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# Business Success Factors

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University of  
South Australia





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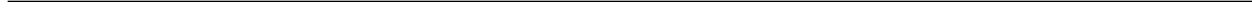
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# Executive summary

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The focus of this project was to identify the factors that contributed to the success of businesses in desert Australia. In particular, the study was designed to determine:

- how successful these businesses had been over the last three years
- what factors were used to measure such business success
- what factors were considered important to the success of the business
- what was the availability of these factors to the business
- what importance owner-managers and managers placed on their approach to leadership.

## Context and need

Businesses in desert Australia are the backbone of community life. They provide goods and services to the local community as well as being a centre for many community activities. They also provide an income to members of the community and also work opportunities. These businesses play a key part in the long-term survival of their communities.

## Methodology

Two studies were undertaken. Owner-managers and managers were interviewed (Study 1) or participated in an online survey (Study 2). In total, 88 individuals were interviewed and another 112 responded to an online survey. In the main, the businesses provided services for tourists or were in retail. The survey results were analysed to determine how successful the businesses had been, how this success was measured, what factors needed to be available for a business to be successful, and what leadership styles were most appropriate for business success.

## Findings

Overall, we were able to conclude that:

- The businesses were regarded as being reasonably successful by the interviewees and respondents.
- Five main factors were used to measure their business' success: client/customer satisfaction, sense of achievement, sense of pride, seeing the business grow, and personal satisfaction.
- There were six key factors which were important to the success of the business that were also readily available to owner-managers and managers. These were reliable power supply, reliable water supply, reliable suppliers, Internet and email access, their management style and tourist trade. There were also three factors, very important to business success, to which the owner-managers and managers had only limited access. These were availability of staff, staff with work skills, and reasonable fuel prices.
- The participants indicated that they needed to possess behavioural complexity with regard to their leadership capability. That is, they needed to possess and be able to deliver a range of leadership behaviours equally effectively. They also needed to have the capability to develop these leadership behaviours.

There are a number of possible reasons for inconsistency between the results of our study and those reported in the literature. Firstly, there has been ