <b>PERCENT</b> | <b>CUMULATIVE FREQUENCY</b> | <b>CUMULATIVE PERCENT</b> |
|------------------|------------------|----------------|-----------------------------|---------------------------|
| LESS THAN 0 %    | 0                | 0              | 0                           | 0                         |
| 0% TO 5%         | 6                | 7              | 6                           | 7                         |
| 6% TO 10%        | 15               | 18             | 21                          | 25                        |
| 11% TO 20%       | 23               | 28             | 44                          | 53                        |
| 21% TO 35%       | 27               | 33             | 71                          | 86                        |
| 36% TO 50%       | 10               | 12             | 81                          | 98                        |
| 51% TO 75%       | 1                | 1              | 82                          | 99                        |
| GREATER THAN 75% | 1                | 1              | 83                          | 100                       |

There was no obvious pattern or correlation distinguishing the control and the success group of companies regarding annual growth. The success companies were represented with the control companies in all growth rate categories up to 50%, constituting 98% of the total sample.

**Table 5.3.4. : Current Estimated National Market Share**

| MARKET SHARE     | FREQUENCY | PERCENT | CUMULATIVE FREQUENCY | CUMULATIVE PERCENT |
|------------------|-----------|---------|----------------------|--------------------|
| LESS THAN 10 %   | 66        | 80      | 66                   | 80                 |
| 11% TO 20%       | 12        | 14      | 78                   | 94                 |
| 21% TO 30%       | 5         | 6       | 82                   | 100                |
| 31% TO 40%       | 0         | 0       | 83                   | 100                |
| 41% TO 50%       | 0         | 0       | 83                   | 100                |
| GREATER THAN 50% | 0         | 0       | 83                   | 100                |

There were no obvious distinguishing factors that could be drawn from the national market share data as the success companies were represented through the entire spectrum together with the control companies.

## 5.4 Summarised Data

### 5.4.1. : STRATEGIC PLANNING

**Table 5.4.1.1 : Sample Response to Strategic Planning Questions**

| ITEM                      | STATEMENT NUMBER | STATEMENT   | PERCENTAGE (%) |    |   |    |    | TOT |
|---------------------------|------------------|---|----------------|----|---|----|----|-----|
|                           |                  |   | 1              | 2  | 3 | 4  | 5  |     |
| SPL 1                     | 8                | The long term strategies of this business are planned long in advance | 30             | 8  | 8 | 12 | 42 | 100 |
| SPL 2                     | 21               | This business has a clear long term vision                            | 34             | 6  | 6 | 18 | 36 | 100 |
| SPL 3                     | 34               | This firm has a formal strategic planning process in place            | 35             | 7  | 6 | 13 | 39 | 100 |
| SPL 4                     | 47               | This firm has a written strategic plan                                | 36             | 7  | 4 | 17 | 36 | 100 |
| SPL 5                     | 59               | This firm plans years ahead   | 31             | 13 | 6 | 13 | 37 | 100 |
| SPL 6                     | 66               | This business has a formal business plan                              | 34             | 5  | 7 | 8  | 46 | 100 |
| SPL 7                     | 70               | This business has proper planning processes and procedures in place   | 27             | 10 | 7 | 10 | 46 | 100 |
| <b>MEAN</b>               |                  |   | 32             | 8  | 6 | 13 | 40 |     |
| <b>MEDIAN</b>             |                  |   | 34             | 8  | 6 | 13 | 40 |     |
| <b>STANDARD DEVIATION</b> |                  |   | 3              | 3  | 1 | 3  | 4  |     |

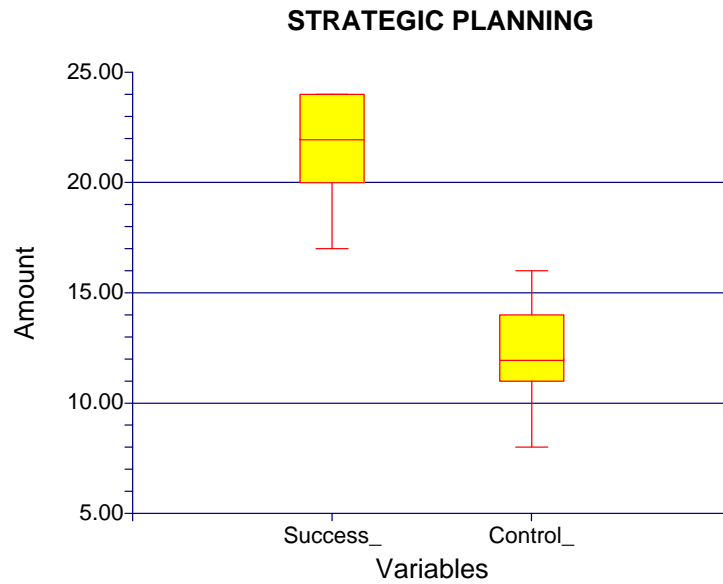
**Table 5.4.1.2 : Comparative Responses on Strategic Planning**

| STATEMENT NUMBER | ABSOLUTE RESPONSES |                 | PERCENT OF CATEGORY (%) |                 |
|------------------|--------------------|-----------------|-------------------------|-----------------|
|                  | CONTROL COMPANY    | SUCCESS COMPANY | CONTROL COMPANY         | SUCCESS COMPANY |
| 8                | 11                 | 24              | 29                      | 53              |
| 21               | 13                 | 17              | 34                      | 38              |
| 34               | 12                 | 20              | 32                      | 44              |
| 47               | 8                  | 22              | 21                      | 49              |
| 59               | 11                 | 20              | 29                      | 44              |
| 66               | 16                 | 22              | 42                      | 49              |
| 71               | 14                 | 24              | 37                      | 53              |
| <b>MEAN</b>      | <b>12</b>          | <b>21</b>       | <b>32</b>               | <b>47</b>       |
| <b>MEDIAN</b>    | <b>12</b>          | <b>22</b>       | <b>32</b>               | <b>49</b>       |
| <b>STD DEV.</b>  | <b>2</b>           | <b>3</b>        | <b>77</b>               | <b>6</b>        |

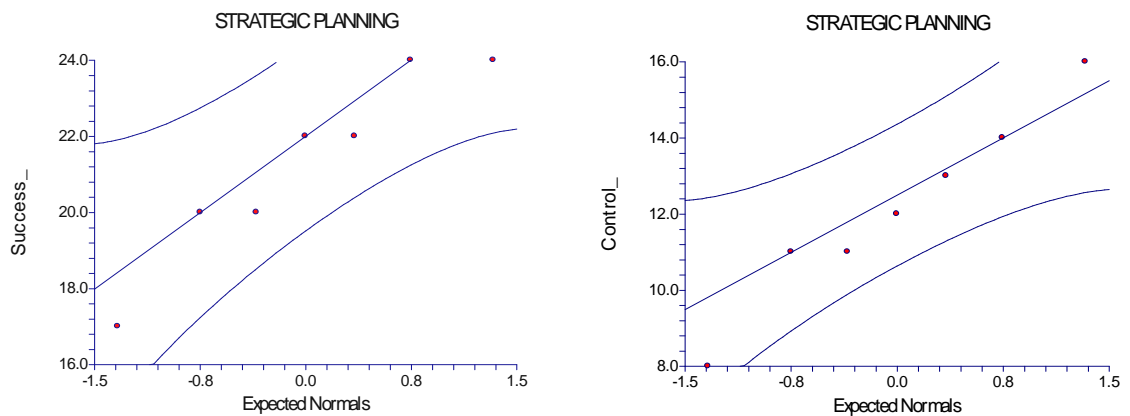
| Alternative Hypothesis | T-Value | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|------------------------|---------|-------------------|---------------|----------------------|
| Difference $\neq 0$    | 6.7840  | 0.000019          | Reject Ho     | 0.999988             |
| Difference $< 0$       | 6.7840  | 0.999990          | Accept Ho     | 0.000000             |
| Difference $> 0$       | 6.7840  | 0.000010          | Reject Ho     | 0.999999             |

**Table 5.4.1.3 : NCSS Output : Equal- Variance T - Test**

**Figure 5.4.1.1 : Box Plot  
Control versus Success companies**



**Figure 5.4.1.2 : Normal Probability Plot  
Control versus Success companies**



**5.4.2. : GOVERNANCE STRUCTURES**

| ITEM                      | STATEMENT NUMBER | STATEMENT  | PERCENTAGE (%) |    |    |    |    | TOT |
|---------------------------|------------------|--|----------------|----|----|----|----|-----|
|                           |                  |  | 1              | 2  | 3  | 4  | 5  |     |
| GOV 1                     | 4                | The business has a formal board of Directors   | 42             | 6  | 8  | 5  | 39 | 100 |
| GOV 2                     | 16               | The business has a written business plan   | 27             | 7  | 5  | 12 | 49 | 100 |
| GOV 3                     | 29               | The business has a formal structure where family and business matters can be discussed                 | 35             | 8  | 8  | 11 | 38 | 100 |
| GOV 4                     | 42               | The business has a formal document that describes the relationship between the family and the business | 35             | 10 | 11 | 12 | 32 | 100 |
| GOV 5                     | 55               | Business decisions are made using formal management structures   | 33             | 10 | 7  | 6  | 44 | 100 |
| <b>MEAN</b>               |                  |  | 35             | 8  | 8  | 9  | 40 |     |
| <b>MEDIAN</b>             |                  |  | 35             | 8  | 8  | 11 | 39 |     |
| <b>STANDARD DEVIATION</b> |                  |  | 6              | 2  | 2  | 3  | 6  |     |

**Table 5.4.2.1 : Sample Response to Governance Structures Questions**

**Table 5.4.2.2 : Comparative Responses on Governance Structures**

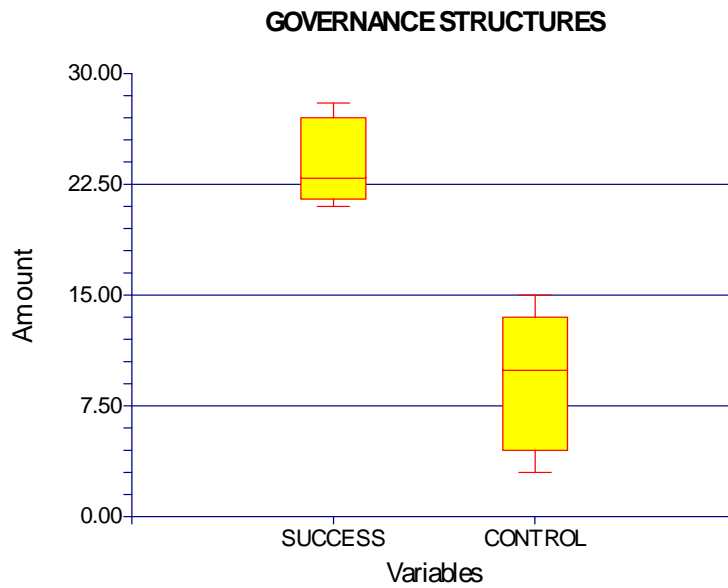
| STATEMENT NUMBER | ABSOLUTE RESPONSES |                 | PERCENT OF CATEGORY (%) |                 |
|------------------|--------------------|-----------------|-------------------------|-----------------|
|                  | CONTROL COMPANY    | SUCCESS COMPANY | CONTROL COMPANY         | SUCCESS COMPANY |
| 4                | 10                 | 22              | 26                      | 49              |
| 16               | 15                 | 26              | 39                      | 58              |
| 29               | 3                  | 28              | 8                       | 62              |
| 42               | 6                  | 21              | 16                      | 47              |
| 55               | 12                 | 23              | 32                      | 51              |
| MEAN             | 9                  | 24              | 24                      | 53              |
| MEDIAN           | 10                 | 23              | 26                      | 51              |
| STD DEV.         | 4.8                | 2.9             | 13                      | 6               |

| Alternative Hypothesis | T-Value | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|------------------------|---------|-------------------|---------------|----------------------|
| Difference $\neq 0$    | 5.9247  | 0.000717          | Reject Ho     | 00.998578            |
| Difference $< 0$       | 5.9247  | 0.999642          | Accept Ho     | 0.000000             |
| Difference $> 0$       | 5.9247  | 0.000358          | Reject Ho     | 0.999827             |

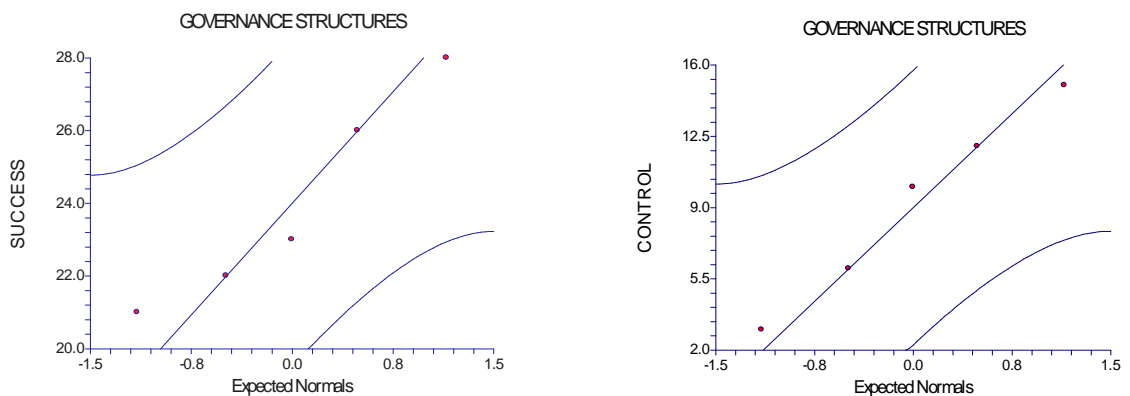
**Table 5.4.2.3 : NCSS Output : Aspin– Welch Unequal – Variance Test**



**Figure 5.4.2.1 : Box Plot  
Control versus Success companies**



**Figure 5.4.2.2 : Normal Probability Plot  
Control versus Success companies**



**5.4.3. : SUCCESSION PLANNING**

| ITEM                      | STATEMENT NUMBER | STATEMENT  | PERCENTAGE (%) |    |    |    |    | TOT |
|---------------------------|------------------|--|----------------|----|----|----|----|-----|
|                           |                  |  | 1              | 2  | 3  | 4  | 5  |     |
| SUPL 1                    | 6                | The person who will take over this business when the current owner retires has already been identified               | 46             | 8  | 5  | 6  | 35 | 100 |
| SUPL 2                    | 19               | The person who will take over this business when the current owner retires is being prepared for his/her future role | 30             | 7  | 17 | 7  | 39 | 100 |
| SUPL 3                    | 32               | There is a proper succession plan in place for this business   | 31             | 10 | 7  | 8  | 44 | 100 |
| SUPL 4                    | 45               | Replacing the current owner with a successor will be done in good time   | 29             | 12 | 8  | 10 | 41 | 100 |
| SUPL 5                    | 58               | Replacing the current owner with a successor will not be a haphazard occurrence                                      | 33             | 10 | 10 | 8  | 39 | 100 |
| SUPL 6                    | 67               | The identity of the successor to the current owner has been communicated to all concerned                            | 35             | 8  | 8  | 7  | 42 | 100 |
| <b>MEAN</b>               |                  |  | 34             | 9  | 9  | 8  | 40 |     |
| <b>MEDIAN</b>             |                  |  | 32             | 9  | 8  | 8  | 40 |     |
| <b>STANDARD DEVIATION</b> |                  |  | 6              | 2  | 4  | 1  | 3  |     |

**Table 5.4.3.1 : Sample Response to Succession Planning Questions**

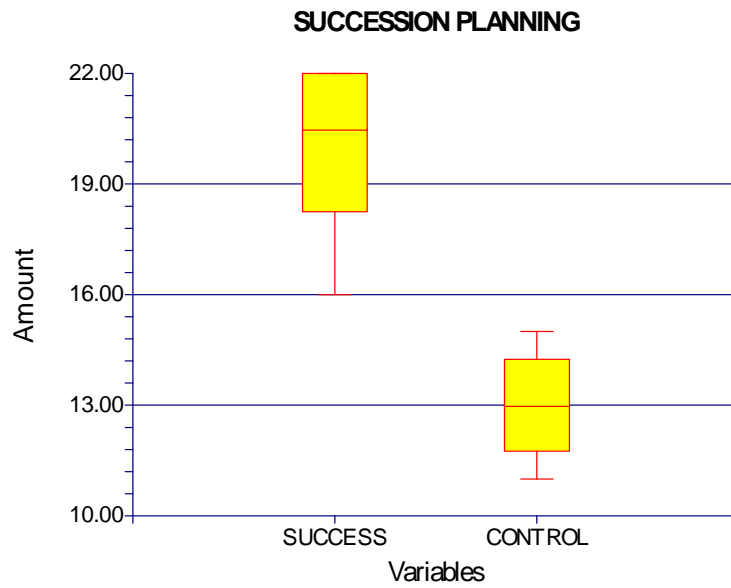
**Table 5.4.3.2: Comparative Responses on Succession Planning**

| STATEMENT NUMBER | ABSOLUTE RESPONSES |                 | PERCENT OF CATEGORY (%) |                 |
|------------------|--------------------|-----------------|-------------------------|-----------------|
|                  | CONTROL COMPANY    | SUCCESS COMPANY | CONTROL COMPANY         | SUCCESS COMPANY |
| 6                | 13                 | 16              | 34                      | 36              |
| 19               | 12                 | 20              | 32                      | 44              |
| 32               | 14                 | 22              | 37                      | 49              |
| 45               | 13                 | 21              | 34                      | 47              |
| 58               | 11                 | 22              | 29                      | 49              |
| 67               | 15                 | 19              | 39                      | 42              |
| MEAN             | 13                 | 20              | 34                      | 44              |
| MEDIAN           | 13                 | 21              | 34                      | 46              |
| STD DEV.         | 1                  | 2               | 4                       | 5               |

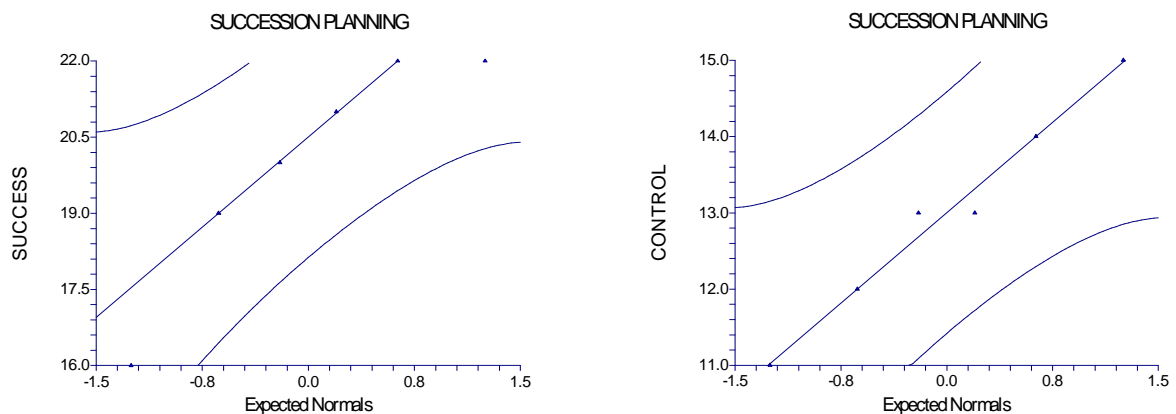
| Alternative Hypothesis | T-Value | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|------------------------|---------|-------------------|---------------|----------------------|
| Difference $\neq 0$    | 6.3901  | 0.000176          | Reject Ho     | 0.999837             |
| Difference $< 0$       | 6.3901  | 0.999912          | Accept Ho     | 0.000000             |
| Difference $> 0$       | 6.3901  | 0.000088          | Reject Ho     | 0.999983             |

**Table 5.4.3.3 : NCSS Output : Aspin-Welch Unequal-Variance**

**Figure 5.4.3.1 : Box Plot  
Control versus Success companies**



**Figure 5.4.3.2 : Normal Probability Plot  
Control versus Success companies**



**5.4.4. : VISION**

| ITEM               | STATEMENT NUMBER | STATEMENT   | PERCENTAGE (%) |    |    |    |    | TOT |
|--------------------|------------------|---|----------------|----|----|----|----|-----|
|                    |                  |   | 1              | 2  | 3  | 4  | 5  |     |
| VIS 1              | 1                | I fully identify with the vision of this business               | 7              | 6  | 5  | 11 | 71 | 100 |
| VIS 2              | 12               | The owners of this business have a clear vision for expansion   | 18             | 8  | 7  | 24 | 43 | 100 |
| VIS 3              | 25               | National growth is part of the vision of this business          | 39             | 8  | 10 | 11 | 32 | 100 |
| VIS 4              | 50               | Future expansion is an important consideration in this business | 39             | 10 | 6  | 7  | 38 | 100 |
| VIS 5              | 57               | The future well being of this business is secure                | 17             | 7  | 2  | 14 | 60 | 100 |
| MEAN               |                  |   | 24             | 8  | 6  | 13 | 49 |     |
| MEDIAN             |                  |   | 18             | 8  | 6  | 11 | 42 |     |
| STANDARD DEVIATION |                  |   | 14             | 1  | 3  | 7  | 16 |     |

**Table 5.4.4.1 : Sample Response to Vision Questions**

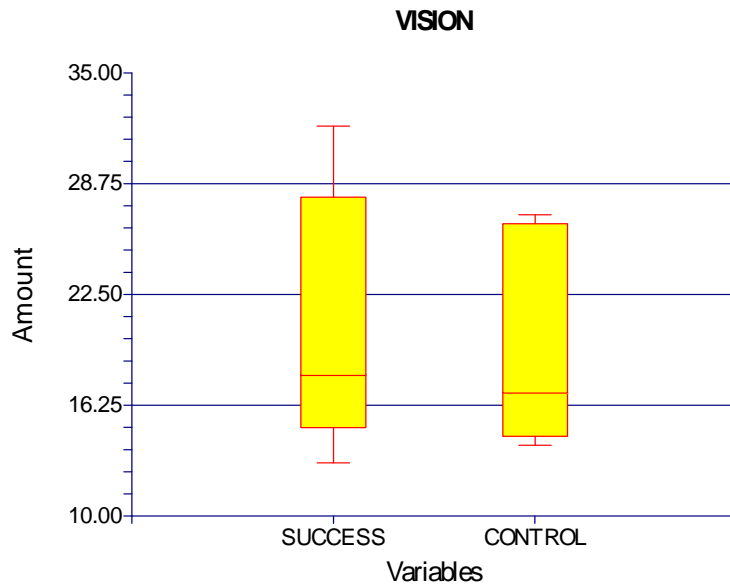
**Table 5.4.4.2: Comparative Responses on Vision**

| STATEMENT NUMBER | ABSOLUTE RESPONSES |                 | PERCENT OF CATEGORY (%) |                 |
|------------------|--------------------|-----------------|-------------------------|-----------------|
|                  | CONTROL COMPANY    | SUCCESS COMPANY | CONTROL COMPANY         | SUCCESS COMPANY |
| 1                | 27                 | 32              | 71                      | 71              |
| 12               | 17                 | 18              | 45                      | 40              |
| 25               | 14                 | 13              | 37                      | 29              |
| 50               | 15                 | 17              | 39                      | 38              |
| 57               | 26                 | 24              | 68                      | 53              |
| MEAN             | 20                 | 21              | 52                      | 46              |
| MEDIAN           | 17                 | 18              | 45                      | 40              |
| STD DEV.         | 6                  | 7               | 16                      | 16              |

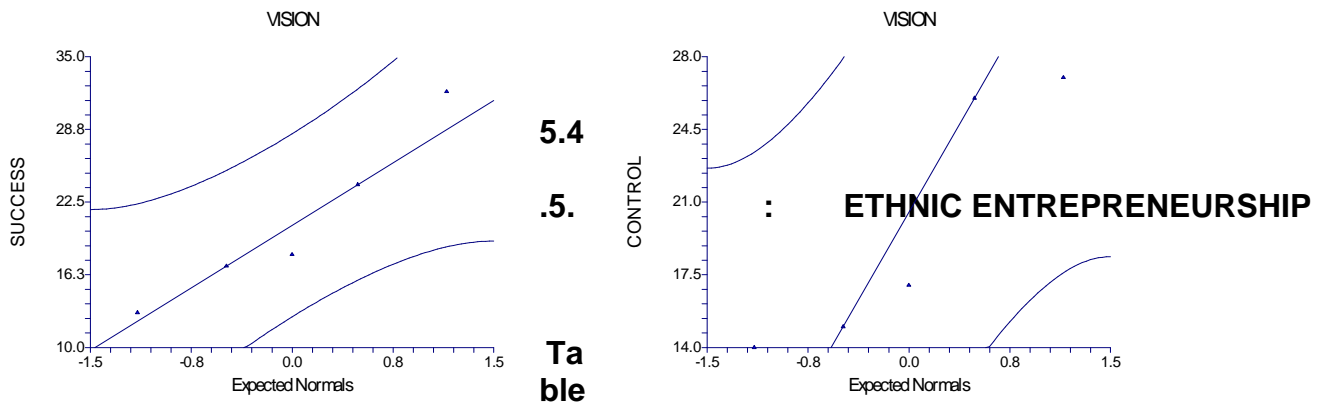
| Alternative Hypothesis | T-Value | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|------------------------|---------|-------------------|---------------|----------------------|
| Difference $\neq 0$    | 0.2314  | 0.822834          | Accept Ho     | 0.054830             |
| Difference $< 0$       | 0.2314  | 0.588583          | Accept Ho     | 0.031606             |
| Difference $> 0$       | 0.2314  | 0.411417          | Accept Ho     | 0.076028             |

**Table 5.4.4.3 : NCSS Output : Equal- Variance T - Test**

**Figure 5.4.4.1 : Box Plot Control versus Success companies**



**Figure 5.4.4.2 : Normal Plot Control versus Success companies**



**5.4.5 : ETHNIC ENTREPRENEURSHIP**

**5.4.5.1 : Sample Response to Ethnic Entrepreneurship Questions**

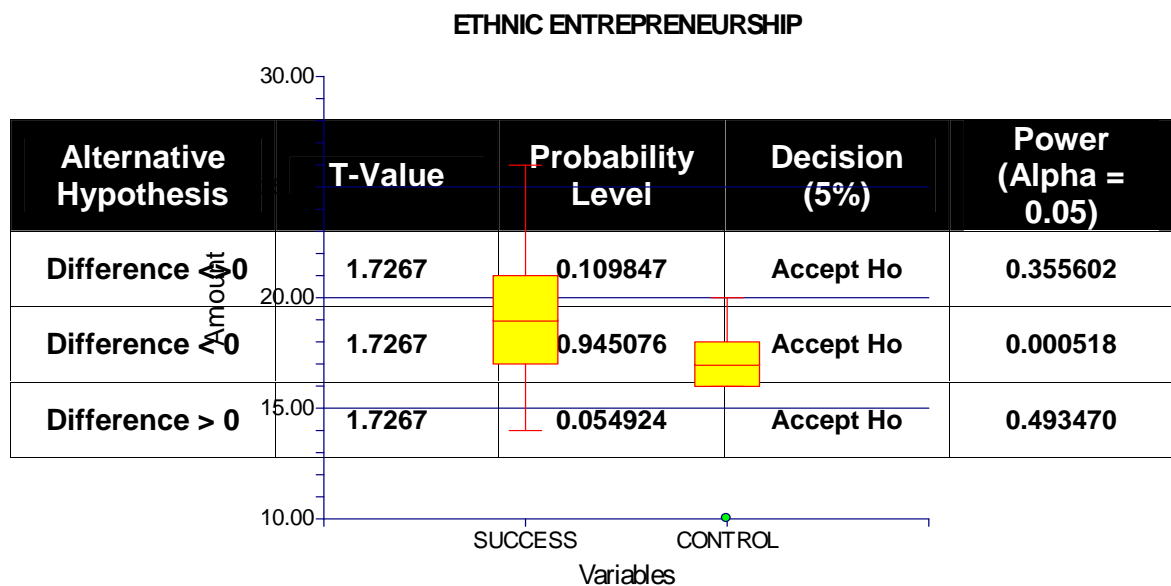


**Table 5.4.5.2: Comparative Responses on Ethnic Entrepreneurship**

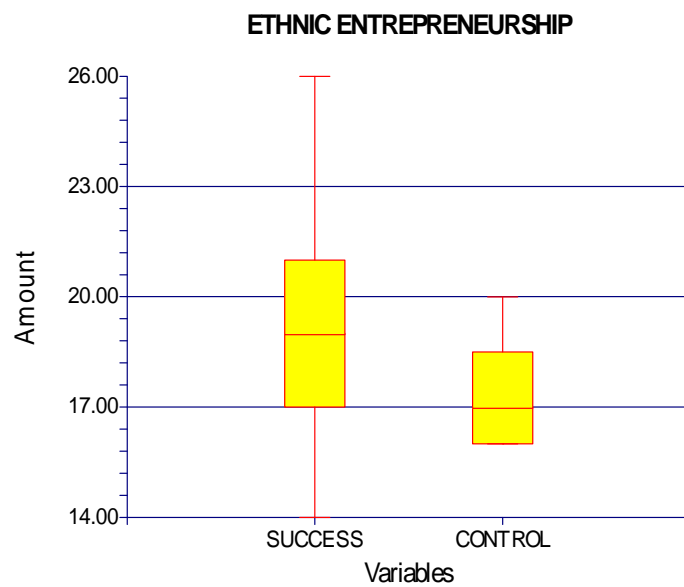
| STATEMENT NUMBER   |                  | ABSOLUTE RESPONSES  |                 | PERCENT OF CATEGORY (%) |    |    |    |    |     |     |
|--------------------|------------------|---|-----------------|-------------------------|----|----|----|----|-----|-----|
| ITEM               | STATEMENT NUMBER | CONTROL COMPANY   | SUCCESS COMPANY | PERCENTAGE (%)          |    |    |    |    |     |     |
|                    |                  | 16  | 21              | 1                       | 2  | 3  | 4  | 5  | TOT |     |
|                    | 37               | 16  | 19              |                         | 42 |    |    | 42 |     |     |
| ENT 1              | 38               | The business has specific goals to enhance entrepreneurship in the family                                 | 17              | 26                      | 24 | 26 |    |    | 38  |     |
|                    | 51               | 11  | 17              | 6                       |    | 45 | 7  | 18 | 45  |     |
|                    | 62               |   | 14              |                         |    | 47 |    |    | 31  |     |
|                    | 72               | 20  | 20              |                         | 53 |    |    | 44 |     |     |
| ENT 2              | 74               | The likely economic opportunities for other family members is an important consideration in this business | 16              | 19                      | 35 | 45 |    |    | 50  |     |
|                    | MEAN             | 37  | 16              | 5                       |    | 43 | 7  | 11 | 44  |     |
|                    | MEDIAN           |   | 16              |                         |    | 45 |    |    | 44  |     |
|                    | STD DEV.         |   | 3               | 4                       |    | 8  |    |    | 9   |     |
| ENT 3              | 38               | Part of the vision of this business is to provide for other family members                                |                 |                         | 37 | 7  | 8  | 14 | 33  | 100 |
| ENT 4              | 51               | Creating business opportunities for other family members is part of the vision of this business           |                 |                         | 27 | 7  | 8  | 6  | 52  | 100 |
| ENT 5              | 62               | Making money is an important consideration for everyone involved in this business                         |                 |                         | 37 | 8  | 7  | 8  | 39  | 100 |
| ENT 6              | 71               | The managers of this business are always on the lookout for new innovative ways to do business            |                 |                         | 17 | 8  | 7  | 19 | 48  | 100 |
| ENT 7              | 73               | The managers of this business are always on the look out for new business opportunities                   |                 |                         | 26 | 11 | 5  | 11 | 47  | 100 |
| MEAN               |                  |   |                 | 29                      | 8  | 7  | 13 | 44 |     |     |
| MEDIAN             |                  |   |                 | 27                      | 7  | 7  | 11 | 45 |     |     |
| STANDARD DEVIATION |                  |   |                 | 8                       | 2  | 1  | 5  | 7  |     |     |

**Table 5.4.5.3 : NCSS Output : Equal- Variance T - Test**

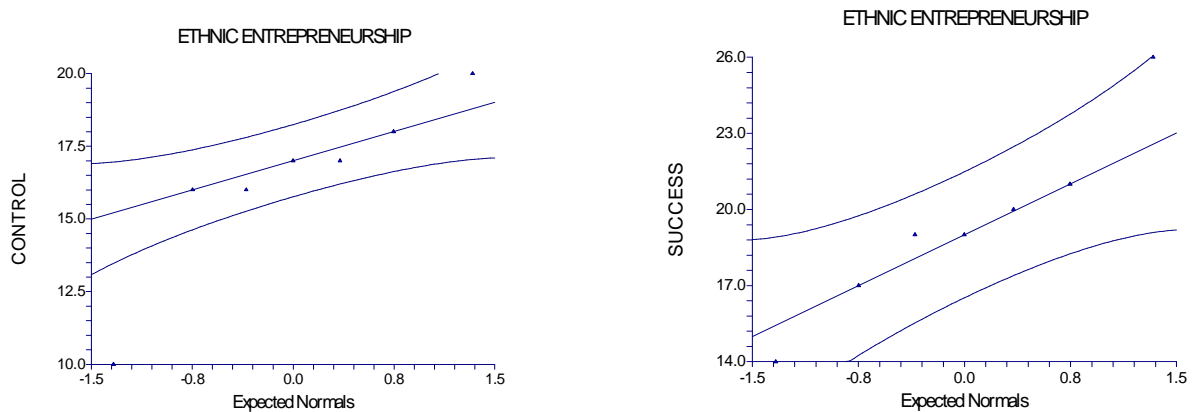
**Figure 5.4.5.1a : Box Plot ( Outlier Included )  
Control versus Success companies**



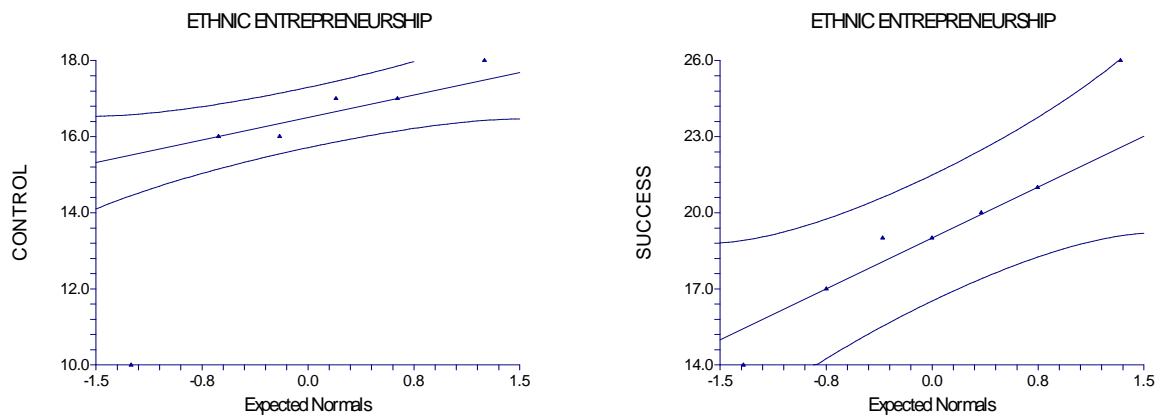
**Figure 5.4.5.1b : Box Plot (Outlier Removed)  
Control versus Success companies**



**Figure 5.4.5.2 a : Normal Plot ( Outlier Included )  
Control versus Success companies**



**Figure 5.4.5.2 b : Normal Probability Plot (Outlier Removed)  
Control versus Success companies**



**5.4.6. : COMMITMENT**

**Table 5.4.6.1 : Sample Response to Commitment Questions**

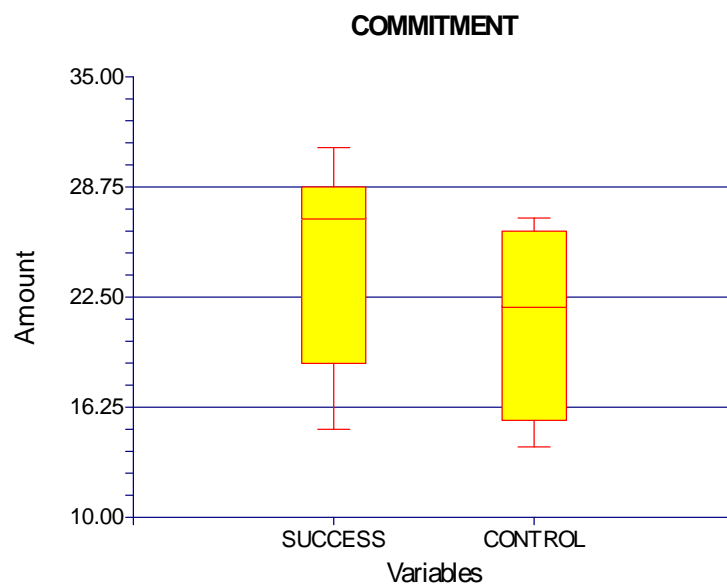
**Table 5.4.6.2: Comparative Responses on Commitment**

| STATEMENT NUMBER |                    | ABSOLUTE RESPONSES        |  |    | PERCENT OF CATEGORY (%) |    |                 |    |       |
|------------------|--------------------|---------------------------|--|----|-------------------------|----|-----------------|----|-------|
| ITEM             | STATEMENT NUMBER   | CONTROL COMPANY STATEMENT | SUCCESS COMPANY STATEMENT  | 1  | CONTROL COMPANY         |    | SUCCESS COMPANY |    | TOTAL |
|                  | 9                  |                           | 27   | 31 |                         | 71 |                 | 69 |       |
|                  | 13                 |                           | 26   | 28 |                         | 68 |                 | 62 |       |
| COT 1            | 35                 | 9                         | I strongly identify with this business   | 27 | 1                       | 63 | 17              | 70 | 100   |
|                  | 48                 |                           | 20   | 27 |                         | 53 |                 | 60 |       |
|                  | 60                 |                           | 14   | 20 |                         | 37 |                 | 44 |       |
|                  | 68                 |                           | 16   | 15 |                         | 42 |                 | 33 |       |
| COT 2            | MEAN               | 13                        | I am committed to this business  | 25 | 5                       | 56 | 18              | 65 | 100   |
|                  | MEDIAN             |                           | 22   | 27 |                         | 58 |                 | 60 |       |
|                  | STD DEV.           |                           | 5  | 6  |                         | 14 |                 | 13 |       |
| COT 3            | 35                 |                           | I strongly associate with what this business stands for                            | 10 | 7                       | 5  | 17              | 61 | 100   |
| COT 4            | 48                 |                           | Even if I get the opportunity to leave, I would continue working for this business | 16 | 5                       | 4  | 18              | 57 | 100   |
| COT 5            | 60                 |                           | I want to continue working for this business for some time still                   | 25 | 10                      | 10 | 14              | 41 | 100   |
| COT 6            | 68                 |                           | I will not be looking for an alternative business soon                             | 35 | 10                      | 10 | 8               | 37 | 100   |
|                  | MEAN               |                           |  | 15 | 6                       | 8  | 15              | 55 |       |
|                  | MEDIAN             |                           |  | 13 | 7                       | 8  | 17              | 59 |       |
|                  | STANDARD DEVIATION |                           |  | 13 | 3                       | 3  | 4               | 13 |       |

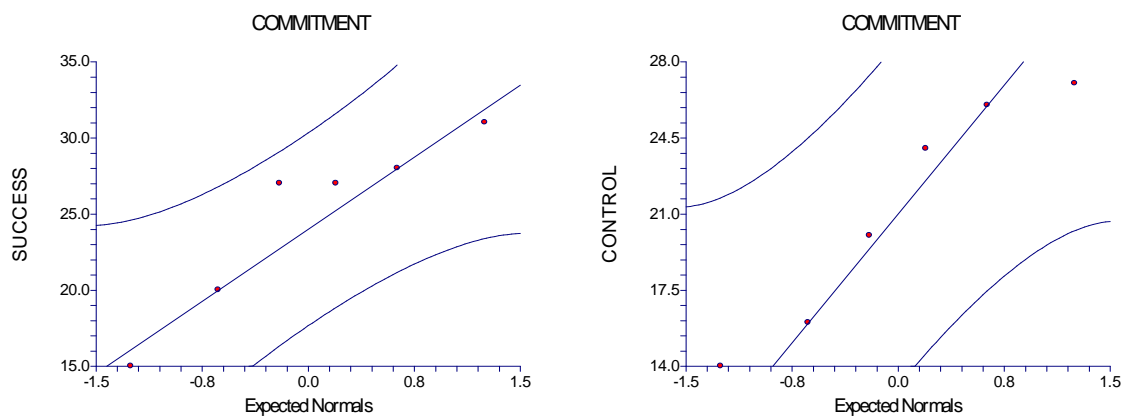
**Table 5.4.6.3 : NCSS Output : Equal- Variance T - Test**

| Alternative Hypothesis | T-Value | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|------------------------|---------|-------------------|---------------|----------------------|
| Difference $\neq$ 0    | 1.0680  | 0.310606          | Accept Ho     | 0.162335             |
| Difference < 0         | 1.0680  | 0.844697          | Accept Ho     | 0.004082             |
| Difference > 0         | 1.0680  | 0.155303          | Accept Ho     | 0.258321             |

**Figure 5.4.6.1 : Box Plot Control versus Success companies**



**Figure 5.4.6.2 : Normal Probability Plot Control versus Success companies**



**5.4.7. : OPEN FAMILY COMMUNICATION**

**Table 5.4.7.1 : Sample Response to Open Family Communication**

|                    |                  |  | PERCENTAGE (%) |    |   |    |    |     |
|--------------------|------------------|--|----------------|----|---|----|----|-----|
| ITEM               | STATEMENT NUMBER | STATEMENT  | 1              | 2  | 3 | 4  | 5  | TOT |
| COM 1              | 7                | There is adequate communication in this business                                 | 35             | 6  | 6 | 13 | 40 | 100 |
| COM 2              | 20               | There are enough opportunities for family members to communicate with each other | 24             | 13 | 8 | 14 | 41 | 100 |
| COM 3              | 33               | The communication channels available in this business are adequate               | 36             | 5  | 5 | 23 | 31 | 100 |
| COM 4              | 46               | The family members are well informed of what happens in this business            | 34             | 8  | 9 | 12 | 37 | 100 |
| MEAN               |                  |  | 32             | 8  | 7 | 16 | 37 |     |
| MEDIAN             |                  |  | 34             | 7  | 7 | 14 | 39 |     |
| STANDARD DEVIATION |                  |  | 6              | 4  | 2 | 5  | 4  |     |



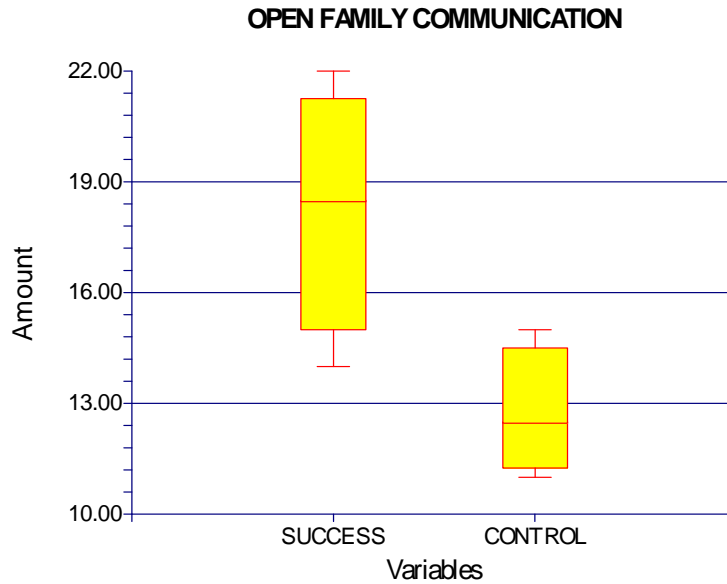
**Table 5.4.7.2: Comparative Responses on Open Family Communication**

| STATEMENT NUMBER | ABSOLUTE RESPONSES |                 | PERCENT OF CATEGORY (%) |                 |
|------------------|--------------------|-----------------|-------------------------|-----------------|
|                  | CONTROL COMPANY    | SUCCESS COMPANY | CONTROL COMPANY         | SUCCESS COMPANY |
| 7                | 11                 | 22              | 29                      | 49              |
| 20               | 15                 | 19              | 39                      | 42              |
| 33               | 12                 | 14              | 32                      | 31              |
| 46               | 13                 | 18              | 34                      | 40              |
| MEAN             | 13                 | 18              | 34                      | 41              |
| MEDIAN           | 13                 | 19              | 33                      | 41              |
| STD DEV.         | 2                  | 3               | 4                       | 7               |

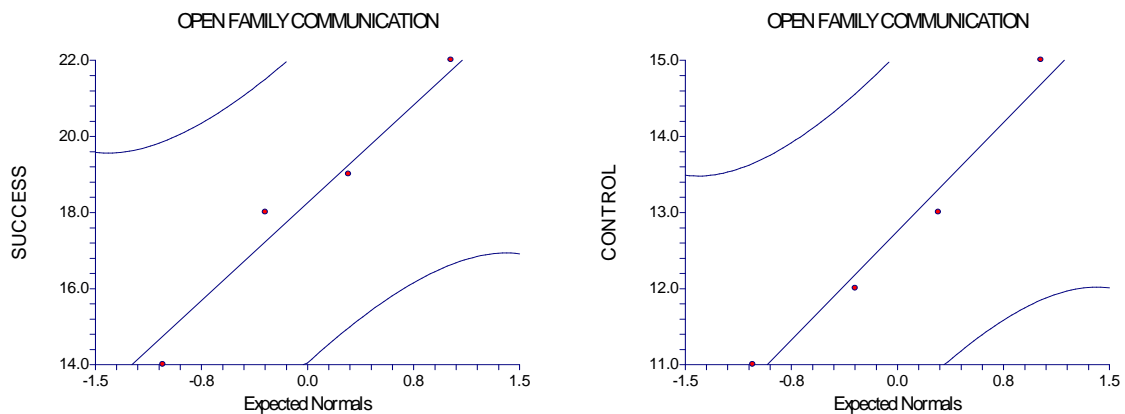
**Table 5.4.7.3 : NCSS Output : Aspin-Welch Unequal-Variance Test**

| Alternative Hypothesis | T-Value | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|------------------------|---------|-------------------|---------------|----------------------|
| Difference $\neq 0$    | 2.9575  | 0.036022          | Reject Ho     | 0.636680             |
| Difference $< 0$       | 2.9575  | 0.981989          | Accept Ho     | 0.000010             |
| Difference $> 0$       | 2.9575  | 0.018011          | Reject Ho     | 0.798657             |

**Figure 5.4.7.1 : Box Plot  
Control versus Success companies**



**Figure 5.4.7.2 : Normal Probability Plot  
Control versus Success companies**



**5.4.8. : FAMILY NETWORKS**

**Table 5.4.8.1 : Sample Response to Family Network Questions**

| ITEM               | STATEMENT NUMBER | STATEMENT   | PERCENTAGE (%) |    |   |    |    | TOT |
|--------------------|------------------|---|----------------|----|---|----|----|-----|
|                    |                  |   | 1              | 2  | 3 | 4  | 5  |     |
| FNET 1             | 5                | The family networks are prevalent   | 34             | 6  | 5 | 13 | 42 | 100 |
| FNET 2             | 18               | The business has strong family networks                                   | 45             | 7  | 5 | 11 | 33 | 100 |
| FNET 3             | 22               | I am proud to tell others that I work for this business                   | 0              | 0  | 2 | 27 | 71 | 100 |
| FNET 4             | 24               | Family networks are an important consideration in this business           | 25             | 11 | 8 | 11 | 45 | 100 |
| FNET 5             | 63               | Maximising family networks is an important consideration in this business | 29             | 7  | 6 | 13 | 45 | 100 |
| MEAN               |                  |   | 27             | 6  | 5 | 15 | 47 |     |
| MEDIAN             |                  |   | 29             | 7  | 5 | 13 | 45 |     |
| STANDARD DEVIATION |                  |   | 16             | 4  | 2 | 7  | 14 |     |

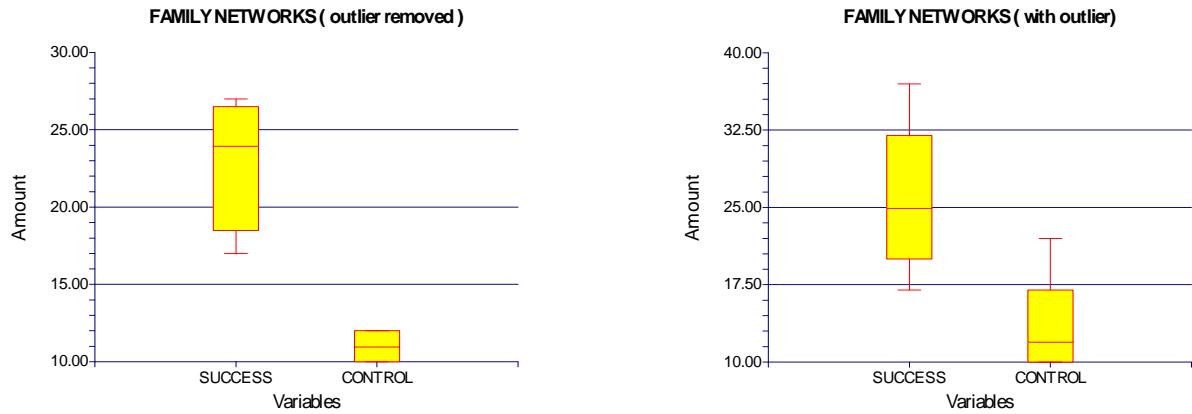
**Table 5.4.8.2: Comparative Responses on Family Networks**

| STATEMENT NUMBER | ABSOLUTE RESPONSES |                 | PERCENT OF CATEGORY (%) |                 |
|------------------|--------------------|-----------------|-------------------------|-----------------|
|                  | CONTROL COMPANY    | SUCCESS COMPANY | CONTROL COMPANY         | SUCCESS COMPANY |
| 5                | 12                 | 23              | 32                      | 51              |
| 18               | 10                 | 17              | 26                      | 38              |
| 22               | 22                 | 37              | 58                      | 82              |
| 24               | 12                 | 25              | 32                      | 56              |
| 63               | 10                 | 27              | 26                      | 60              |
| MEAN             | 13                 | 26              | 35                      | 57              |
| MEDIAN           | 12                 | 25              | 32                      | 56              |
| STD DEV.         | 5                  | 7               | 13                      | 16              |

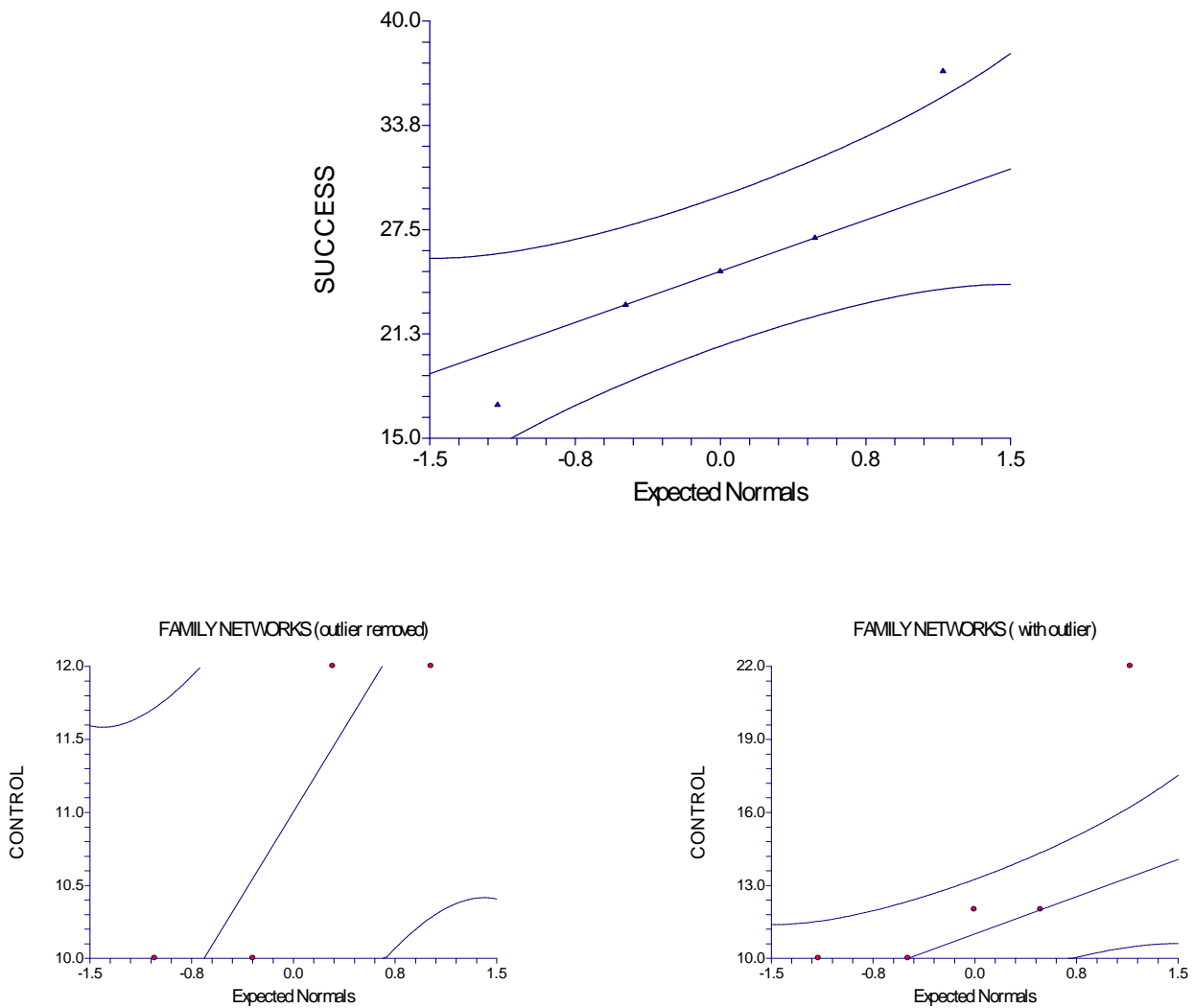
**Table 5.4.8.3 : NCSS Output : Equal-Variance T-Test**

| Alternative Hypothesis         | T-Value | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|--------------------------------|---------|-------------------|---------------|----------------------|
| Difference $\leftrightarrow$ 0 | 5.3666  | 0.001717          | Reject Ho     | 0.992602             |
| Difference $<$ 0               | 5.3666  | 0.999141          | Accept Ho     | 0.000000             |
| Difference $>$ 0               | 5.3666  | 0.000859          | Reject Ho     | 0.998753             |

**Figure 5.4.8.1 : Box Plot  
Control versus Success companies**



**Figure 5.4.8.2 : Normal Probability Plot  
Control versus Success companies  
FAMILYNETWORKS**



**5.4.9. : TRUST**

**Table 5.4.9.1 : Sample Response to Trust Questions**

| ITEM               | STATEMENT NUMBER | STATEMENT  | PERCENTAGE (%) |    |   |    |    | TOT |
|--------------------|------------------|--|----------------|----|---|----|----|-----|
|                    |                  |  | 1              | 2  | 3 | 4  | 5  |     |
| TRU 1              | 3                | The family members in this business trust each other                         | 18             | 8  | 8 | 13 | 53 | 100 |
| TRU 2              | 17               | The family members have confidence in each other's business capabilities     | 20             | 7  | 7 | 13 | 53 | 100 |
| TRU 3              | 30               | The family members have a high regard for each others integrity              | 19             | 10 | 9 | 20 | 42 | 100 |
| TRU4               | 43               | The family members have confidence in each other's decision-making abilities | 33             | 7  | 6 | 11 | 43 | 100 |
| TRU 5              | 56               | All family members believe in each other                                     | 24             | 12 | 6 | 14 | 43 | 100 |
| MEAN               |                  |  | 23             | 9  | 7 | 14 | 47 |     |
| MEDIAN             |                  |  | 20             | 8  | 6 | 13 | 43 |     |
| STANDARD DEVIATION |                  |  | 6              | 2  | 1 | 4  | 6  |     |

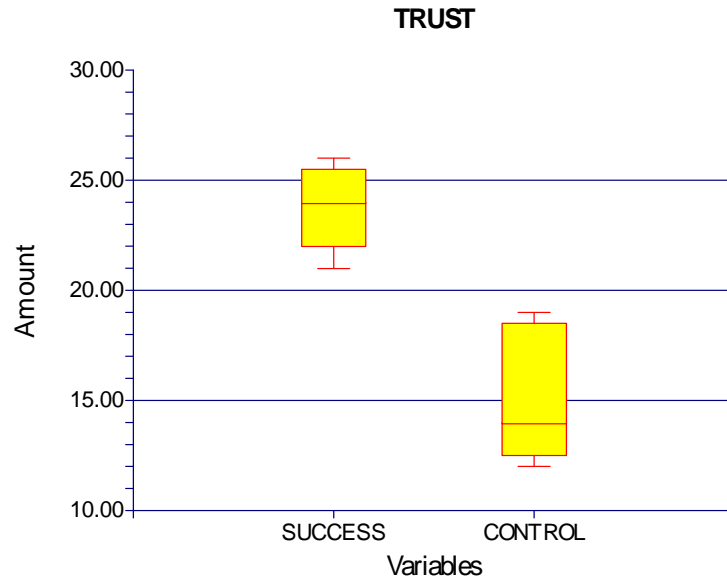
**Table 5.4.9.2: Comparative Responses on Trust**

| STATEMENT NUMBER | ABSOLUTE RESPONSES |                 | PERCENT OF CATEGORY (%) |                 |
|------------------|--------------------|-----------------|-------------------------|-----------------|
|                  | CONTROL COMPANY    | SUCCESS COMPANY | CONTROL COMPANY         | SUCCESS COMPANY |
| 3                | 18                 | 26              | 47                      | 58              |
| 17               | 19                 | 25              | 50                      | 56              |
| 30               | 14                 | 21              | 37                      | 47              |
| 43               | 13                 | 23              | 34                      | 51              |
| 56               | 12                 | 24              | 32                      | 53              |
| MEAN             | 15                 | 24              | 40                      | 53              |
| MEDIAN           | 14                 | 24              | 37                      | 53              |
| STD DEV.         | 3                  | 2               | 8                       | 4               |

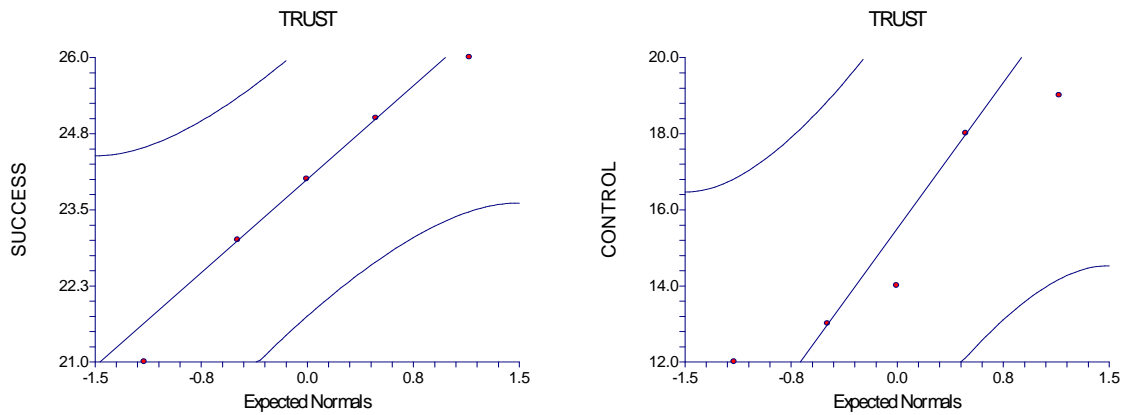
**Table 5.4.9.3 : NCSS Output : Aspin- Welch T- Test**

| Alternative Hypothesis | T-Value | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|------------------------|---------|-------------------|---------------|----------------------|
| Difference $\neq 0$    | 5.2533  | 0.001381          | Reject Ho     | 0.992788             |
| Difference $< 0$       | 5.2533  | 0.999310          | Accept Ho     | 0.00000              |
| Difference $> 0$       | 5.2533  | 0.000690          | Reject Ho     | 0.998656             |

**Figure 5.4.9.1 : Box Plot  
Control versus Success companies**



**Figure 5.4.9.2 : Normal Probability Plot  
Control versus Success companies**





**5.4.10. : USE OF OUTSIDE EXPERTS**

**Table 5.4.10.1 : Sample Response to Use of Outside Experts Questions**

| ITEM               | STATEMENT NUMBER | STATEMENT  | PERCENTAGE (%) |   |   |    |    | TOT |
|--------------------|------------------|--|----------------|---|---|----|----|-----|
|                    |                  |  | 1              | 2 | 3 | 4  | 5  |     |
| OC 1               | 10               | There are outside consultants advising this business                                       | 43             | 6 | 5 | 7  | 39 | 100 |
| OC 2               | 36               | When needed, this business draws on the expertise of outsiders (e.g. lawyers, consultants) | 34             | 7 | 6 | 19 | 34 | 100 |
| OC 3               | 44               | When needed, this business draws on outside expertise to assist with business matters      | 30             | 5 | 6 | 16 | 43 | 100 |
| OC 4               | 49               | When needed, this business draws on outside expertise to assist with its governance        | 37             | 5 | 7 | 18 | 33 | 100 |
| OC 5               | 61               | This business involves outsiders to assist with its business performance                   | 36             | 8 | 6 | 14 | 36 | 100 |
| OC 6               | 69               | This business has an advisory board  | 39             | 8 | 6 | 10 | 37 | 100 |
| MEAN               |                  |  | 37             | 7 | 6 | 14 | 37 |     |
| MEDIAN             |                  |  | 37             | 7 | 6 | 15 | 37 |     |
| STANDARD DEVIATION |                  |  | 4              | 2 | 1 | 5  | 4  |     |

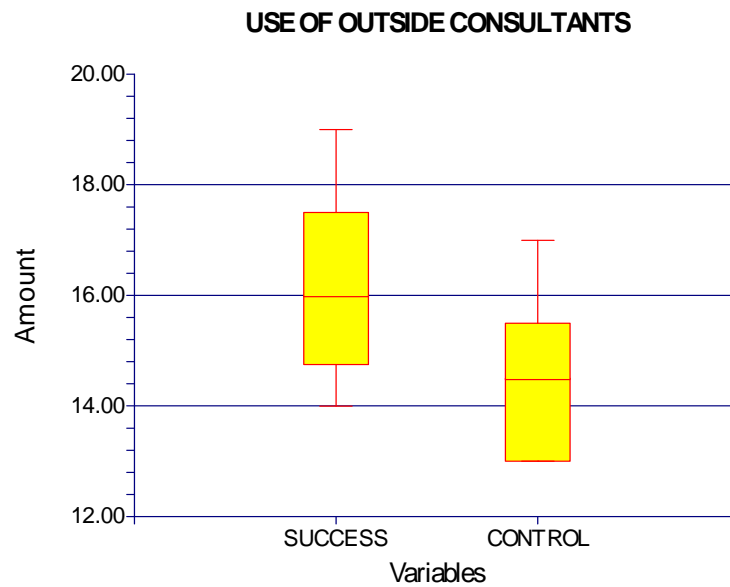
**Table 5.4.10.2 : Comparative Responses on Use of Outside Consultants**

| STATEMENT NUMBER | ABSOLUTE RESPONSES |                 | PERCENT OF CATEGORY (%) |                 |
|------------------|--------------------|-----------------|-------------------------|-----------------|
|                  | CONTROL COMPANY    | SUCCESS COMPANY | CONTROL COMPANY         | SUCCESS COMPANY |
| 10               | 15                 | 17              | 39                      | 38              |
| 36               | 13                 | 15              | 34                      | 33              |
| 44               | 17                 | 19              | 45                      | 42              |
| 49               | 13                 | 14              | 34                      | 31              |
| 61               | 14                 | 16              | 37                      | 36              |
| 69               | 15                 | 16              | 39                      | 36              |
| MEAN             | 14                 | 16              | 38                      | 36              |
| MEDIAN           | 15                 | 16              | 38                      | 36              |
| STD DEV.         | 2                  | 2               | 4                       | 4               |

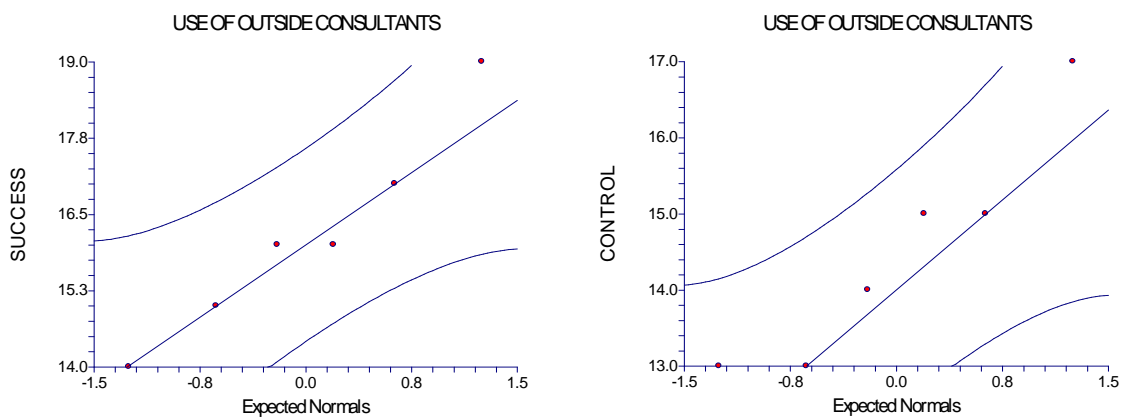
**Table 5.4.10.3 : NCSS Output : Equal-Variance T-Test**

| Alternative Hypothesis | T-Value | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|------------------------|---------|-------------------|---------------|----------------------|
| Difference $\neq 0$    | 1.7789  | 0.105612          | Accept Ho     | 0.366021             |
| Difference $< 0$       | 1.7789  | 0.947194          | Accept Ho     | 0.000461             |
| Difference $> 0$       | 1.7789  | 0.052806          | Accept Ho     | 0.504936             |

**Figure 5.4.10.1 : Box Plot  
Control versus Success companies**



**Figure 5.4.10.2 : Normal Plot  
Control versus Success companies**



**5.4.11. : CULTURAL VALUES ALIGNMENT**

**Table 5.4.11.1 : Sample Response to Cultural Values Alignment Questions**

| ITEM               | STATEMENT NUMBER | STATEMENT  | PERCENTAGE (%) |    |    |    |    | TOT |
|--------------------|------------------|--|----------------|----|----|----|----|-----|
|                    |                  |  | 1              | 2  | 3  | 4  | 5  |     |
| CV 1               | 2                | My cultural values are the same as those of most of the people who work here | 16             | 7  | 11 | 24 | 42 | 100 |
| CV 2               | 14               | My beliefs and the beliefs of others working here are very similar           | 14             | 7  | 11 | 19 | 49 | 100 |
| CV 3               | 40               | My customs and the customs of others working here are very similar           | 18             | 7  | 7  | 17 | 51 | 100 |
| CV 4               | 53               | My cultural values are compatible with the cultural values of this business  | 11             | 13 | 11 | 20 | 45 | 100 |
| MEAN               |                  |  | 15             | 9  | 10 | 20 | 47 |     |
| MEDIAN             |                  |  | 17             | 7  | 10 | 20 | 47 |     |
| STANDARD DEVIATION |                  |  | 3              | 3  | 2  | 3  | 4  |     |

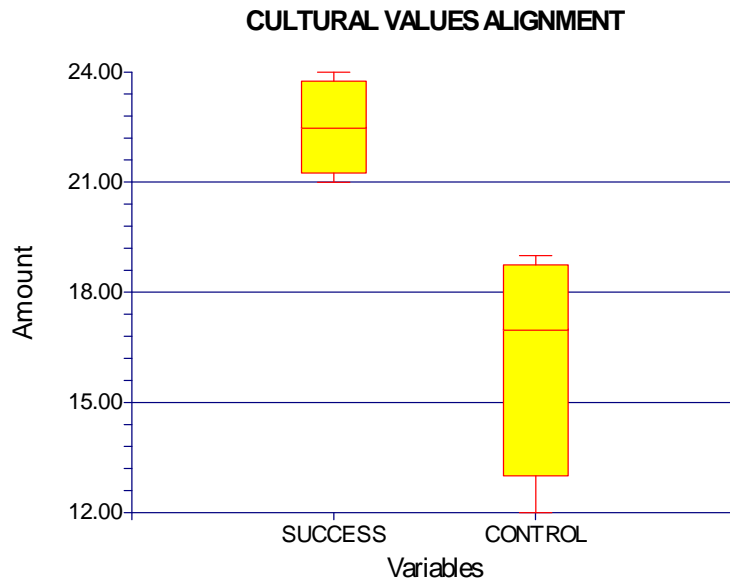
**Table 5.4.11.2 : Comparative Responses on Cultural Values Alignment**

| STATEMENT NUMBER | ABSOLUTE RESPONSES |                 | PERCENT OF CATEGORY (%) |                 |
|------------------|--------------------|-----------------|-------------------------|-----------------|
|                  | CONTROL COMPANY    | SUCCESS COMPANY | CONTROL COMPANY         | SUCCESS COMPANY |
| 2                | 12                 | 23              | 32                      | 51              |
| 14               | 19                 | 22              | 50                      | 49              |
| 40               | 18                 | 24              | 47                      | 53              |
| 53               | 16                 | 21              | 42                      | 47              |
| MEAN             | 16                 | 23              | 43                      | 50              |
| MEDIAN           | 17                 | 23              | 45                      | 50              |
| STD DEV.         | 1                  | 3               | 8                       | 3               |

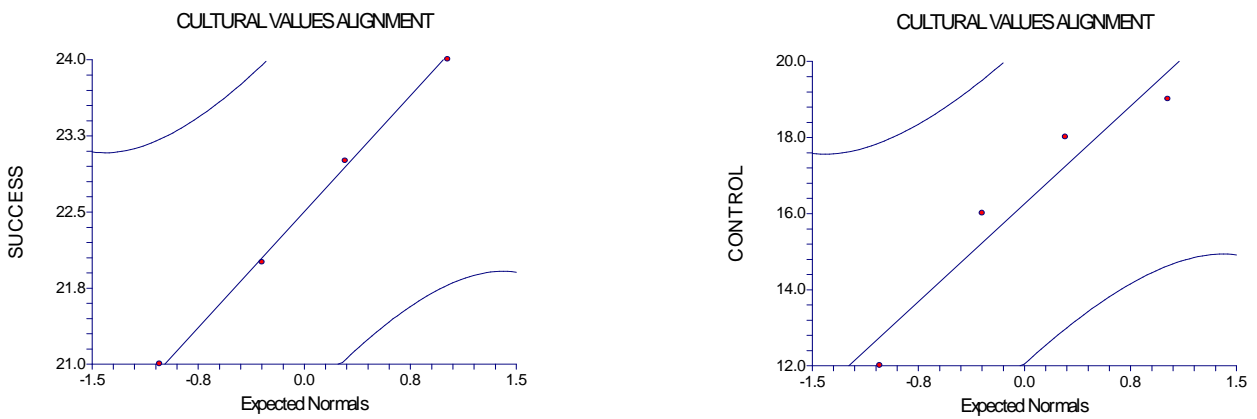
**Table 5.4.11.3 : NCSS Output : Aspin-Welch Unequal-Variance Test**

| Alternative Hypothesis | T-Value | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|------------------------|---------|-------------------|---------------|----------------------|
| Difference $\neq 0$    | 3.7268  | 0.020238          | Reject Ho     | 0.794055             |
| Difference $< 0$       | 3.7268  | 0.989881          | Accept Ho     | 0.000000             |
| Difference $> 0$       | 3.7268  | 0.010119          | Reject Ho     | 0.916638             |

**Figure 5.4.11.1 : Box Plot  
Control versus Success companies**



**Figure 5.4.11.2 : Normal Plot  
Control versus Success companies**



**5.4.12. : NEEDS ALIGNMENT**

**Table 5.4.12.1 : Sample Response to Needs Alignment Questions**

| ITEM               | STATEMENT NUMBER | STATEMENT   | PERCENTAGE (%) |   |    |    |    | TOT |
|--------------------|------------------|---|----------------|---|----|----|----|-----|
|                    |                  |   | 1              | 2 | 3  | 4  | 5  |     |
| NAL 1              | 23               | In this business, I can meet both my short term and long term needs | 11             | 5 | 7  | 16 | 61 | 100 |
| NAL 2              | 26               | My needs and the needs of this business are very similar            | 16             | 7 | 6  | 12 | 59 | 100 |
| NAL 3              | 27               | My values and the values of others working here are very similar    | 14             | 5 | 8  | 24 | 49 | 100 |
| NAL 4              | 39               | I can realise my business ambitions in this business                | 10             | 5 | 12 | 19 | 54 | 100 |
| NAL 5              | 52               | I can have a rewarding career in this business                      | 4              | 6 | 9  | 34 | 47 | 100 |
| NAL 6              | 64               | This is an exciting business to work for                            | 7              | 5 | 4  | 30 | 54 | 100 |
| NAL 7              | 72               | Working for this business is very rewarding                         | 5              | 5 | 5  | 25 | 60 | 100 |
| MEAN               |                  |   | 9              | 5 | 7  | 23 | 55 |     |
| MEDIAN             |                  |   | 10             | 5 | 7  | 24 | 54 |     |
| STANDARD DEVIATION |                  |   | 5              | 1 | 3  | 8  | 5  |     |

**Table 5.4.12.2 : Comparative Responses on Needs Alignment**

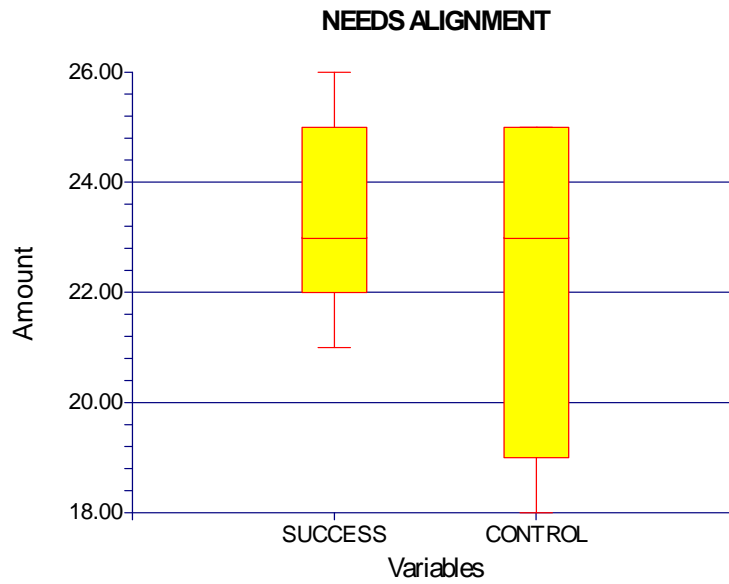
| STATEMENT NUMBER | ABSOLUTE RESPONSES |                 | PERCENT OF CATEGORY (%) |                 |
|------------------|--------------------|-----------------|-------------------------|-----------------|
|                  | CONTROL COMPANY    | SUCCESS COMPANY | CONTROL COMPANY         | SUCCESS COMPANY |
| 23               | 25                 | 25              | 66                      | 56              |
| 26               | 23                 | 26              | 61                      | 58              |
| 27               | 19                 | 22              | 50                      | 49              |
| 39               | 22                 | 23              | 58                      | 51              |
| 52               | 18                 | 21              | 47                      | 47              |
| 64               | 23                 | 22              | 61                      | 49              |
| 73               | 25                 | 25              | 66                      | 56              |
| MEAN             | 22                 | 23              | 58                      | 52              |
| MEDIAN           | 23                 | 23              | 61                      | 51              |
| STD DEV.         | 3                  | 2               | 7                       | 7               |

**Table 5.4.12.3 : NCSS Output : Aspin-Welch Unequal-Variance Test**

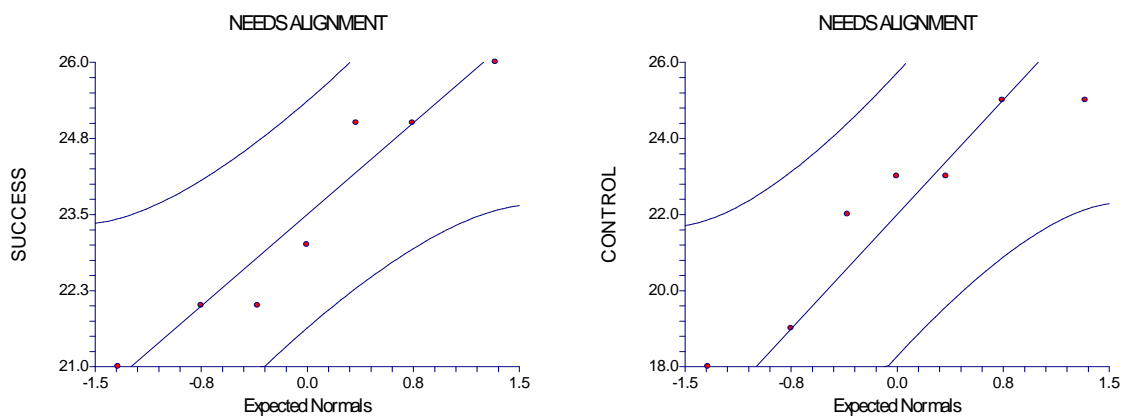
| Alternative Hypothesis | T-Value | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|------------------------|---------|-------------------|---------------|----------------------|
| Difference $\neq 0$    | 0.5799  | 0.574441          | Accept Ho     | 0.082464             |
| Difference $< 0$       | 0.5799  | 0.712779          | Accept Ho     | 0.014316             |
| Difference $> 0$       | 0.5799  | 0.287221          | Accept Ho     | 0.135162             |



**Figure 5.4.12.1 : Box Plot  
Control versus Success companies**



**Figure 5.4.12. 2 : Normal Plot  
Control versus Success companies**



**5.4.13. : FAMILY HARMONY**

**Table 5.4.13.1 : Sample Response to Family Harmony Questions**

| ITEM               | STATEMENT NUMBER | STATEMENT   | PERCENTAGE (%) |    |    |    |    | TOT |
|--------------------|------------------|---|----------------|----|----|----|----|-----|
|                    |                  |   | 1              | 2  | 3  | 4  | 5  |     |
| FH 1               | 15               | The family members in this business respect each other                                      | 17             | 8  | 5  | 19 | 51 | 100 |
| FH 2               | 28               | All family members in this business are allowed to contribute to decision making            | 22             | 7  | 9  | 25 | 37 | 100 |
| FH 3               | 31               | In this business, family members are concerned about the well being of other family members | 19             | 8  | 4  | 16 | 53 | 100 |
| FH 4               | 41               | There is hardly ever any conflict among family members in this business                     | 23             | 8  | 6  | 17 | 46 | 100 |
| FH 5               | 54               | In this business we solve potential problems among family members before they occur         | 16             | 6  | 6  | 14 | 58 | 100 |
| FH 6               | 65               | In this business, all family members support each other                                     | 19             | 13 | 10 | 17 | 41 | 100 |
| MEAN               |                  |   | 19             | 9  | 6  | 18 | 48 |     |
| MEDIAN             |                  |   | 19             | 8  | 6  | 17 | 48 |     |
| STANDARD DEVIATION |                  |   | 3              | 2  | 2  | 4  | 8  |     |

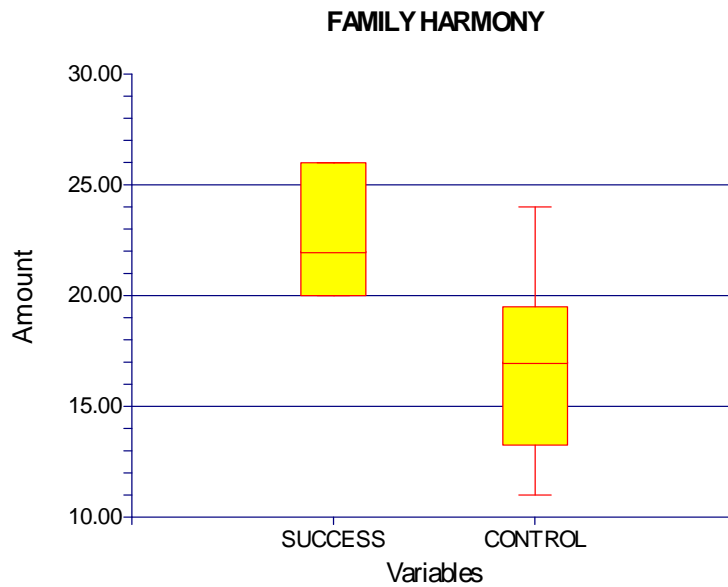
**Table 5.4.13.2 : Comparative Responses on Family Harmony**

| STATEMENT NUMBER | ABSOLUTE RESPONSES |                 | PERCENT OF CATEGORY (%) |                 |
|------------------|--------------------|-----------------|-------------------------|-----------------|
|                  | CONTROL COMPANY    | SUCCESS COMPANY | CONTROL COMPANY         | SUCCESS COMPANY |
| 15               | 16                 | 26              | 42                      | 58              |
| 28               | 11                 | 20              | 29                      | 44              |
| 31               | 18                 | 26              | 47                      | 58              |
| 41               | 18                 | 20              | 47                      | 44              |
| 54               | 24                 | 24              | 63                      | 53              |
| 65               | 14                 | 20              | 37                      | 44              |
| MEAN             | 17                 | 23              | 44                      | 50              |
| MEDIAN           | 17                 | 22              | 45                      | 49              |
| STD DEV.         | 4                  | 3               | 12                      | 7               |

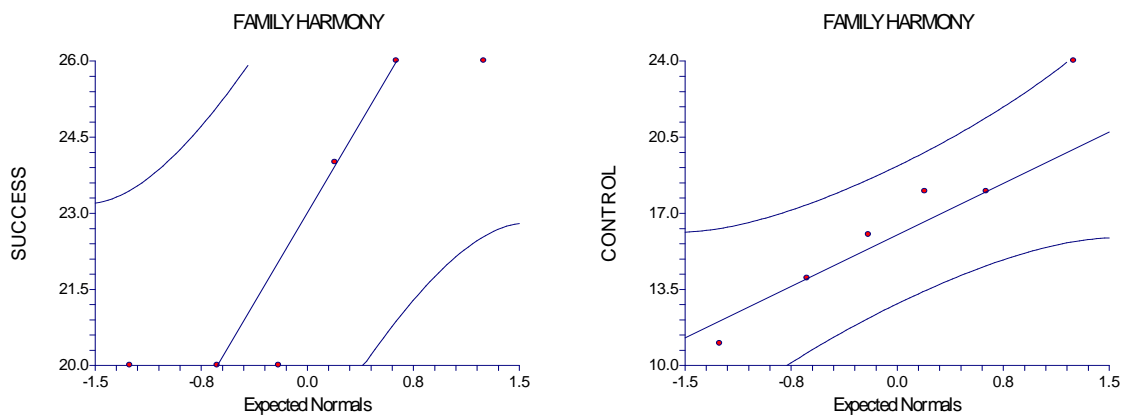
**Table 5.4.13.3 : NCSS Output : Kolmogorov – Smirnov Test**

| Alternative Hypothesis         | T-Value  | Probability Level | Decision (5%) | Power (Alpha = 0.05) |
|--------------------------------|----------|-------------------|---------------|----------------------|
| Difference $\leftrightarrow 0$ | 0.800000 | 0.07480           | Reject Ho     | 0.050                |
| Difference $< 0$               | 0.000000 | 0.07480           | Accept Ho     | 0.025                |
| Difference $> 0$               | 0.800000 | 0.07480           | Reject Ho     | 0.025                |

**Figure 5.4.13.1 : Box Plot  
Control versus Success companies**



**Figure 5.4.13. 2 : Normal Probability Plot  
Control versus Success companies**



## Chapter 6: Discussion of Results

### 6.1 : STRATEGIC PLANNING

H<sup>1</sup> There is a positive relationship between *Strategic Planning* and sustainable business profitability in successful South African Indian family businesses

The seven statements presented to respondents attempted to determine the degree to which South African Indian family businesses adopted strategic planning. The mean values from Table 5.4.1.1 indicate that 40% of respondents agreed and 32% of the respondents disagreed with the strategic planning statements.

The primary objective of this study though was to determine to what greater, lesser or equivalent extent did success companies adopt strategic planning as compared to control companies.

Table 5.4.1.2 reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 47% of the 45 success companies, and 32% of the 38 control companies agreed with the strategic planning statements.

Table 5.4.1.2, which is derived from table 5.4.1.1, also constitutes the mean 40% of the sample that agreed with the strategic planning statements. The purpose of the analysis based on the data from table 5.4.1.2 was to determine if there was any significant distinguishing pattern in the use of strategic planning

by the success companies as compared to the control companies. It is evident from the data that of the total 33 companies that agreed to the strategic planning statements, 21 (64%) of those that agreed were success companies and 12 (36%) were control companies. The conclusion is that there is a 28% higher mean agreement with the strategic planning statements by success companies as compared to control companies. This presents the first *prima facie* indication that  $H^1$  may have merit. However, it is not possible at this stage to conclude whether the 28% difference is statistically significant or whether the result will be similar if the experiment is repeated several times. This necessitates the need for a more rigorous statistical evaluation.

It is necessary to perform and interpret normality and equal variance tests prior to determining the appropriate statistical test. Review of the NCSS output on the test of assumptions indicates that both normality and equal variance cannot be ignored (appendix 3). However, the NCSS output assumptions test for normality is inaccurate for sample sizes less than 25. Hence, further assessment is necessary to determine the accuracy of the normal distribution and equal variance conclusions arrived at in NCSS.

Examination of the box plots in Figure 5.4.1.1 confirms the following:

- The success companies' median (22) is higher than the control companies' median (12)
- The success companies' mean (21) is higher than the control companies' mean (12)

- From a practical perspective, it is appropriate to assume that the median and the mean are the same for the control data set. A similar assumption may be made for the success data set
- The relevance of the assumption that the mean and median is equal for each company allows for the assumption to be made that the data is symmetrical
- A visual inspection of the box plots for the control and success companies confirms that the equal variance assumption by NCSS is valid
- The length of the success companies' box is similar to that of the control companies' box, hence verifying the original NCSS test of equal variance
- There are no outliers evident from the box plot

Examination of the normal probability plot, figure 5.4.1.2 reveals the following:

- All data points fall within the 95% confidence band
- There are 3 sets of ties for the success data and one tie for the control data  
Ties invalidate the Wilcoxon Rank-Sum test
- For the success normal probability plot of success data, 43% of the data points fall exactly on the normal line, while the remaining 57% of the data points fall slightly below the normal line. The 57% data are the tie scores and implies a normal but slightly asymmetrical data distribution
- For the normal probability plot of control data, 57% of the control data points fall on or close to the normal line, while the remaining 43% of the data points fall slightly above and below the normal line at the top and bottom of the plot.

- This suggests a data distribution with longer tails than would be expected with a perfectly normal distribution. Although not of concern in this case, long tails may cause problems with certain statistical procedures

Following an examination of the normal probability plot and the box plots, it can be concluded that the normal distribution and equal variance assumptions from the NCSS test is valid (appendix 3)

In order to determine whether the hypothesis,  $H^1$  is valid or not, appropriate null and alternative hypotheses need to be structured:

$H^{1^o}$  There is no significant difference in the strategic planning mean scores for the success South African Indian Family businesses compared with the control South African Indian Family businesses

$H^{1^a}$  The success South African Indian Family Businesses have a higher or lower strategic planning mean score than the control South African Indian Family businesses

The appropriate statistical test is the parametric Equal Variance T-test. Based on the null and alternative hypothesis statements, the two-tailed t-test is the appropriate test. Table 5.4.1.3 summarises the NCSS output for the two-tailed t-test. The conclusion is that the null hypothesis can be rejected at the 95% confidence level. The probability level indicates that there is less than 1% chance of being wrong if the null hypothesis is rejected.



Rejection of the null hypothesis implies that there is sufficient evidence to support the alternative hypothesis, hence  $H^1$  holds true at the 95% confidence level.

In previous research, Andersen and Narus (1984), Greenwald and Associates (1993) and Zinger and Mount (1993) all found little evidence of a linkage between strategic planning and business survival. On the other hand, researchers such as Poza (1989); Daily and Dollinger (1992); Rue and Ibrahim (1996); Upton, Teal and Felan (2001) and McCann (2003) all reported some correlation between strategic planning and business survival.

The results of this research concur with the findings of the latter group of researchers relating to the link between strategic planning and business profitability.

## **6.2 : GOVERNANCE STRUCTURES**

$H^2$  There is a positive relationship between *Governance Structures* and sustainable business profitability in successful South African Indian family businesses

The five statements presented to respondents attempted to determine the degree to which South African Indian family businesses adopted governance structures. The mean values from Table 5.4.2.1 indicate that 40% of

respondents agreed and 35% of the respondents disagreed with the governance structures statements.

The primary objective was to determine whether the success companies adopted governance structures to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.2.2, derived from table 5.4.1.1, reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 53% of the 45 success companies and 24% of the 38 control companies agreed with the governance structures statements.

Table 5.4.2.2 also constitutes the mean 40% of the sample that agreed with the governance structures statements. The purpose of the analysis based on this data was to determine if there was any significant distinguishing pattern in the use of governance structures by the success companies as compared to the control companies. It is evident from the data that of the total 33 companies that agreed to the governance structures statements, 24 (73%) of those that agreed were success companies and 9 (27%) were control companies. The conclusion is that there is a 46% higher mean agreement with the governance structures statements by success companies as compared to control companies. This presents the first *prima facie* indication that  $H^2$  may have merit. However, it is not possible at this stage to conclude whether the 46% difference is statistically significant or whether the result will be similar if the

experiment is repeated several times. This necessitates the need for a more rigorous statistical approach .

It is necessary to perform and interpret normality and equal variance tests prior to determining the most appropriate statistical test. Review of the NCSS output on the test of assumptions indicates that both normality and equal variance cannot be ignored (appendix 3). However, the NCSS output assumptions tests for normality are inaccurate for small sample sizes. Hence, further assessment is necessary to determine the accuracy of the normal distribution and equal variance assumptions arrived at in NCSS.

Examination of the box plots in Figure 5.4.2.1 confirms the following:

- The success companies' median (23) is significantly higher than the control companies' median (10)
- The success companies' mean (24) is higher than the control companies' mean (9)
- From a practical perspective, it is appropriate to make the assumption that median and the mean are the same for the control data set. A similar assumption may be made for the success data set
- The relevance of the assumption that the mean and median is equal for each company allows for the assumption to be made that data is symmetrical
- A visual inspection of the box plots for the control and success companies indicates that equal variance is not the case. As a reference, the Modified–Levene equal variance test is consulted and this indicates that there is a

37.2% probability of being wrong if the equal variance assumption is rejected (appendix 3)

- There are no outliers evident from the box plot

From an examination of the box plots, it is prudent to reject the equal variance assumption made by NCSS.

Examination of the normal probability plot, figure 5.4.2.2 confirms the following:

- The data distributions for both the control and success companies are approximately normal and falls within the 95% confidence band range
- There appear to be no ties in both the control and the success data sets
- For the data of success companies, 40% of the data points fit the normal distribution line exactly. Sixty percent of the data straggles to the right at the top and to the left at the bottom of the straight line. This top and bottom most points are indicative of long tails in the normal distribution, however this can be ignored as the excursion away from the straight line is minimal and should have no deleterious effect on the normal distribution
- Eighty percent of the control company data fits the normal distribution line exactly

Examination of the normal probability plots validates the normal distribution assumption from NCSS (appendix 3)

In order to determine whether the hypothesis,  $H^2$  is valid or not, an appropriate null and alternative hypothesis need to be structured :

H<sup>2o</sup> There is no significant difference in the governance structures mean scores for success South African Indian Family businesses compared with control South African Indian Family businesses

H<sup>2a</sup> The success South African Indian Family Businesses have a higher or lower governance structures mean score than the control South African Indian Family businesses

The appropriate statistical test is the Aspin-Welch Unequal-Variance test. Based on the null and alternative hypothesis, the two tailed test is the appropriate test. Table 5.4.2.3 summarises the NCSS output for the test. The decision for the two tail test is to reject the null hypothesis at the 95% confidence level. The probability level indicates that there is less than 1% chance of being wrong if the null hypothesis is rejected.

DECISION : Reject the null hypothesis and accept the alternative hypothesis

CONCLUSION : There is sufficient evidence to suggest that there is a positive relationship between *Governance Structures* and sustainable business profitability in successful South African Indian family businesses, hence the alternative hypothesis H<sup>2</sup> holds true at the 95% confidence level.

Ward (1997); Egan (1998); Neubauer and Lank (1998) and Martin (2001) claim that the existence of governance structures was essential to business longevity. Astrachan and Kolenko (994) found a positive correlation between

governance structures and organizational survival across family generations. Egan (1998, p. 3) suggests that businesses may escape the first generation without governance structures, however a void begins to show up as the business passes to the second generation. He further states that there is a correlation between businesses that survive this transition and acceptable governance structures being in place. Mustakallio and Aution (2001) state that minimal governance structures may be achieved by employing formal controls that minimize opportunism, or by the implementation of social controls that promotes social interaction and the formation of a shared vision among the various stakeholders. Jonovic (1989, p. 35) and Lansberg (1999b, p. 282–300 ) suggest that family councils can also function as boards in many small and medium sized family businesses. No literature was found that contradicted the relationship between governance structures and business survival. The findings of this exploratory research therefore support the findings of the literature.

### **6.3 : SUCCESSION PLANNING**

H<sup>3</sup> There is a positive relationship between *Succession Planning* and sustainable business profitability in successful South African Indian family businesses

The six statements presented to respondents attempted to determine the degree to which South African Indian family businesses adopted succession

planning. The mean values from Table 5.4.3.1 indicate that 40% of respondents agreed and 34% of the respondents disagreed with the succession planning statements.

The primary objective was to determine whether the success companies adopted succession planning to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.3.2, derived from table 5.4.3.1, reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 44% of the 45 success companies and 34% of the 38 control companies agreed with the succession planning statements.

Table 5.4.3.2, also constitutes the mean 40% of the sample that agreed with the succession planning statements. The purpose of the analysis based on this data was to determine if there was any significant distinguishing pattern in the use of succession planning by the success companies as compared to the control companies. It is evident from the data that of the total 33 companies that agreed to the succession planning statements, 20 (61%) of those that agreed were success companies and 13 (39%) were control companies. The conclusion is that there is a 22% higher mean agreement with the succession planning statements by success companies as compared to control companies. This presents the first quantitative *prima facie* indication that  $H^3$  may have merit. However, it is not possible at this stage to conclude whether the 22% difference

is statistically significant or whether the result will be similar if the experiment is repeated several times. Hence, there is a need for a more rigorous statistical approach.

Examination of the box plots in Figure 5.4.3.1 confirms the following:

- The success companies' median (21) is significantly higher than the control companies' median (13)
- The success companies' mean (20) is also significantly higher than the control companies' mean (13)
- From a practical perspective, it is appropriate to make the assumption that the median and the mean are the same for the control data set. A similar assumption may be made for the success data set
- The relevance of the assumption that the mean and median is equal for each company allows for the assumption to be made that the data is symmetrical
- There are no outliers evident from the box plot

Based on an examination of the box plots, it is prudent to reject the equal variance assumption made by NCSS.

Examination of the normal probability plot, figure 5.4.3.2 confirms the following:

- The data for both the control and success companies falls within the 95% confidence band range
- The distribution of the data for both the control and success companies is approximately normal



- There are two sets of ties : one for the success data set and one for the control data set
- For the data of success companies, 67% of the data points fit the normal distribution line exactly. Thirty three percent of the data falls to the right of the normal line. This implies a slightly skew distribution
- The control company data fits the normal distribution line closely

Examination of the normal probability plots validates the normal distribution assumption from NCSS (appendix 3).

In order to determine whether the hypothesis  $H^3$  is valid or not, an appropriate null and alternative hypothesis needs to be structured:

$H^{3o}$  There is no significant difference in the succession planning mean scores for success South African Indian Family businesses compared with control South African Indian Family businesses

$H^{3a}$  The success South African Indian Family Businesses have a higher or lower succession planning mean score than the control South African Indian Family businesses

The appropriate statistical test is the Aspin-Welch Unequal-Variance test. Based on the null and alternative hypothesis, the two-tailed test is the appropriate test. Table 5.4.3.3 summarises the NCSS output for the test. The decision for the two tail test is to reject the null hypothesis at the 95%

confidence level. The probability level indicates that there is less than 1% chance of being wrong if the null hypothesis is rejected.

DECISION: Reject the null hypothesis and accept the alternative hypothesis

CONCLUSION: There is sufficient evidence to suggest that there is a positive relationship between *Succession Planning* and sustainable business profitability in successful South African Indian family businesses, hence the alternative hypothesis  $H^3$  holds true at the 95% confidence level.

Handler and Kram (1988) found succession planning to be in direct conflict with the entrepreneur's need for control, power, and meaning. Rosenblatt, De Mik, Anderson and Johnson (1985) found that family business owners often resisted succession planning and that this in turn diminished the probability that the business would survive beyond the first generation, hence implying a link between succession planning and business survival. Sharma (1997, p. 239) found a positive relationship between management succession planning and satisfaction of both owner managers and successors with the succession process itself.

On the other hand, Aronoff (1998), Astrachan and Ward (1998, p. 181); Kirby and Lee (1996, p. 75); Astrachan and Kolenko (1994, p.251) found no correlation between succession planning and business longevity. Santiago (2000, p. 15) confirmed these findings in similar studies.

The findings of this exploratory research contradict the findings of the research done by Aronoff, Astrachan and Ward (1998); Kirby and Lee (1996), Astrachan and Kolenko (1994) and Santiago. This research supports the findings of Handler and Kram (1988), Rosenblatt, De Mik, Anderson and Johnson (1985) and Sharma (1997, p. 239).

#### **6.4 : SHARED VISION**

H<sup>4</sup> There is a positive relationship between *Shared Vision* and sustainable business profitability in successful South African Indian family businesses

The five statements presented to respondents attempted to determine the degree to which South African Indian family businesses adopted the vision characteristics referred to in these statements. The mean values from Table 5.4.4.1 indicate that 49% of respondents agreed and 24% of the respondents disagreed with the vision statements.

The primary objective was to determine whether the success companies adopted vision to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.4.2, derived from table 5.4.4.1, reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 46% of the 45 success

companies and 52% of the 38 control companies agreed with the vision statements.

Table 5.4.4.2, also constitutes the mean 49% of the sample that agreed with the vision statements. The purpose of the analysis based on this data was to determine if there was any significant distinguishing pattern in the use of vision by the success companies as compared to the control companies. It is evident from the data that of the total 41 companies that agreed to the vision statements, 21 (51%) of those that agreed were success companies and 20 (49%) were control companies. The conclusion is that there is a marginal 2% higher mean agreement with the vision statements by success companies as compared to control companies.

The appropriate null and alternative hypothesis is:

$H^{40}$  There is no significant difference in the vision mean scores for success South African Indian Family businesses compared with control South African Indian Family businesses

$H^{4a}$  The success South African Indian Family Businesses have a higher or lower vision mean score than the control South African Indian Family businesses

A visual examination of both the box plot and the normal probability plots do not reveal any significant outliers that could significantly have distorted the results.

No further analysis is necessary as it can be concluded at this stage that there is insufficient evidence to reject the null hypothesis. Examination of all the parametric and non-parametric tests from NCSS confirm that the null hypothesis cannot be rejected (appendix 3).

DECISION: Cannot reject the null hypothesis

CONCLUSION: There is insufficient evidence to suggest that there is a positive relationship between *Vision* and sustainable business profitability in successful South African Indian family businesses hence, the alternative hypothesis  $H^4$  is rejected, and the null hypothesis accepted at the 95% confidence level.

Dyer and Singh (1998) found that sharing a common vision reduced opportunism, increased information sharing and hence improved business longevity. Ring and Van de Ven (1994) found shared vision promotes co-operative behaviour through clarified role interactions. Uzi (1996) found that shared vision reduced the threat of opportunistic behaviour reinforced commitment to jointly agreed decisions by family members. Nahapiet and Ghoshal (1998) found a shared vision created a shared language necessary to provide a common basis for shared cognition. Although not explicitly stated, the link between shared vision and business longevity could be deduced from the research of the above researchers.

The findings of this exploratory research support the findings of the literature.

## 6.5 : ETHNIC ENTREPRENEURSHIP

H<sup>5</sup> There is a positive relationship between *Ethnic Entrepreneurship* and sustainable business profitability in successful South African Indian family businesses

The seven statements presented to respondents attempted to determine the degree to which South African Indian family businesses agreed with the ethnic entrepreneurial characteristics referred to in these statements. The mean values from Table 5.4.5.1 indicate that 44% of respondents agreed and 29% of the respondents disagreed with the ethnic entrepreneurial statements.

The primary objective was to determine whether the success companies adopted ethnic entrepreneurship to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.5.2, derived from table 5.4.5.1, reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 44% of the 45 success companies and 43% of the 38 control companies agreed with the ethnic entrepreneurial statements.

Table 5.4.5.2, also constitutes the mean 44% of the sample that agreed with the ethnic entrepreneurial statements. The purpose of the analysis based on this data was to determine if there was any significant distinguishing pattern in the

use of ethnic entrepreneurial characteristics by the success companies as compared to the control companies. It is evident from the data that of the total 35 companies that agreed to the ethnic entrepreneurial statements, 19 (54%) of those that agreed were success companies and 16 (46%) were control companies. The conclusion is that there is an 8% higher mean agreement with the ethnic entrepreneurship statements by success companies as compared to control companies. Intuitively, 8% seems to be insignificant. However, to determine whether 8% is statistically significant or not and to determine whether the result will be similar if the experiment is repeated several times, a statistical test would need to be consulted.

A review of the data from both the box plots and the normal probability plots for anomalies and significant outliers that could have influenced the result was done. The outlier identified was removed and the tests re-run. The decision of the tests was unaltered by the exclusion of the outlier.

A review of the two-tailed tests for all the parametric and non-parametric tests in NCSS confirms unanimously (appendix 3), that the null hypothesis cannot be rejected.

The appropriate null and alternative hypothesis is:

$H^{50}$  There is no significant difference in the ethnic entrepreneurship mean scores for success South African Indian Family businesses compared with control South African Indian Family businesses

H<sup>5a</sup> The success South African Indian Family Businesses have a higher or lower ethnic entrepreneurship mean score than the control South African Indian Family businesses

DECISION: Cannot reject the null hypothesis

CONCLUSION: There is insufficient evidence to suggest that there is a positive relationship between *Ethnic Entrepreneurship* and sustainable business profitability in successful South African Indian family businesses hence, the alternative hypothesis H<sup>5</sup> is rejected, and the null hypothesis accepted at the 95% confidence level.

Poutziouris (2001) states that ethnic entrepreneurship is essential for the survival and growth of the family business into the next generation. Davidson, Lindmark and Oloffson (1998) provided empirical evidence suggesting that the large majority of independent start-ups begin by being very small and remain one to three person entrepreneurial entities throughout their existence.

The findings of this exploratory research found no evidence of the direct link between ethnic entrepreneurship and the findings in the literature.



## 6.6 : COMMITMENT

H<sup>6</sup> There is a positive relationship between *Commitment* and sustainable business profitability in successful South African Indian family businesses

The six statements presented to respondents attempted to determine the degree to which South African Indian family businesses agreed with commitment characteristics referred to in these statements. The mean values from Table 5.4.6.1 indicate that 55% of respondents agreed and 15% of the respondents disagreed with the commitment statements.

The primary objective was to determine whether the success companies adopted commitment to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.6.2, derived from table 5.4.6.1, reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 55% of the 45 success companies and 56% of the 38 control companies agreed with the commitment statements.

Table 5.4.6.2 also constitutes the mean 55% of the sample that agreed with the commitment statements. The purpose of the analysis based on this data was to determine if there was any significant distinguishing pattern in the use of the

commitment characteristics by the success companies as compared to the control companies. It is evident from the data that of the total 46 companies that agreed to the commitment, 25 (54%) of those that agreed were success companies and 21(46%) were control companies. The conclusion is that there is an 8% higher mean agreement with the commitment statements by success companies as compared to control companies.

A review of the data from both the box plots and the normal probability plots for anomalies and significant outliers that could have influenced the result was done and none were found.

A review of the two-tailed tests for all the parametric and non-parametric tests in NCSS confirm unanimously (appendix 3), that the null hypothesis cannot be rejected.

The appropriate null and alternative hypothesis is:

$H^{60}$  There is no significant differences in the commitment mean scores for success South African Indian Family businesses compared with control South African Indian Family businesses

$H^{6a}$  The success South African Indian Family Businesses have a higher or lower *commitment* mean score than the control South African Indian Family businesses

DECISION: Cannot reject the null hypothesis

CONCLUSION: There is insufficient evidence to suggest that there is a positive relationship between *Commitment* and sustainable business profitability in successful South African Indian family businesses hence, the alternative hypothesis  $H^6$  is rejected, and the null hypothesis accepted at the 95% confidence level.

Researchers such as Brenic and Zabkar (1998), Buchanan (1974) investigated the affective, behavioural and emotional impacts related to commitment. No direct study of the link between commitment and business longevity was done by these researchers.

However, studies undertaken by Lansberg and Astrachan in 1994 and Sharma in 1997 attempted to examine the influence commitment had on business longevity. Both studies confirmed that commitment had a positive impact on business survival.

The findings of this exploratory research found no evidence of the link between commitment and the findings in the literature. No similar collaborating result could be found in literature regarding commitment.

## 6.7 : OPEN FAMILY COMMUNICATION

H<sup>7</sup> There is a positive relationship between *Open Family Communication* and sustainable business profitability in successful South African Indian family businesses

The four statements presented to respondents attempted to determine the degree to which South African Indian family businesses agreed with open family communication characteristics referred to in these statements. The mean values from Table 5.4.7.1 indicate that 37% of respondents agreed and 32% of the respondents disagreed with the open family communication statements.

The primary objective was to determine whether the success companies adopted open family communication to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.7.2, derived from table 5.4.7.1 reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 41% of the 45 success companies and 34% of the 38 control companies agreed with the family communication statements.

Table 5.4.7.2 also constitutes the mean 37% of the sample that agreed with the open family communication statements. The purpose of the analysis based on this data was to determine if there was any significant distinguishing pattern in

the use of open family communication characteristics by the success companies as compared to the control companies. It is evident from the data that of the total 31 companies that agreed to the open family communication statements, 18 (58%) of those that agreed were success companies and 13 (42%) were control companies. The conclusion is that success companies showed a 16% higher mean agreement with the open family communication statements as compared to control companies.

Examination of the box plots in Figure 5.4.7.1 confirms the following:

- The success companies' median (19) is appreciably higher than that of the control companies' median (13)
- The success companies' mean (18) is appreciably higher than that of the control companies' mean (13)
- However, the length of the data boxes and the extension arms indicate that the equal variance assumption from NCSS is invalid.

It is thus prudent to reject the NCSS equal variance assumption

Examination of the normal probability plot, figure 5.4.7.2 confirms the following:

- The data for both the control and success companies falls within the 95% confidence band range
- The distribution of the data for both the control and success companies is approximately normal
- There are no tied data points

- Both the success and the control company data points fit the normal distribution line very closely

Based on an examination of the normal probability plots, the assumption of the data having a normal distribution made by the NCSS program is validated.

The conclusion from the box plots and the normal probability plots is that the assumption of equal variance is rejected and the assumption of normal distribution is accepted. The appropriate statistical test for normal distribution unequal- variance is the Aspin-Welch Unequal–Variance Test Section.

The relevant null and alternative hypotheses are stated as :

$H^{7o}$  There is no significant difference in the open family communication mean scores for success South African Indian Family businesses compared with control South African Indian Family businesses

$H^{7a}$  The success South African Indian Family Businesses have a higher or lower open family communication mean score than the control South African Indian Family businesses

Based on the null and alternative hypothesis statements, the two-tailed test is the appropriate test. Table 5.4.7.3 summarises the NCSS output for the Aspin-Welch test and the conclusion is that the null hypothesis be rejected at the 95% confidence level (appendix 3). The probability level indicates that there is less

than 3.60% chance of being wrong if the null hypothesis is rejected. Since this is below the 5% threshold, it is appropriate to reject the null hypothesis.

Decision:

Reject the null hypothesis and accept the alternative hypothesis.

Conclusion:

There is sufficient evidence to suggest that there is a positive relationship between *Open Family Communication* and sustainable business profitability in successful South African Indian family businesses hence, the alternative hypothesis  $H^7$  holds true at the 95% confidence level.

Martin (2001), Neubauer (1998) and Ward (1997) found that open family communication was closely linked and an integral precondition to creating a successful family business. Martin (2001) found that open communication resulted in family members' improving their understanding of business and previous foreign concepts such as investment performance. These become more familiar subjects for family, rather than unknown distant, data. Family members then build trust, which contributes to family harmony and ultimately contributes to business survival.

The findings of this exploratory research concurred with the findings of Martin (2001), Neubauer (1998) and Ward (1997).

## 6.8 : FAMILY NETWORKS

H<sup>8</sup> There is a positive relationship between the existence of *Family Networks* and sustainable business profitability in successful South African Indian family businesses

The five statements presented to respondents attempted to determine the degree to which South African Indian family businesses agreed with family network characteristics referred to in these statements. The mean values from Table 5.4.8.1 indicate that 47% of respondents agreed and 27% of the respondents disagreed with the family network statements.

The primary objective was to determine whether the success companies adopted family network characteristics to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.8.2, derived from table 5.4.8.1 reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 57% of the 45 success companies and 35% of the 38 control companies agreed with the family networks statements.

Table 5.4.8.2 also constitutes the mean 47% of the sample that agreed with the family network statements. The purpose of the analysis based on the data from table 5.4.8.2 was to determine if there was any significant distinguishing pattern



in the use of family networks characteristics by the success companies as compared to the control companies. It is evident from the data that of the total 39 companies that agreed to the family networks statements, 26 (67%) of those that agreed were success companies and 13 (33%) were control companies. The conclusion is that there is a 34% higher mean agreement with the family networks statements by success companies as compared to control companies.

Examination of the box plots in Figure 5.4.8.1 confirms the following:

- The success companies' median (25) is twice as high as the control companies' median (12)
- The success companies' mean (26) is also almost double that of the control companies' mean (13)
- The length of the success companies' box is more than twice that of the control companies' box. This implies a wider variance for the success companies than the control companies. This is relevant in terms of cross checking it against the equal variance assumptions in NCSS
- There are no outliers evident from the box plot

Examination of the normal probability plot, figure 5.4.8.2 reveals the following:

- The distribution of the data for both the control and success companies reflects a single data point that falls outside of the 95% confidence band
- Examination of this data point for both the control and success company indicates that it is the response for the same statement 22
- The statement "I am proud to tell others that I work for this business" invited an extremely high score for both the success and control companies. A

review of the score from table 5.4.8.1 revealed that a cumulative 98% of the respondents either agreed or slightly agreed, 2% neither agreed nor disagreed, and 0% slightly disagreed or disagreed. Review of the statement possibly elicits the extreme answer, and since it is a once off, these data points that were outside the 95% confidence band were removed and the test redone (appendix 3). Both the results with and without the outlier have been included.

The conclusion from the box plots and the normal probability plots confirms the NCSS assumptions of equal variance. However, the assumption of normal distribution was first rejected when the outlier was included. Once the outlier was removed, the distribution retained its normal distribution. Thus the test run with the outlier removed has been used. Based on this the appropriate statistical test is the equal variance, normal distribution two tailed t-test.

The relevant null and alternative hypotheses may be:

$H^{80}$  There is no significant difference in the Family Networks mean scores for success South African Indian Family businesses compared with control South African Indian Family businesses

$H^{8a}$  The success South African Indian Family Businesses have a higher or lower Family Networks mean score than the control South African Indian Family businesses

Table 5.4.8.3 summarises the NCSS output for the t-test and the conclusion is that the null hypothesis be rejected at the 95% confidence level . The probability level indicates that there is less than 1% chance of being wrong if the null hypothesis is rejected. Since this is below the 5% threshold, it is appropriate to reject the null hypothesis.

Decision:

Reject the null hypothesis and accept the alternative hypothesis.

Conclusion:

Since the alternative hypothesis is true, it can be deduced that there is sufficient evidence to suggest that there is a positive relationship between *Family Networks* and sustainable business profitability in successful South African Indian family businesses. The alternative hypothesis  $H^8$  holds true at the 95% confidence level.

Godsell (1990) found that family networks were a historical pillar of strength for Indians. Networks exist as either strategic or organic networks. Godsell suggests that organic networks were a major contributor to the success of South African Family businesses and found a strong link between family networks and business survival.

The findings of this exploratory research concurred with the findings of Godsell (1980).

## 6.9 : TRUST

H<sup>9</sup> There is a positive relationship between the existence of *Trust* and sustainable business profitability in successful South African Indian family businesses

The five statements presented to respondents attempted to determine the degree to which South African Indian family businesses agreed with trust characteristics referred to in these statements. The mean values from Table 5.4.9.1 indicate that 47% of respondents agreed and 23% of the respondents disagreed with the trust statements.

The primary objective was to determine whether the success companies adopted trust to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.9.2, derived from table 5.4.9.1, reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 53% of the 45 success companies and 40% of the 38 control companies agreed with the trust statements.

Table 5.4.9.2 also constitutes the mean 47% of the sample that agreed with the trust statements. The purpose of the analysis based on the data from table 5.4.9.2 was to determine if there was any significant distinguishing pattern in the

use of trust characteristics by the success companies as compared to the control companies. It is evident from the data that of the total 39 companies that agreed to the trust statements, 24 (62%) of those that agreed were success companies and 15 (38%) were control companies. The conclusion is that there is a 24% higher mean agreement with the trust statements by success companies as compared to control companies.

Examination of the box plots in Figure 5.4.9.1 confirms the following:

- The success companies' median (24) is higher than the control companies' median (14)
- The success companies' mean (24) is higher than the control companies' mean (15)
- There is no difference in the success companies' median and mean
- The control companies' data is located in the lower quartile region
- The length of the success companies' box is about half that of the control companies' box. This implies a wider variance for the control companies' data than the control companies' data. This is relevant in terms of cross checking it against the equal variance assumptions in NCSS
- There are no outliers evident from the box plot

Examination of the normal probability plot, figure 5.4.9.2 reveals the following:

- All the data points fall within the 95% confidence band
- 80% of the success data points fit the normal curve exactly whereas 20% of the data points deviate from normality very slightly

- 40% of the control data points track the normal curve. 60% of the data points veered a slight distance from the normal curve but does not significantly deviate from normality

The conclusion from the normal probability plots confirms the assumption of normal distribution. However, the box plots rejects the NCSS assumption of equal variance.

Thus, the appropriate test for a normal distribution, un-equal variance is the Aspin-Welch Unequal – Variance t-test.

The relevant null and alternative hypotheses are:

$H^{90}$  There is no significant differences in the Trust mean scores for success South African Indian Family businesses compared with control South African Indian Family businesses

$H^{9a}$  The success South African Indian Family Businesses have a higher or lower Trust mean score than the control South African Indian Family businesses

Table 5.4.9.3 summarises the NCSS output for the Aspin-Welch test and the conclusion is that the null hypothesis be rejected at the 95% confidence level .

The probability level indicates that there is less than 1% chance of being wrong

if the null hypothesis is rejected. Since this is below the 5% threshold, the conclusion is that the null hypothesis can be rejected.

Decision:

Reject the null hypothesis and accept the alternative hypothesis.

Conclusion:

Since the null hypothesis is rejected, it can be deduced that there is sufficient evidence to suggest that there is a positive relationship between *Trust* and sustainable business profitability in successful South African Indian family businesses. The alternative hypothesis  $H^9$  thus holds true at the 95% confidence level.

Johnson and Cullen (2002), Arrow (1974) and Steier (2001), and all inferred indirectly a positive relationship between trust and business survival. On the other hand, Mayer, Davis and Schoorman (1995) found a direct link between the existence of trust and business longevity.

The findings of this exploratory research concurred with the findings of the above authors.

## 6.10 : USE OF OUTSIDE EXPERTS :

H<sup>10</sup> There is a positive relationship between the *Use of Outside Experts* and sustainable business profitability in successful South African Indian family businesses

The six statements presented to respondents attempted to determine the degree to which South African Indian family businesses agreed with the use of outside experts referred to in these statements. The mean values from Table 5.4.10.1 indicate that there was a tie (37%) between the proportion of respondents that agreed and disagreed.

The primary objective was to determine whether the success companies adopted use of outside experts to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.10.2, derived from table 5.4.10.1 reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 36% of the 45 success companies and 38% of the 38 control companies agreed with the use of outside experts' statements.

Table 5.4.10.2, which is derived from table 5.4.10.1, also constitutes the mean 37% of the sample that agreed with the use of outside experts' statements. The purpose of the analysis based on the data from table 5.4.10.2 was to determine



if there was any significant distinguishing pattern in the use of outside experts by the success companies as compared to the control companies. It is evident from the data that of the total 31 companies that agreed to the use of outside experts statements, 16 (52%) of those that agreed were success companies and 15 (48%) were control companies. The conclusion is that there is a 4% higher mean agreement with the use of outside experts' statements by success companies as compared to control companies.

It is intuitively recognised that 4% is insignificant of a difference to reject the null hypothesis.

Examination of the box plots in Figure 5.4.10.1 confirms the following:

A visual examination reveals that the boxes are of the same size and the equal variance assumption by NCSS is validated

Examination of all the parametric and non-parametric tests indicates that the null hypothesis cannot be rejected.

The relevant null and alternative hypotheses are stated as:

$H^{10o}$  There is no significant difference in the use of outside experts' means scores for success South African Indian Family businesses compared with control South African Indian Family businesses

H<sup>10a</sup> The success South African Indian Family Businesses have a higher or lower use of outside experts' mean score than the control South African Indian Family businesses

Decision:

Cannot reject the null hypothesis

Conclusion:

Since the null hypothesis cannot be rejected, it can be deduced that there is insufficient evidence to suggest that there is a positive relationship between the *Use of Outside Experts* and sustainable business profitability in successful South African Indian family businesses. The alternative hypothesis H<sup>10</sup> is thus rejected at the 95% confidence level.

#### **6.11 : CULTURAL VALUES ALIGNMENT :**

H<sup>11</sup> There is a positive relationship between *Cultural Values Alignment* and sustainable business profitability in successful South African Indian family businesses

The four statements presented to respondents attempted to determine the degree to which South African Indian family businesses agreed with the cultural values alignment statements. The mean values from Table 5.4.11.1 indicate that 47% of the respondents agreed and 15% disagreed with the cultural values alignment statements.

The primary objective was to determine whether the success companies adopted cultural values alignment to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.11.2, derived from Table 5.4.11.1, reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 50% of the 45 success companies and 43% of the 38 control companies agreed with the cultural values alignment statements.

Table 5.4.11.2 also constitutes the mean 47% of the sample that agreed with the cultural values alignment statements. The purpose of the analysis based on this data was to determine if there was any significant distinguishing pattern in the cultural values alignment characteristics by the success companies as compared to the control companies. It is evident from the data that of the total 39 companies that agreed to the cultural values statements, 23 (59%) of those that agreed were success companies and 16 (41%) were control companies. The conclusion is that there is a 18% higher mean agreement with cultural values alignment statements by success companies as compared to control companies.

Examination of the box plots in Figure 5.4.10.1 confirms the following:

- The success companies' median (23) is higher than the control companies' median (17)

- The success companies' mean (23) is higher than the control companies' mean (16)
- There is no difference in the success companies' median and mean
- There is only a marginal difference in the control companies' median and mean, however it is so small that for practical purposes, it may be assumed that they are equal
- The length of the success companies' box is less than half that of the control companies' box. This implies a significantly wider variance for the control companies' data than the control companies' data. This is relevant in terms of cross checking it against the equal variance assumptions in NCSS
- There are no outliers evident from the box plot

From a brief examination of the box plot, it is concluded that the equal variance assumption by NCSS is rejected.

Examination of the normal probability plot, figure 5.4.11.2 reveals the following:

- Both the data points for the success company and the control company all fall within the 95% confidence band
- 100% of the success data points fit the normal curve exactly
- The control companies data points straggle the normal line, however deviate very slightly from normal distribution

The normal distribution assumption by NCSS is validated

The conclusion from a review of the box plots and the normal probability plots confirms the assumption of normal distribution but rejects the assumption of equal variance.

Thus, the appropriate statistical test for a normal distribution, unequal variance is the Aspin - Welch test.

The relevant null and alternative hypotheses are stated as:

$H^{11o}$  There is no significant differences in the cultural values alignment mean scores for success South African Indian Family businesses compared with control South African Indian Family businesses

$H^{11a}$  The success South African Indian Family Businesses have a higher or lower cultural values mean score than the control South African Indian Family businesses

Table 5.4.11.3 summarises the NCSS output for the unequal variance Aspin-Welch test and the conclusion is that the null hypothesis be rejected. At the 95% confidence level, the probability level indicates that there is less than 2% chance of being wrong if the null hypothesis is rejected. Since this is significantly below the 5% threshold, the conclusion is that the null hypothesis be rejected which means that the alternative hypothesis is true.

Decision:

Reject the null hypothesis and accept the alternative hypothesis.

Conclusion:

Since the null hypothesis is rejected, it can be deduced that there is sufficient evidence to suggest that there is a positive relationship between *Cultural Values Alignment* and sustainable business profitability in successful South African Indian family businesses. The alternative hypothesis H<sup>11</sup> thus holds true at the 95% confidence level.

Researchers such as Gopalkrishnan and Shapiro (2000) found that ethnic entrepreneurs are so intricately connected to family and community sources of support, that the cultural factors impede the clarity of purpose of the entrepreneur rather than review margins.

Other researchers such as Muske (2002) states that in family businesses, governance receives the family imprinting and becomes a synthesis (sometimes a compromise) between the family values and the business rule. Cultural values assist promote business survival.

The findings of this exploratory research concurred with the findings of the researchers such as Muske.

## 6.12 : NEEDS ALIGNMENT

H<sup>12</sup> There is a positive relationship between *Needs Alignment* and sustainable business profitability in successful South African Indian family businesses

The seven statements presented to respondents attempted to determine the degree to which South African Indian family businesses agreed with needs alignment statements. The mean values from Table 5.4.12.1 indicate that 55% of the respondents agreed and 9% disagreed with the needs alignment statements.

The primary objective was to determine whether the success companies adopted needs alignment to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.12.2, derived from Table 5.4.12.1 reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 52% of the 45 success companies and 58% of the 38 control companies agreed with the needs alignment statements.

Table 5.4.12.2 also constitutes the mean 55% of the sample that agreed with the needs alignment statements. The purpose of the analysis based on this data was to determine if there was any significant distinguishing pattern in the

needs alignment characteristics by the success companies as compared to the control companies. It is evident from the data that of the total 45 companies that agreed to the needs alignment statements, 23 (51%) of those that agreed were success companies and 22 (49%) were control companies. The conclusion is that there is marginal 2% higher mean agreement with needs alignment statements by success companies as compared to control companies.

It is evident from the marginal difference of 2% that the null hypothesis cannot be rejected, hence no further evaluation statistical evaluation is necessary:

The null and alternative hypotheses are:

$H^{12o}$  There is no significant differences in the needs alignment mean scores for success South African Indian Family businesses compared with control South African Indian Family businesses

$H^{12a}$  The success South African Indian Family Businesses have a higher or lower needs alignment mean score than the control South African Indian Family businesses

All the parametric and non – parametric tests converge on the same result ie Accept the null hypothesis.



Decision :

Accept the null hypothesis and reject the alternative hypothesis

Conclusion :

Since the null hypothesis cannot be rejected, it can be deduced that there is insufficient evidence to suggest that there is a positive relationship between the *Needs Alignment* and sustainable business profitability in successful South African Indian family businesses. The alternative hypothesis  $H^{12}$  is thus invalid at the 95% confidence level.

Needs Alignment and cultural values alignment is mentioned as though interchangeable concepts. The same authors such as Gopalkrishnan and Shapiro (2000) found similar connectivity between individual's needs alignment and business longevity.

The findings of this exploratory research found no collaboration between its findings and those of the above authors.

### 6.13 : FAMILY HARMONY

H<sup>13</sup> There is a positive relationship between *Family Harmony* and sustainable business profitability in successful South African Indian family businesses

The six statements presented to respondents attempted to determine the degree to which South African Indian family businesses agreed with family harmony statements. The mean values from Table 5.4.13.1 indicate that 48% of the respondents agreed and 19% disagreed with the needs alignment statements.

The primary objective was to determine whether the success companies adopted family harmony to a greater, lesser or equivalent extent when compared to the control companies.

Table 5.4.13.2 reflects two sets of information. It indicates that from a total of 45 success companies and 38 control companies constituting the total sample of 83 companies, 50% of the 45 success companies and 44% of the 38 control companies agreed with the family harmony statements.

Table 5.4.13.2, which is derived from table 5.4.13.1, also constitutes the mean 50% of the sample that agreed with the family harmony statements. The purpose of the analysis based on the data from table 5.4.13.2 was to determine if there was any significant distinguishing pattern in the family harmony characteristics by the success companies as compared to the control

companies. It is evident from the data that of the total 40 companies that agreed to the family harmony statements, 23 (58%) of those that agreed were success companies and 17(42%) were control companies. The conclusion is that there is 16% higher mean agreement with family harmony statements by success companies as compared to control companies.

Examination of the box plots in Figure 5.4.13.1 confirms the following:

- The success companies' median (22) is higher than the control companies' median (17)
- The success companies' mean (23) is higher than the control companies' mean (17)
- The length of the success companies' box is similar to that of the control companies' box, implying that the inter quartile regions are approximately the same for both sets of data
- The spread of the control data is much wider than the success data , as indicated by the extension of the vertical lines to the top and bottom of the box
- It can thus be assumed that the two sets of data do not have equal variance
- There are no outliers evident from the box plot

The NCSS assumption of equal variance is rejected

Examination of the normal probability plot, figure 5.4.13.2 reveals the following:

- The majority of the data points for the success companies' and the control companies' data fall within the 95% confidence band

- The one apparent outlier on the control data set corresponds to statement 54 which states “In this business we solve problems among family members before they occur” . Removal of this data point did not change the NCSS result but brought all points back within the 95% confidence level
- The outlier is a legitimate point and instead of removing it, rather a non – parametric statistical method used
- For the success companies' data, 50% of the success data points fit the normal curve exactly. The remaining 50% of the data points straggle the normal line to the right and left. This is mainly due to the tied values
- There are 2 groups of ties for the success data and one set of tied data for the control set

The normal distribution assumption by NCSS is invalidated

The conclusion from a review of the box plots and the normal probability plots is to reject both the normal distribution assumption as well as the equal variance assumption.

Thus, the appropriate statistical test for a non-normal distribution, Unequal - Variance is the Kolmogorov-Smirnov test.

The relevant null and alternative hypothesis are stated as:

$H^{130}$  There is no significant difference in the family harmony mean scores for success South African Indian Family businesses compared with control South African Indian Family businesses

H<sup>13a</sup> The success South African Indian Family Businesses have a higher or lower family harmony mean score than the control South African Indian Family businesses

Table 5.4.13.3 summarises the NCSS output for the non-normal, unequal - variance, Kolmogorov-Smirnov test. The relevant test statistic is the Dmn Criterion Value, which is 0.800000 for the two tailed test. The test criteria is that the null hypothesis is rejected if the Dmn is > 0.7490. In this case it is the case, hence at the 95% confidence level, the null hypothesis is rejected

Decision:

Reject the null hypothesis and accept the alternative hypothesis

Conclusion:

Since the null hypothesis is rejected, it can be deduced that there is sufficient evidence to suggest that there is a positive relationship between *Family Harmony* and sustainable business profitability in successful South African Indian family businesses. The alternative hypothesis H<sup>13</sup> thus holds true at the 95% confidence level.

Researchers such as Malone (1989), Lansberg and Astrachan (1994), Sharma (1997) , Venter (2002) and Adendorff (2005) found positive correlations between family harmony and business success.

The findings of this exploratory research concurred with the findings of the above researchers.

## Chapter 7 : Conclusion

**Table 7.1: Summary Results of the Hypotheses tested in this study**

|                 | <b>CONSTRUCT</b>                 | <b>HYPOTHESIS</b>  | <b>RESULT</b>   |
|-----------------|----------------------------------|--|-----------------|
| H <sup>1</sup>  | <b>Strategic Planning</b>        | There is a positive relationship between <i>Strategic Planning</i> and sustainable business profitability in successful South African Indian family businesses         | <b>Accepted</b> |
| H <sup>2</sup>  | <b>Governance Structures</b>     | There is a positive relationship between <i>Governance Structures</i> and sustainable business profitability in successful South African Indian family businesses      | <b>Accepted</b> |
| H <sup>3</sup>  | <b>Succession Planning</b>       | There is a positive relationship between <i>Succession Planning</i> and sustainable business profitability in successful South African Indian family businesses        | <b>Accepted</b> |
| H <sup>4</sup>  | <b>Shared Vision</b>             | There is a positive relationship between <i>Shared Vision</i> and sustainable business profitability in successful South African Indian family businesses              | <b>Rejected</b> |
| H <sup>5</sup>  | <b>Ethnic Entrepreneurship</b>   | There is a positive relationship between <i>Ethnic Entrepreneurship</i> and sustainable business profitability in successful South African Indian family businesses    | <b>Rejected</b> |
| H <sup>6</sup>  | <b>Commitment</b>                | There is a positive relationship between <i>Commitment</i> and sustainable business profitability in successful South African Indian family businesses                 | <b>Rejected</b> |
| H <sup>7</sup>  | <b>Open Family Communication</b> | There is a positive relationship between <i>Open Family Communication</i> and sustainable business profitability in successful South African Indian family businesses  | <b>Accepted</b> |
| H <sup>8</sup>  | <b>Family Networks</b>           | There is a positive relationship between <i>Family Networks</i> and sustainable business profitability in successful South African Indian family businesses            | <b>Accepted</b> |
| H <sup>9</sup>  | <b>Trust</b>                     | There is a positive relationship between <i>Trust</i> and sustainable business profitability in successful South African Indian family businesses                      | <b>Accepted</b> |
| H <sup>10</sup> | <b>Use of Outside Experts</b>    | There is a positive relationship between the <i>Use of Outside Experts</i> and sustainable business profitability in successful South African Indian family businesses | <b>Rejected</b> |
| H <sup>11</sup> | <b>Cultural Values Alignment</b> | There is a positive relationship between <i>Cultural Values Alignment</i> and sustainable business profitability in successful South African Indian family businesses  | <b>Accepted</b> |
| H <sup>12</sup> | <b>Needs Alignment</b>           | There is a positive relationship between <i>Needs Alignment</i> and sustainable business profitability in successful South African Indian family businesses            | <b>Rejected</b> |
| H <sup>13</sup> | <b>Family Harmony</b>            | There is a positive relationship between <i>Family Harmony</i> and sustainable business profitability in successful South African Indian family businesses             | <b>Accepted</b> |

The objective of this study was to:

- identify those factors which literature identified as being key contributors to family business survival
- determine to what extent these factors identified as being applicable at an international level, were being adopted locally by profitable South African Indian Family Businesses
- from this, determine which factors were adopted to a greater extent by the success companies in comparison to the control companies.

From the literature survey, thirteen factors were identified as being the key factors that contributed to family business survival. The proportion of respondents that agreed with the statements, dominated all of the thirteen factors. The conclusion is that an average of 45% of South African Indian Family businesses agree that they adopt all of the thirteen factors identified from literature in their businesses to some extent. However, 25% of businesses disagreed with the use of these factors in their businesses. Approximately 7% of respondents were ambivalent in their responses, choosing neither to agree nor to disagree with the statements.

This information in itself is limited in value as all it really confirms is that all thirteen factors are adopted on average by 45% of South African Indian Family Businesses. It tells us what is common to these businesses. What is common is of limited value as all it does is that it adds on to the list of other good management practices already adopted by these businesses. It cannot be concluded that if a business did not adopt any one or more of these contributing

factors, that such a business would be less successful than it currently is. Also the weighted contribution of each factor in the overall matrix is not determinable from this data.

Rather than confirm what the common factors are, of greater value would be to determine what the distinguishing factors are. For example, if strategic planning was adopted to a statistically significant extent by success companies as compared to control companies, then it would be possible to conclude that there was a positive relationship between strategic planning and business profitability.

Hypothesis testing was used as the statistical basis to determine this. Of the thirteen factors, only eight of these factors were statistically proven to be used to a greater extent by success companies as compared to control companies, as summarized in table 7.1. The isolation of these distinguishing factors from the common factors has the following implications:

- Provides a gap analysis for control companies
- Reinforces the actions of success companies by informing them which of the factors they are currently adopting that require continued and sustained effort, in order for them to continue on their greater than 20% NOPAT trajectory
- Informs currently un-profitable South African Indian Family businesses what factors they need to adopt in order to move them on to a path of sustained profitability, as is being adopted by the success companies



## Recommendations:

1. This research provides a general basis for future study in the area of family owned businesses. More specifically, it provides a substantive body of knowledge on South African Indian family owned businesses.
2. This study, although especially focused on South African Indian owned family businesses, has application and benefit for family businesses of any ethnic origin.
3. Any person, whether of ethnic origin or not, considering starting a family business could draw on the experience of South African Indian family businesses in order to implement the factors found to resiliently contribute to family business survival.
4. Current under-performing family businesses could review the differentiating factors to prioritize the sequence in which they adopt practices identified to sustain business performance.
5. Although all thirteen contributing factors need to be in place, greater focus has to be placed on the eight factors that were proven to have a positive relation with business profitability, as summarised in table 7.1.
6. This scope of future research should be extended to include:
  - a. The interaction between independent variables
  - b. The weighted impact of each factor on business performance
7. The theory from which the questionnaire for this study was drawn on is similar to that used by Adendorff (2005). Adendorff (2005) studied the role of perceived good governance amongst South African Greek family businesses. An interesting comparative study would be to compare South African Indian and Greek family businesses.

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## 1. STRATEGIC PLANNING

### Two-Sample Test Report

**Ho :** There is no significant difference in the STRATEGIC PLANNING mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower STRATEGIC PLANNING mean score than the control South African Indian Family businesses

#### Tests of Assumptions Section

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (Success_)       | 0.0000 |             |                               |
| Kurtosis Normality (Success_)       |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (Success_)        |        |             |                               |
| Skewness Normality (Control_)       | 0.0000 |             |                               |
| Kurtosis Normality (Control_)       |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (Control_)        |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 1.0382 | 0.964896    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 0.0000 | 1.000000    | Cannot reject equal variances |

#### Descriptive Statistics Section

| Variable | Count | Mean     | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|----------|--------------------|----------------|-----------------|-----------------|
| Success_ | 7     | 21.28572 | 2.497618           | 0.9440109      | 18.9758         | 23.59562        |
| Control_ | 7     | 12.14286 | 2.544836           | 0.9618576      | 9.789276        | 14.49644        |

Note: T-alpha (Success\_) = 2.4469, T-alpha (Control\_) = 2.4469

#### Confidence-Limits of Difference Section

| Variance Assumption | DF    | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|-------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 12    | 9.142858        | 2.521338           | 1.347712       | 6.206446        | 12.07927        |
| Unequal             | 12.00 | 9.142858        | 3.56571            | 1.347712       | 6.206332        | 12.07938        |

Note: T-alpha (Equal) = 2.1788, T-alpha (Unequal) = 2.1789

#### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 6.7840  | 0.000019   | Reject Ho     | 0.999988          | 0.999268          |
| Difference < 0         | 6.7840  | 0.999990   | Accept Ho     | 0.000000          | 0.000000          |
| Difference > 0         | 6.7840  | 0.000010   | Reject Ho     | 0.999999          | 0.999848          |

Difference: (Success\_)-(Control\_)

## 1. STRATEGIC PLANNING ( Continued )

### Two-Sample Test Report

**Ho :** There is no significant difference in the STRATEGIC PLANNING mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower STRATEGIC PLANNING mean score than the control South African Indian Family businesses

#### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 6.7840  | 0.000020   | Reject Ho     | 0.999988          | 0.999267          |
| Difference < 0         | 6.7840  | 0.999990   | Accept Ho     | 0.000000          | 0.000000          |
| Difference > 0         | 6.7840  | 0.000010   | Reject Ho     | 0.999999          | 0.999848          |

Difference: (Success\_)-(Control\_)

#### Median Statistics

| Variable | Count | Median | 95% LCL of Median | 95% UCL of Median |
|----------|-------|--------|-------------------|-------------------|
| Success_ | 7     | 22     | 17                | 24                |
| Control_ | 7     | 12     | 8                 | 16                |

#### Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians

| Variable | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|----------|----------------|-------------|-----------|--------------|
| Success_ | 49             | 77          | 52.5      | 7.791761     |
| Control_ | 0              | 28          | 52.5      | 7.791761     |

Number Sets of Ties = 4, Multiplicity Factor = 24

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            |               | Approximation With Correction |            |               |
|------------------------|-------------------|---------------|----------------------------------|------------|---------------|-------------------------------|------------|---------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%) | Z-Value                       | Prob Level | Decision (5%) |
| Diff<>0                |                   |               | 3.1443                           | 0.001665   | Reject Ho     | 3.0802                        | 0.002069   | Reject Ho     |
| Diff<0                 |                   |               | 3.1443                           | 0.999168   | Accept Ho     | 3.2085                        | 0.999333   | Accept Ho     |
| Diff>0                 |                   |               | 3.1443                           | 0.000832   | Reject Ho     | 3.0802                        | 0.001034   | Reject Ho     |

#### Kolmogorov-Smirnov Test For Different Distributions

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 1.000000            | 0.6556                    | .050             | Reject Ho             | 0.0006     |
| D(1)<D(2)              | 0.000000            | 0.6556                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 1.000000            | 0.6556                    | .025             | Reject Ho             |            |



## 2. GOVERNANCE STRUCTURES Two-Sample Test Report

**Ho :** There is no significant difference in the governance structures mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower governance structures mean score than the control South African Indian Family businesses

### Tests of Assumptions Section

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (SUCCESS)        | 0.0000 |             |                               |
| Kurtosis Normality (SUCCESS)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (SUCCESS)         |        |             |                               |
| Skewness Normality (CONTROL)        | 0.0000 |             |                               |
| Kurtosis Normality (CONTROL)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (CONTROL)         |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 2.6706 | 0.364446    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 0.8909 | 0.372860    | Cannot reject equal variances |

### Descriptive Statistics Section

| Variable | Count | Mean | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|------|--------------------|----------------|-----------------|-----------------|
| SUCCESS  | 5     | 24   | 2.915476           | 1.303841       | 20.37996        | 27.62004        |
| CONTROL  | 5     | 9.2  | 4.764452           | 2.130728       | 3.284152        | 15.11585        |

Note: T-alpha (SUCCESS) = 2.7764, T-alpha (CONTROL) = 2.7764

### Confidence-Limits of Difference Section

| Variance Assumption | DF   | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 8    | 14.8            | 3.949683           | 2.497999       | 9.039603        | 20.5604         |
| Unequal             | 6.63 | 14.8            | 5.585696           | 2.497999       | 8.825145        | 20.77485        |

Note: T-alpha (Equal) = 2.3060, T-alpha (Unequal) = 2.3919

### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 5.9247  | 0.000352   | Reject Ho     | 0.999217          | 0.978620          |
| Difference < 0         | 5.9247  | 0.999824   | Accept Ho     | 0.000000          | 0.000000          |
| Difference > 0         | 5.9247  | 0.000176   | Reject Ho     | 0.999896          | 0.993693          |

Difference: (SUCCESS)-(CONTROL)

### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 5.9247  | 0.000717   | Reject Ho     | 0.998578          | 0.960843          |
| Difference < 0         | 5.9247  | 0.999642   | Accept Ho     | 0.000000          | 0.000000          |
| Difference > 0         | 5.9247  | 0.000358   | Reject Ho     | 0.999827          | 0.988167          |

Difference: (SUCCESS)-(CONTROL)



2. GOVERNANCE STRUCTURES  
Two-Sample Test Report

**Ho :** There is no significant difference in the governance structures mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower governance structures mean score than the control South African Indian Family businesses

**Median Statistics**

| Variable | Count | Median | 95% LCL of Median | 95% UCL of Median |
|----------|-------|--------|-------------------|-------------------|
| SUCCESS  | 5     | 23     |                   |                   |
| CONTROL  | 5     | 10     |                   |                   |

**Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians**

| Variable | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|----------|----------------|-------------|-----------|--------------|
| SUCCESS  | 25             | 40          | 27.5      | 4.787136     |
| CONTROL  | 0              | 15          | 27.5      | 4.787136     |

Number Sets of Ties = 0, Multiplicity Factor = 0

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            |               | Approximation With Correction |            |               |
|------------------------|-------------------|---------------|----------------------------------|------------|---------------|-------------------------------|------------|---------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%) | Z-Value                       | Prob Level | Decision (5%) |
| Diff<=>0               | 0.007937          | Reject Ho     | 2.6112                           | 0.009023   | Reject Ho     | 2.5067                        | 0.012186   | Reject Ho     |
| Diff<0                 | 0.996032          | Accept Ho     | 2.6112                           | 0.995488   | Accept Ho     | 2.7156                        | 0.996692   | Accept Ho     |
| Diff>0                 | 0.003968          | Reject Ho     | 2.6112                           | 0.004512   | Reject Ho     | 2.5067                        | 0.006093   | Reject Ho     |

**Kolmogorov-Smirnov Test For Different Distributions**

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<=>D(2)            | 1.000000            | 0.7490                    | .050             | Reject Ho             | 0.0079     |
| D(1)<D(2)              | 0.000000            | 0.7490                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 1.000000            | 0.7490                    | .025             | Reject Ho             |            |



## APPENDIX C

### 3. SUCCESSION PLANNING

#### Two-Sample Test Report

**Ho :** There is no significant difference in the Succession Planning mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha:** Success South African Indian Family businesses have a higher or lower Succession Planning mean score than the control South African Indian Family businesses

#### Tests of Assumptions Section

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (SUCCESS)        | 0.0000 |             |                               |
| Kurtosis Normality (SUCCESS)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (SUCCESS)         |        |             |                               |
| Skewness Normality (CONTROL)        | 0.0000 |             |                               |
| Kurtosis Normality (CONTROL)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (CONTROL)         |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 2.6000 | 0.317744    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 0.8989 | 0.365431    | Cannot reject equal variances |

#### Descriptive Statistics Section

| Variable | Count | Mean | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|------|--------------------|----------------|-----------------|-----------------|
| SUCCESS  | 6     | 20   | 2.280351           | 0.9309493      | 17.60692        | 22.39308        |
| CONTROL  | 6     | 13   | 1.414214           | 0.5773503      | 11.51587        | 14.48413        |

Note: T-alpha (SUCCESS) = 2.5706, T-alpha (CONTROL) = 2.5706

#### Confidence-Limits of Difference Section

| Variance Assumption | DF   | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 10   | 7               | 1.897367           | 1.095445       | 4.559196        | 9.440804        |
| Unequal             | 8.35 | 7               | 2.683282           | 1.095445       | 4.492237        | 9.507763        |

Note: T-alpha (Equal) = 2.2281, T-alpha (Unequal) = 2.2893

#### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 6.3901  | 0.000079   | Reject Ho     | 0.999908          | 0.996085          |
| Difference < 0         | 6.3901  | 0.999960   | Accept Ho     | 0.000000          | 0.000000          |
| Difference > 0         | 6.3901  | 0.000040   | Reject Ho     | 0.999990          | 0.999055          |

Difference: (SUCCESS)-(CONTROL)



### 3. SUCCESSION PLANNING ( Continued )

#### Two-Sample Test Report

**Ho :** There is no significant difference in the Succession Planning mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha:** Success South African Indian Family businesses have a higher or lower Succession Planning mean score than the control South African Indian Family businesses

#### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 6.3901  | 0.000176   | Reject Ho     | 0.999837          | 0.992428          |
| Difference < 0         | 6.3901  | 0.999912   | Accept Ho     | 0.000000          | 0.000000          |
| Difference > 0         | 6.3901  | 0.000088   | Reject Ho     | 0.999983          | 0.998191          |

Difference: (SUCCESS)-(CONTROL)

#### Median Statistics

| Variable | Count | Median | 95% LCL of Median | 95% UCL of Median |
|----------|-------|--------|-------------------|-------------------|
| SUCCESS  | 6     | 20.5   | 16                | 22                |
| CONTROL  | 6     | 13     | 11                | 15                |

#### Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians

| Variable | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|----------|----------------|-------------|-----------|--------------|
| SUCCESS  | 36             | 57          | 39        | 6.223124     |
| CONTROL  | 0              | 21          | 39        | 6.223124     |

Number Sets of Ties = 2, Multiplicity Factor = 12

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            | Approximation With Correction |            |               |           |
|------------------------|-------------------|---------------|----------------------------------|------------|-------------------------------|------------|---------------|-----------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%)                 | Prob Level | Decision (5%) |           |
| Diff<>0                |                   |               | 2.8924                           | 0.003823   | Reject Ho                     | 2.8121     | 0.004922      | Reject Ho |
| Diff<0                 |                   |               | 2.8924                           | 0.998089   | Accept Ho                     | 2.9728     | 0.998524      | Accept Ho |
| Diff>0                 |                   |               | 2.8924                           | 0.001911   | Reject Ho                     | 2.8121     | 0.002461      | Reject Ho |

#### Kolmogorov-Smirnov Test For Different Distributions

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 1.000000            | 0.6980                    | .050             | Reject Ho             | 0.0022     |
| D(1)<D(2)              | 0.000000            | 0.6980                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 1.000000            | 0.6980                    | .025             | Reject Ho             |            |



## 4. VISION

### Two-Sample Test Report

**Ho :** There is no significant difference in the vision mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower vision mean score than the control South African Indian Family businesses

#### Descriptive Statistics Section

| Variable | Count | Mean | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|------|--------------------|----------------|-----------------|-----------------|
| SUCCESS  | 5     | 20.8 | 7.395945           | 3.307567       | 11.61672        | 29.98328        |
| CONTROL  | 5     | 19.8 | 6.220932           | 2.782086       | 12.07569        | 27.52431        |

Note: T-alpha (SUCCESS) = 2.7764, T-alpha (CONTROL) = 2.7764

#### Confidence-Limits of Difference Section

| Variance Assumption | DF   | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 8    | 1               | 6.83374            | 4.322037       | -8.966634       | 10.96663        |
| Unequal             | 7.77 | 1               | 9.664368           | 4.322037       | -9.017775       | 11.01777        |

Note: T-alpha (Equal) = 2.3060, T-alpha (Unequal) = 2.3178

#### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 0.2314  | 0.822834   | Accept Ho     | 0.054830          | 0.011346          |
| Difference < 0         | 0.2314  | 0.588583   | Accept Ho     | 0.031606          | 0.005813          |
| Difference > 0         | 0.2314  | 0.411417   | Accept Ho     | 0.076028          | 0.016582          |

Difference: (SUCCESS)-(CONTROL)

#### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 0.2314  | 0.823000   | Accept Ho     | 0.054796          | 0.011331          |
| Difference < 0         | 0.2314  | 0.588500   | Accept Ho     | 0.031643          | 0.005827          |
| Difference > 0         | 0.2314  | 0.411500   | Accept Ho     | 0.075953          | 0.016545          |

Difference: (SUCCESS)-(CONTROL)

#### Tests of Assumptions Section

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (SUCCESS)        | 0.0000 |             |                               |
| Kurtosis Normality (SUCCESS)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (SUCCESS)         |        |             |                               |
| Skewness Normality (CONTROL)        | 0.0000 |             |                               |
| Kurtosis Normality (CONTROL)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (CONTROL)         |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 1.4134 | 0.745554    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 0.0159 | 0.902850    | Cannot reject equal variances |



#### 4. VISION

##### Two-Sample Test Report

**Ho :** There is no significant difference in the vision mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower vision mean score than the control South African Indian Family businesses

##### Median Statistics

| Variable | Count | Median | 95% LCL of Median | 95% UCL of Median |
|----------|-------|--------|-------------------|-------------------|
| SUCCESS  | 5     | 18     |                   |                   |
| CONTROL  | 5     | 17     |                   |                   |

##### Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians

| Variable | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|----------|----------------|-------------|-----------|--------------|
| SUCCESS  | 13.5           | 28.5        | 27.5      | 4.772607     |
| CONTROL  | 11.5           | 26.5        | 27.5      | 4.772607     |

Number Sets of Ties = 1, Multiplicity Factor = 6

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            |               | Approximation With Correction |            |               |
|------------------------|-------------------|---------------|----------------------------------|------------|---------------|-------------------------------|------------|---------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%) | Z-Value                       | Prob Level | Decision (5%) |
| Diff<>0                |                   |               | 0.2095                           | 0.834035   | Accept Ho     | 0.1048                        | 0.916563   | Accept Ho     |
| Diff<0                 |                   |               | 0.2095                           | 0.582982   | Accept Ho     | 0.3143                        | 0.623351   | Accept Ho     |
| Diff>0                 |                   |               | 0.2095                           | 0.417018   | Accept Ho     | 0.1048                        | 0.458281   | Accept Ho     |

##### Kolmogorov-Smirnov Test For Different Distributions

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 0.200000            | 0.7490                    | .050             | Accept Ho             | 1.0000     |
| D(1)<D(2)              | 0.200000            | 0.7490                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 0.200000            | 0.7490                    | .025             | Accept Ho             |            |



## 5. ETHNIC ENTREPRENEURSHIP

### Two-Sample Test Report

**Ho :** There is no significant difference in the **ETHNIC ENTREPRENEURSHIP** mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower **ETHNIC ENTREPRENEURSHIP** mean score than the control South African Indian Family businesses

#### Descriptive Statistics Section

| Variable | Count | Mean     | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|----------|--------------------|----------------|-----------------|-----------------|
| SUCCESS  | 7     | 19.42857 | 3.690399           | 1.39484        | 16.01552        | 22.84162        |
| CONTROL  | 7     | 16.28572 | 3.093773           | 1.169336       | 13.42445        | 19.14698        |

Note: T-alpha (SUCCESS) = 2.4469, T-alpha (CONTROL) = 2.4469

#### Confidence-Limits of Difference Section

| Variance Assumption | DF    | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|-------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 12    | 3.142857        | 3.405178           | 1.820144       | -0.8228965      | 7.108611        |
| Unequal             | 11.65 | 3.142857        | 4.815649           | 1.820144       | -0.8363371      | 7.122051        |

Note: T-alpha (Equal) = 2.1788, T-alpha (Unequal) = 2.1862

#### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 1.7267  | 0.109847   | Accept Ho     | 0.355602          | 0.140659          |
| Difference < 0         | 1.7267  | 0.945076   | Accept Ho     | 0.000518          | 0.000052          |
| Difference > 0         | 1.7267  | 0.054924   | Accept Ho     | 0.493470          | 0.214998          |

Difference: (SUCCESS)-(CONTROL)

#### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 1.7267  | 0.110622   | Accept Ho     | 0.354064          | 0.139200          |
| Difference < 0         | 1.7267  | 0.944689   | Accept Ho     | 0.000522          | 0.000053          |
| Difference > 0         | 1.7267  | 0.055311   | Accept Ho     | 0.492271          | 0.213377          |

Difference: (SUCCESS)-(CONTROL)

#### Tests of Assumptions Section

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (SUCCESS)        | 0.0000 |             |                               |
| Kurtosis Normality (SUCCESS)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (SUCCESS)         |        |             |                               |
| Skewness Normality (CONTROL)        | 0.0000 |             |                               |
| Kurtosis Normality (CONTROL)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (CONTROL)         |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 1.4229 | 0.679327    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 0.1745 | 0.683482    | Cannot reject equal variances |



**APPENDIX C**

**5. ETHNIC ENTREPRENEURSHIP**

**Two-Sample Test Report**

**Ho :** There is no significant difference in the **ETHNIC ENTREPRENEURSHIP** mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower **ETHNIC ENTREPRENEURSHIP** mean score than the control South African Indian Family businesses

**Median Statistics**

| Variable | Count | Median | 95% LCL of Median | 95% UCL of Median |
|----------|-------|--------|-------------------|-------------------|
| SUCCESS  | 7     | 19     | 14                | 26                |
| CONTROL  | 7     | 17     | 10                | 20                |

**Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians**

| Variable | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|----------|----------------|-------------|-----------|--------------|
| SUCCESS  | 37.5           | 65.5        | 52.5      | 7.765803     |
| CONTROL  | 11.5           | 39.5        | 52.5      | 7.765803     |

Number Sets of Ties = 4, Multiplicity Factor = 42

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            |               | Approximation With Correction |            |               |
|------------------------|-------------------|---------------|----------------------------------|------------|---------------|-------------------------------|------------|---------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%) | Z-Value                       | Prob Level | Decision (5%) |
| Diff<>0                |                   |               | 1.6740                           | 0.094129   | Accept Ho     | 1.6096                        | 0.107481   | Accept Ho     |
| Diff<0                 |                   |               | 1.6740                           | 0.952935   | Accept Ho     | 1.7384                        | 0.958929   | Accept Ho     |
| Diff>0                 |                   |               | 1.6740                           | 0.047065   | Reject Ho     | 1.6096                        | 0.053740   | Accept Ho     |

**Kolmogorov-Smirnov Test For Different Distributions**

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 0.571429            | 0.6556                    | .050             | Accept Ho             | 0.2121     |
| D(1)<D(2)              | 0.000000            | 0.6556                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 0.571429            | 0.6556                    | .025             | Accept Ho             |            |



## 6. COMMITMENT

### Two-Sample Test Report

**Ho :** There is no significant difference in the COMMITMENT mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower COMMITMENT mean score than the control South African Indian Family businesses

#### Tests of Assumptions Section

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (SUCCESS)        | 0.0000 |             |                               |
| Kurtosis Normality (SUCCESS)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (SUCCESS)         |        |             |                               |
| Skewness Normality (CONTROL)        | 0.0000 |             |                               |
| Kurtosis Normality (CONTROL)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (CONTROL)         |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 1.2244 | 0.829612    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 0.0530 | 0.822558    | Cannot reject equal variances |

#### Descriptive Statistics Section

| Variable | Count | Mean     | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|----------|--------------------|----------------|-----------------|-----------------|
| SUCCESS  | 6     | 24.66667 | 5.955389           | 2.431278       | 18.41687        | 30.91647        |
| CONTROL  | 6     | 21.16667 | 5.382069           | 2.197221       | 15.51853        | 26.8148         |

Note: T-alpha (SUCCESS) = 2.5706, T-alpha (CONTROL) = 2.5706

#### Confidence-Limits of Difference Section

| Variance Assumption | DF   | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 10   | 3.5             | 5.675973           | 3.277025       | -3.801665       | 10.80167        |
| Unequal             | 9.90 | 3.5             | 8.027038           | 3.277025       | -3.81175        | 10.81175        |

Note: T-alpha (Equal) = 2.2281, T-alpha (Unequal) = 2.2312

#### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 1.0680  | 0.310606   | Accept Ho     | 0.162335          | 0.047555          |
| Difference < 0         | 1.0680  | 0.844697   | Accept Ho     | 0.004082          | 0.000542          |
| Difference > 0         | 1.0680  | 0.155303   | Accept Ho     | 0.258321          | 0.081522          |

Difference: (SUCCESS)-(CONTROL)



## 6. COMMITMENT ( Continued )

### Two-Sample Test Report

**Ho :** There is no significant difference in the COMMITMENT mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower COMMITMENT mean score than the control South African Indian Family businesses

#### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%)    | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|------------------|-------------------|-------------------|
| Difference <> 0        | 1.0680  | 0.310854   | Accept Ho        | 0.162101          | 0.047407          |
| Difference < 0         | 1.0680  | 0.844573   | Accept Ho        | 0.004090          | 0.000544          |
| Difference > 0         | 1.0680  | 0.155427   | <b>Accept Ho</b> | 0.258088          | 0.081327          |

Difference: (SUCCESS)-(CONTROL)

#### Median Statistics

| Variable | Count | Median | 95% LCL of Median | 95% UCL of Median |
|----------|-------|--------|-------------------|-------------------|
| SUCCESS  | 6     | 27     | 15                | 31                |
| CONTROL  | 6     | 22     | 14                | 27                |

#### Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians

| Variable | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|----------|----------------|-------------|-----------|--------------|
| SUCCESS  | 26.5           | 47.5        | 39        | 6.190168     |
| CONTROL  | 9.5            | 30.5        | 39        | 6.190168     |

Number Sets of Ties = 2, Multiplicity Factor = 30

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            |               | Approximation With Correction |            |                  |
|------------------------|-------------------|---------------|----------------------------------|------------|---------------|-------------------------------|------------|------------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%) | Z-Value                       | Prob Level | Decision (5%)    |
| Diff<>0                |                   |               | 1.3731                           | 0.169707   | Accept Ho     | 1.2924                        | 0.196228   | Accept Ho        |
| Diff<0                 |                   |               | 1.3731                           | 0.915146   | Accept Ho     | 1.4539                        | 0.927016   | Accept Ho        |
| Diff>0                 |                   |               | 1.3731                           | 0.084854   | Accept Ho     | 1.2924                        | 0.098114   | <b>Accept Ho</b> |

#### Kolmogorov-Smirnov Test For Different Distributions

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 0.500000            | 0.6980                    | .050             | Accept Ho             | 0.4740     |
| D(1)<D(2)              | 0.000000            | 0.6980                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 0.500000            | 0.6980                    | .025             | <b>Accept Ho</b>      |            |



## 7. OPEN FAMILY COMMUNICATION

### Two-Sample Test Report

**Ho :** There is no significant difference in the OPEN FAMILY COMMUNICATION mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower OPEN FAMILY COMMUNICATION mean score than the control South African Indian Family businesses

#### Tests of Assumptions Section

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (SUCCESS)        | 0.0000 | 1.000000    | Cannot reject normality       |
| Kurtosis Normality (SUCCESS)        |        |             |                               |
| Omnibus Normality (SUCCESS)         |        |             |                               |
| Skewness Normality (CONTROL)        | 0.0000 | 1.000000    | Cannot reject normality       |
| Kurtosis Normality (CONTROL)        |        |             |                               |
| Omnibus Normality (CONTROL)         |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 3.7429 | 0.307067    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 0.7742 | 0.412773    | Cannot reject equal variances |

#### Descriptive Statistics Section

| Variable | Count | Mean  | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|-------|--------------------|----------------|-----------------|-----------------|
| SUCCESS  | 4     | 18.25 | 3.304038           | 1.652019       | 12.99254        | 23.50746        |
| CONTROL  | 4     | 12.75 | 1.707825           | 0.8539126      | 10.03247        | 15.46753        |

Note: T-alpha (SUCCESS) = 3.1824, T-alpha (CONTROL) = 3.1824

#### Confidence-Limits of Difference Section

| Variance Assumption | DF   | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 6    | 5.5             | 2.629956           | 1.859659       | 0.9495772       | 10.05042        |
| Unequal             | 4.50 | 5.5             | 3.719319           | 1.859659       | 0.5539188       | 10.44608        |

Note: T-alpha (Equal) = 2.4469, T-alpha (Unequal) = 2.6597

#### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 2.9575  | 0.025364   | Reject Ho     | 0.694702          | 0.345876          |
| Difference < 0         | 2.9575  | 0.987318   | Accept Ho     | 0.000007          | 0.000001          |
| Difference > 0         | 2.9575  | 0.012682   | Reject Ho     | 0.831250          | 0.489139          |

Difference: (SUCCESS)-(CONTROL)

#### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 2.9575  | 0.036022   | Reject Ho     | 0.636680          | 0.269326          |
| Difference < 0         | 2.9575  | 0.981989   | Accept Ho     | 0.000010          | 0.000001          |
| Difference > 0         | 2.9575  | 0.018011   | Reject Ho     | 0.798657          | 0.410999          |

Difference: (SUCCESS)-(CONTROL)



## 7. OPEN FAMILY COMMUNICATION (Continued )

### Two-Sample Test Report

**Ho :** There is no significant difference in the OPEN FAMILY COMMUNICATION mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower OPEN FAMILY COMMUNICATION mean score than the control South African Indian Family businesses

#### Median Statistics

| Variable | Count | Median | 95% LCL of Median | 95% UCL of Median |
|----------|-------|--------|-------------------|-------------------|
| SUCCESS  | 4     | 18.5   |                   |                   |
| CONTROL  | 4     | 12.5   |                   |                   |

#### Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians

| Variable | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|----------|----------------|-------------|-----------|--------------|
| SUCCESS  | 15             | 25          | 18        | 3.464102     |
| CONTROL  | 1              | 11          | 18        | 3.464102     |

Number Sets of Ties = 0, Multiplicity Factor = 0

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            |               | Approximation With Correction |            |               |
|------------------------|-------------------|---------------|----------------------------------|------------|---------------|-------------------------------|------------|---------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%) | Z-Value                       | Prob Level | Decision (5%) |
| Diff<>0                | 0.057143          | Accept Ho     | 2.0207                           | 0.043308   | Reject Ho     | 1.8764                        | 0.060602   | Accept Ho     |
| Diff<0                 | 0.971429          | Accept Ho     | 2.0207                           | 0.978346   | Accept Ho     | 2.1651                        | 0.984809   | Accept Ho     |
| Diff>0                 | 0.028571          | Reject Ho     | 2.0207                           | 0.021654   | Reject Ho     | 1.8764                        | 0.030301   | Reject Ho     |

#### Kolmogorov-Smirnov Test For Different Distributions

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 0.750000            | 0.8117                    | .050             | Accept Ho             | 0.2286     |
| D(1)<D(2)              | 0.000000            | 0.8117                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 0.750000            | 0.8117                    | .025             | Accept Ho             |            |



**Descriptive Statistics Section**

| Variable | Count | Mean | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|------|--------------------|----------------|-----------------|-----------------|
| SUCCESS  | 5     | 25.8 | 7.293833           | 3.261901       | 16.74351        | 34.85649        |
| CONTROL  | 5     | 13.2 | 5.01996            | 2.244994       | 6.966896        | 19.4331         |

Note: T-alpha (SUCCESS) = 2.7764, T-alpha (CONTROL) = 2.7764

**Confidence-Limits of Difference Section**

| Variance Assumption | DF   | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 8    | 12.6            | 6.26099            | 3.959798       | 3.468689        | 21.73131        |
| Unequal             | 7.10 | 12.6            | 8.854378           | 3.959798       | 3.261927        | 21.93807        |

Note: T-alpha (Equal) = 2.3060, T-alpha (Unequal) = 2.3582

**Equal-Variance T-Test Section**

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 3.1820  | 0.012959   | Reject Ho     | 0.795398          | 0.482995          |
| Difference < 0         | 3.1820  | 0.993521   | Accept Ho     | 0.000002          | 0.000000          |
| Difference > 0         | 3.1820  | 0.006479   | Reject Ho     | 0.894855          | 0.622823          |

Difference: (SUCCESS)-(CONTROL)

**Aspin-Welch Unequal-Variance Test Section**

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 3.1820  | 0.015173   | Reject Ho     | 0.780537          | 0.452377          |
| Difference < 0         | 3.1820  | 0.992414   | Accept Ho     | 0.000002          | 0.000000          |
| Difference > 0         | 3.1820  | 0.007586   | Reject Ho     | 0.887801          | 0.597129          |

Difference: (SUCCESS)-(CONTROL)

**Tests of Assumptions Section**

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (SUCCESS)        | 0.0000 |             |                               |
| Kurtosis Normality (SUCCESS)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (SUCCESS)         |        |             |                               |
| Skewness Normality (CONTROL)        | 0.0000 |             |                               |
| Kurtosis Normality (CONTROL)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (CONTROL)         |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 2.1111 | 0.487063    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 0.4717 | 0.511620    | Cannot reject equal variances |



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**Median Statistics**

| Variable | Count | Median | 95% LCL of Median | 95% UCL of Median |
|----------|-------|--------|-------------------|-------------------|
| SUCCESS  | 5     | 25     |                   |                   |
| CONTROL  | 5     | 12     |                   |                   |

**Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians**

| Variable | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|----------|----------------|-------------|-----------|--------------|
| SUCCESS  | 24             | 39          | 27.5      | 4.758034     |
| CONTROL  | 1              | 16          | 27.5      | 4.758034     |

Number Sets of Ties = 2, Multiplicity Factor = 12

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            | Approximation With Correction |         |            |               |
|------------------------|-------------------|---------------|----------------------------------|------------|-------------------------------|---------|------------|---------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%)                 | Z-Value | Prob Level | Decision (5%) |
| Diff<>0                |                   |               | 2.4170                           | 0.015651   | Reject Ho                     | 2.3119  | 0.020784   | Reject Ho     |
| Diff<0                 |                   |               | 2.4170                           | 0.992175   | Accept Ho                     | 2.5220  | 0.994166   | Accept Ho     |
| Diff>0                 |                   |               | 2.4170                           | 0.007825   | Reject Ho                     | 2.3119  | 0.010392   | Reject Ho     |

**Kolmogorov-Smirnov Test For Different Distributions**

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 0.800000            | 0.7490                    | .050             | Reject Ho             | 0.0794     |
| D(1)<D(2)              | 0.000000            | 0.7490                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 0.800000            | 0.7490                    | .025             | Reject Ho             |            |

**Plots Section**



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## 9. TRUST

### Two-Sample Test Report

**Ho :** There is no significant difference in the TRUST mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower TRUST mean score than the control South African Indian Family businesses

#### Descriptive Statistics Section

| Variable | Count | Mean | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|------|--------------------|----------------|-----------------|-----------------|
| SUCCESS  | 5     | 23.8 | 1.923538           | 0.8602325      | 21.41161        | 26.18839        |
| CONTROL  | 5     | 15.2 | 3.114482           | 1.392839       | 11.33286        | 19.06714        |

Note: T-alpha (SUCCESS) = 2.7764, T-alpha (CONTROL) = 2.7764

#### Confidence-Limits of Difference Section

| Variance Assumption | DF   | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 8    | 8.6             | 2.588436           | 1.637071       | 4.824909        | 12.37509        |
| Unequal             | 6.66 | 8.6             | 3.660601           | 1.637071       | 4.689016        | 12.51098        |

Note: T-alpha (Equal) = 2.3060, T-alpha (Unequal) = 2.3890

#### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 5.2533  | 0.000771   | Reject Ho     | 0.995271          | 0.936729          |
| Difference < 0         | 5.2533  | 0.999615   | Accept Ho     | 0.000000          | 0.000000          |
| Difference > 0         | 5.2533  | 0.000385   | Reject Ho     | 0.999067          | 0.975425          |

Difference: (SUCCESS)-(CONTROL)

#### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 5.2533  | 0.001381   | Reject Ho     | 0.992788          | 0.904251          |
| Difference < 0         | 5.2533  | 0.999310   | Accept Ho     | 0.000000          | 0.000000          |
| Difference > 0         | 5.2533  | 0.000690   | Reject Ho     | 0.998656          | 0.961947          |

Difference: (SUCCESS)-(CONTROL)

#### Tests of Assumptions Section

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (SUCCESS)        | 0.0000 |             |                               |
| Kurtosis Normality (SUCCESS)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (SUCCESS)         |        |             |                               |
| Skewness Normality (CONTROL)        | 0.0000 |             |                               |
| Kurtosis Normality (CONTROL)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (CONTROL)         |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 2.6216 | 0.373244    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 0.8929 | 0.372364    | Cannot reject equal variances |



**APPENDIX C**

**9. TRUST ( Continued )**

**Two-Sample Test Report**

**Ho :** There is no significant difference in the TRUST mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower TRUST mean score than the control South African Indian Family businesses

**Median Statistics**

| Variable | Count | Median | 95% LCL of Median | 95% UCL of Median |
|----------|-------|--------|-------------------|-------------------|
| SUCCESS  | 5     | 24     |                   |                   |
| CONTROL  | 5     | 14     |                   |                   |

**Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians**

| Variable | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|----------|----------------|-------------|-----------|--------------|
| SUCCESS  | 25             | 40          | 27.5      | 4.787136     |
| CONTROL  | 0              | 15          | 27.5      | 4.787136     |

Number Sets of Ties = 0, Multiplicity Factor = 0

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            |               | Approximation With Correction |            |               |
|------------------------|-------------------|---------------|----------------------------------|------------|---------------|-------------------------------|------------|---------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%) | Z-Value                       | Prob Level | Decision (5%) |
| Diff<>0                | 0.007937          | Reject Ho     | 2.6112                           | 0.009023   | Reject Ho     | 2.5067                        | 0.012186   | Reject Ho     |
| Diff<0                 | 0.996032          | Accept Ho     | 2.6112                           | 0.995488   | Accept Ho     | 2.7156                        | 0.996692   | Accept Ho     |
| Diff>0                 | 0.003968          | Reject Ho     | 2.6112                           | 0.004512   | Reject Ho     | 2.5067                        | 0.006093   | Reject Ho     |

**Kolmogorov-Smirnov Test For Different Distributions**

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 1.000000            | 0.7490                    | .050             | Reject Ho             | 0.0079     |
| D(1)<D(2)              | 0.000000            | 0.7490                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 1.000000            | 0.7490                    | .025             | Reject Ho             |            |



## 10. USE OF OUTSIDE CONSULTANTS

### Two-Sample Test Report

**Ho :** There is no significant difference in the USE OF OUTSIDE CONSULTANTS mean scores for success south African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower USE OF OUTSIDE CONSULTANTS mean score than the control South African Indian Family businesses

#### Descriptive Statistics Section

| Variable | Count | Mean     | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|----------|--------------------|----------------|-----------------|-----------------|
| SUCCESS  | 6     | 16.16667 | 1.722401           | 0.7031674      | 14.35912        | 17.97422        |
| CONTROL  | 6     | 14.5     | 1.516575           | 0.6191392      | 12.90845        | 16.09155        |

Note: T-alpha (SUCCESS) = 2.5706, T-alpha (CONTROL) = 2.5706

#### Confidence-Limits of Difference Section

| Variance Assumption | DF   | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 10   | 1.666667        | 1.622755           | 0.9368979      | -0.4208721      | 3.754205        |
| Unequal             | 9.84 | 1.666667        | 2.294922           | 0.9368979      | -0.4254149      | 3.758748        |

Note: T-alpha (Equal) = 2.2281, T-alpha (Unequal) = 2.2330

#### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%)    | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|------------------|-------------------|-------------------|
| Difference <> 0        | 1.7789  | 0.105612   | Accept Ho        | 0.363021          | 0.140872          |
| Difference < 0         | 1.7789  | 0.947194   | Accept Ho        | 0.000461          | 0.000048          |
| Difference > 0         | 1.7789  | 0.052806   | <b>Accept Ho</b> | 0.504936          | 0.217568          |

Difference: (SUCCESS)-(CONTROL)

#### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%)    | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|------------------|-------------------|-------------------|
| Difference <> 0        | 1.7789  | 0.106096   | Accept Ho        | 0.362018          | 0.139943          |
| Difference < 0         | 1.7789  | 0.946952   | Accept Ho        | 0.000464          | 0.000049          |
| Difference > 0         | 1.7789  | 0.053048   | <b>Accept Ho</b> | 0.504154          | 0.216522          |

Difference: (SUCCESS)-(CONTROL)

#### Tests of Assumptions Section

| Assumption                          | Value  | Probability | Decision(5%)                         |
|-------------------------------------|--------|-------------|--------------------------------------|
| Skewness Normality (SUCCESS)        | 0.0000 |             |                                      |
| Kurtosis Normality (SUCCESS)        |        | 1.000000    | <b>Cannot reject normality</b>       |
| Omnibus Normality (SUCCESS)         |        |             |                                      |
| Skewness Normality (CONTROL)        | 0.0000 |             |                                      |
| Kurtosis Normality (CONTROL)        |        | 1.000000    | <b>Cannot reject normality</b>       |
| Omnibus Normality (CONTROL)         |        |             |                                      |
| Variance-Ratio Equal-Variance Test  | 1.2899 | 0.786825    | <b>Cannot reject equal variances</b> |
| Modified-Levene Equal-Variance Test | 0.0000 | 1.000000    | <b>Cannot reject equal variances</b> |

## 10. USE OF OUTSIDE CONSULTANTS ( Continued )

### Two-Sample Test Report

**Ho :** There is no significant difference in the USE OF OUTSIDE CONSULTANTS mean scores for success south African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower USE OF OUTSIDE CONSULTANTS mean score than the control South African Indian Family businesses

| Median Statistics |       |        | 95% LCL   | 95% UCL   |
|-------------------|-------|--------|-----------|-----------|
| Variable          | Count | Median | of Median | of Median |
| SUCCESS           | 6     | 16     | 14        | 19        |
| CONTROL           | 6     | 14.5   | 13        | 17        |

#### Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians

| Variable | Mann<br>Whitney U | W<br>Sum Ranks | Mean<br>of W | Std Dev<br>of W |
|----------|-------------------|----------------|--------------|-----------------|
| SUCCESS  | 28                | 49             | 39           | 6.157036        |
| CONTROL  | 8                 | 29             | 39           | 6.157036        |

Number Sets of Ties = 5, Multiplicity Factor = 48

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            | Approximation With Correction |         |            |                  |
|------------------------|-------------------|---------------|----------------------------------|------------|-------------------------------|---------|------------|------------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%)                 | Z-Value | Prob Level | Decision (5%)    |
| Diff<>0                |                   |               | 1.6242                           | 0.104342   | Accept Ho                     | 1.5430  | 0.122843   | Accept Ho        |
| Diff<0                 |                   |               | 1.6242                           | 0.947829   | Accept Ho                     | 1.7054  | 0.955937   | Accept Ho        |
| Diff>0                 |                   |               | 1.6242                           | 0.052171   | Accept Ho                     | 1.5430  | 0.061421   | <b>Accept Ho</b> |

#### Kolmogorov-Smirnov Test For Different Distributions

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 0.500000            | 0.6980                    | .050             | Accept Ho             | 0.4740     |
| D(1)<D(2)              | 0.000000            | 0.6980                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 0.500000            | 0.6980                    | .025             | <b>Accept Ho</b>      |            |





## 11. CULTURAL VALUES ALIGNMENT

### Two-Sample Test Report

**Ho :** There is no significant difference in the **CULTURAL VALUES ALIGNMENT** mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower **CULTURAL VALUES ALIGNMENT** mean score than the control South African Indian Family businesses

#### Descriptive Statistics Section

| Variable | Count | Mean  | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|-------|--------------------|----------------|-----------------|-----------------|
| SUCCESS  | 4     | 22.5  | 1.290994           | 0.6454972      | 20.44574        | 24.55426        |
| CONTROL  | 4     | 16.25 | 3.095696           | 1.547848       | 11.32406        | 21.17594        |

Note: T-alpha (SUCCESS) = 3.1824, T-alpha (CONTROL) = 3.1824

#### Confidence-Limits of Difference Section

| Variance Assumption | DF   | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 6    | 6.25            | 2.371708           | 1.677051       | 2.146404        | 10.3536         |
| Unequal             | 4.01 | 6.25            | 3.354102           | 1.677051       | 1.599632        | 10.90037        |

Note: T-alpha (Equal) = 2.4469, T-alpha (Unequal) = 2.7729

#### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 3.7268  | 0.009774   | Reject Ho     | 0.871212          | 0.554613          |
| Difference < 0         | 3.7268  | 0.995113   | Accept Ho     | 0.000000          | 0.000000          |
| Difference > 0         | 3.7268  | 0.004887   | Reject Ho     | 0.947758          | 0.706545          |

Difference: (SUCCESS)-(CONTROL)

#### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 3.7268  | 0.020238   | Reject Ho     | 0.794055          | 0.390177          |
| Difference < 0         | 3.7268  | 0.989881   | Accept Ho     | 0.000000          | 0.000000          |
| Difference > 0         | 3.7268  | 0.010119   | Reject Ho     | 0.916638          | 0.564534          |

Difference: (SUCCESS)-(CONTROL)



**APPENDIX C**

**11. CULTURAL VALUES ALIGNMENT**

**Two-Sample Test Report**

**Ho :** There is no significant difference in the **CULTURAL VALUES ALIGNMENT** mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower **CULTURAL VALUES ALIGNMENT** mean score than the control South African Indian Family businesses

**Tests of Assumptions Section**

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (SUCCESS)        | 0.0000 |             |                               |
| Kurtosis Normality (SUCCESS)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (SUCCESS)         |        |             |                               |
| Skewness Normality (CONTROL)        | 0.0000 |             |                               |
| Kurtosis Normality (CONTROL)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (CONTROL)         |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 5.7500 | 0.184761    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 1.5957 | 0.253374    | Cannot reject equal variances |

**Median Statistics**

| Variable | Count | Median | 95% LCL of Median | 95% UCL of Median |
|----------|-------|--------|-------------------|-------------------|
| SUCCESS  | 4     | 22.5   |                   |                   |
| CONTROL  | 4     | 17     |                   |                   |

**Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians**

| Variable | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|----------|----------------|-------------|-----------|--------------|
| SUCCESS  | 16             | 26          | 18        | 3.464102     |
| CONTROL  | 0              | 10          | 18        | 3.464102     |

Number Sets of Ties = 0, Multiplicity Factor = 0

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            | Approximation With Correction |         |            |               |
|------------------------|-------------------|---------------|----------------------------------|------------|-------------------------------|---------|------------|---------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%)                 | Z-Value | Prob Level | Decision (5%) |
| Diff<>0                | 0.028571          | Reject Ho     | 2.3094                           | 0.020921   | Reject Ho                     | 2.1651  | 0.030383   | Reject Ho     |
| Diff<0                 | 0.985714          | Accept Ho     | 2.3094                           | 0.989539   | Accept Ho                     | 2.4537  | 0.992931   | Accept Ho     |
| Diff>0                 | 0.014286          | Reject Ho     | 2.3094                           | 0.010461   | Reject Ho                     | 2.1651  | 0.015191   | Reject Ho     |

**Kolmogorov-Smirnov Test For Different Distributions**

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 1.000000            | 0.8117                    | .050             | Reject Ho             | 0.0286     |
| D(1)<D(2)              | 0.000000            | 0.8117                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 1.000000            | 0.8117                    | .025             | Reject Ho             |            |

## 12. NEEDS ALIGNMENT

### Two-Sample Test Report

**Ho :** There is no significant difference in the **NEEDS ALIGNMENT** mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower **NEEDS ALIGNMENT** mean score than the control South African Indian Family businesses

#### Descriptive Statistics Section

| Variable      | Count | Mean     | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------|-------|----------|--------------------|----------------|-----------------|-----------------|
| Needs__Succ_  | 7     | 22.85714 | 1.772811           | 0.6700594      | 21.21757        | 24.49672        |
| Needs__cntrl_ | 7     | 22.14286 | 2.734262           | 1.033454       | 19.61409        | 24.67163        |

Note: T-alpha (Needs\_\_Succ\_) = 2.4469, T-alpha (Needs\_\_cntrl\_) = 2.4469

#### Confidence-Limits of Difference Section

| Variance Assumption | DF    | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|-------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 12    | 0.7142857       | 2.30424            | 1.231668       | -1.969289       | 3.397861        |
| Unequal             | 10.29 | 0.7142857       | 3.258688           | 1.231668       | -2.0197         | 3.448271        |

Note: T-alpha (Equal) = 2.1788, T-alpha (Unequal) = 2.2197

#### Tests of Assumptions Section

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (Needs__Succ_)   | 0.0000 |             |                               |
| Kurtosis Normality (Needs__Succ_)   |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (Needs__Succ_)    |        |             |                               |
| Skewness Normality (Needs__cntrl_)  | 0.0000 |             |                               |
| Kurtosis Normality (Needs__cntrl_)  |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (Needs__cntrl_)   |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 2.3788 | 0.315564    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 0.7282 | 0.410192    | Cannot reject equal variances |

#### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%)    | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|------------------|-------------------|-------------------|
| Difference <> 0        | 0.5799  | 0.572688   | Accept Ho        | 0.083370          | 0.020250          |
| Difference < 0         | 0.5799  | 0.713656   | Accept Ho        | 0.014137          | 0.002208          |
| Difference > 0         | 0.5799  | 0.286344   | <b>Accept Ho</b> | 0.136302          | 0.035303          |

Difference: (Needs\_\_Succ\_)-(Needs\_\_cntrl\_)

## APPENDIX C

### 12. NEEDS ALIGNMENT

#### Two-Sample Test Report

**Ho :** There is no significant difference in the **NEEDS ALIGNMENT** mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower **NEEDS ALIGNMENT** mean score than the control South African Indian Family businesses

#### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 0.5799  | 0.574441   | Accept Ho     | 0.082464          | 0.019772          |
| Difference < 0         | 0.5799  | 0.712779   | Accept Ho     | 0.014316          | 0.002270          |
| Difference > 0         | 0.5799  | 0.287221   | Accept Ho     | 0.135162          | 0.034572          |

Difference: (Needs\_\_Succ\_)-(Needs\_\_cntrl\_)

#### Median Statistics

| Variable      | Count | Median | 95% LCL of Median | 95% UCL of Median |
|---------------|-------|--------|-------------------|-------------------|
| Needs__Succ_  | 7     | 23     | 21                | 26                |
| Needs__cntrl_ | 7     | 23     | 18                | 25                |

#### Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians

| Variable      | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|---------------|----------------|-------------|-----------|--------------|
| Needs__Succ_  | 26.5           | 54.5        | 52.5      | 7.713624     |
| Needs__cntrl_ | 22.5           | 50.5        | 52.5      | 7.713624     |

Number Sets of Ties = 4, Multiplicity Factor = 78

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            |               | Approximation With Correction |            |               |
|------------------------|-------------------|---------------|----------------------------------|------------|---------------|-------------------------------|------------|---------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%) | Z-Value                       | Prob Level | Decision (5%) |
| Diff<>0                |                   |               | 0.2593                           | 0.795418   | Accept Ho     | 0.1945                        | 0.845815   | Accept Ho     |
| Diff<0                 |                   |               | 0.2593                           | 0.602291   | Accept Ho     | 0.3241                        | 0.627070   | Accept Ho     |
| Diff>0                 |                   |               | 0.2593                           | 0.397709   | Accept Ho     | 0.1945                        | 0.422907   | Accept Ho     |

#### Kolmogorov-Smirnov Test For Different Distributions

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 0.285714            | 0.6556                    | .050             | Accept Ho             | 0.9627     |
| D(1)<D(2)              | 0.142857            | 0.6556                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 0.285714            | 0.6556                    | .025             | Accept Ho             |            |



### 13. FAMILY HARMONY

#### Two-Sample Test Report

**Ho :** There is no significant difference in the FAMILY HARMONY mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower FAMILY HARMONY mean score than the control South African Indian Family businesses

#### Tests of Assumptions Section

| Assumption                          | Value  | Probability | Decision(5%)                  |
|-------------------------------------|--------|-------------|-------------------------------|
| Skewness Normality (SUCCESS)        | 0.0000 |             |                               |
| Kurtosis Normality (SUCCESS)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (SUCCESS)         |        |             |                               |
| Skewness Normality (CONTROL)        | 0.0000 |             |                               |
| Kurtosis Normality (CONTROL)        |        | 1.000000    | Cannot reject normality       |
| Omnibus Normality (CONTROL)         |        |             |                               |
| Variance-Ratio Equal-Variance Test  | 2.1111 | 0.487063    | Cannot reject equal variances |
| Modified-Levene Equal-Variance Test | 0.4717 | 0.511620    | Cannot reject equal variances |

#### Descriptive Statistics Section

| Variable | Count | Mean | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|----------|-------|------|--------------------|----------------|-----------------|-----------------|
| SUCCESS  | 5     | 25.8 | 7.293833           | 3.261901       | 16.74351        | 34.85649        |
| CONTROL  | 5     | 13.2 | 5.01996            | 2.244994       | 6.966896        | 19.4331         |

Note: T-alpha (SUCCESS) = 2.7764, T-alpha (CONTROL) = 2.7764

#### Confidence-Limits of Difference Section

| Variance Assumption | DF   | Mean Difference | Standard Deviation | Standard Error | 95% LCL of Mean | 95% UCL of Mean |
|---------------------|------|-----------------|--------------------|----------------|-----------------|-----------------|
| Equal               | 8    | 12.6            | 6.26099            | 3.959798       | 3.468689        | 21.73131        |
| Unequal             | 7.10 | 12.6            | 8.854378           | 3.959798       | 3.261927        | 21.93807        |

Note: T-alpha (Equal) = 2.3060, T-alpha (Unequal) = 2.3582

#### Equal-Variance T-Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 3.1820  | 0.012959   | Reject Ho     | 0.795398          | 0.482995          |
| Difference < 0         | 3.1820  | 0.993521   | Accept Ho     | 0.000002          | 0.000000          |
| Difference > 0         | 3.1820  | 0.006479   | Reject Ho     | 0.894855          | 0.622823          |

Difference: (SUCCESS)-(CONTROL)



### 13. FAMILY HARMONY

#### Two-Sample Test Report

**Ho :** There is no significant difference in the FAMILY HARMONY mean scores for success South African Indian Family businesses compared with the control South African Indian Family businesses

**Ha :** Success South African Indian Family businesses have a higher or lower FAMILY HARMONY mean score than the control South African Indian Family businesses

#### Aspin-Welch Unequal-Variance Test Section

| Alternative Hypothesis | T-Value | Prob Level | Decision (5%) | Power (Alpha=.05) | Power (Alpha=.01) |
|------------------------|---------|------------|---------------|-------------------|-------------------|
| Difference <> 0        | 3.1820  | 0.015173   | Reject Ho     | 0.780537          | 0.452377          |
| Difference < 0         | 3.1820  | 0.992414   | Accept Ho     | 0.000002          | 0.000000          |
| Difference > 0         | 3.1820  | 0.007586   | Reject Ho     | 0.887801          | 0.597129          |

Difference: (SUCCESS)-(CONTROL)

#### Median Statistics

| Variable | Count | Median | 95% LCL of Median | 95% UCL of Median |
|----------|-------|--------|-------------------|-------------------|
| SUCCESS  | 5     | 25     |                   |                   |
| CONTROL  | 5     | 12     |                   |                   |

#### Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians

| Variable | Mann Whitney U | W Sum Ranks | Mean of W | Std Dev of W |
|----------|----------------|-------------|-----------|--------------|
| SUCCESS  | 24             | 39          | 27.5      | 4.758034     |
| CONTROL  | 1              | 16          | 27.5      | 4.758034     |

Number Sets of Ties = 2, Multiplicity Factor = 12

| Alternative Hypothesis | Exact Probability |               | Approximation Without Correction |            |               |         | Approximation With Correction |               |
|------------------------|-------------------|---------------|----------------------------------|------------|---------------|---------|-------------------------------|---------------|
|                        | Prob Level        | Decision (5%) | Z-Value                          | Prob Level | Decision (5%) | Z-Value | Prob Level                    | Decision (5%) |
| Diff<>0                |                   |               | 2.4170                           | 0.015651   | Reject Ho     | 2.3119  | 0.020784                      | Reject Ho     |
| Diff<0                 |                   |               | 2.4170                           | 0.992175   | Accept Ho     | 2.5220  | 0.994166                      | Accept Ho     |
| Diff>0                 |                   |               | 2.4170                           | 0.007825   | Reject Ho     | 2.3119  | 0.010392                      | Reject Ho     |

#### Kolmogorov-Smirnov Test For Different Distributions

| Alternative Hypothesis | Dmn Criterion Value | Reject Ho if Greater Than | Test Alpha Level | Decision (Test Alpha) | Prob Level |
|------------------------|---------------------|---------------------------|------------------|-----------------------|------------|
| D(1)<>D(2)             | 0.800000            | 0.7490                    | .050             | Reject Ho             | 0.0794     |
| D(1)<D(2)              | 0.000000            | 0.7490                    | .025             | Accept Ho             |            |
| D(1)>D(2)              | 0.800000            | 0.7490                    | .025             | Reject Ho             |            |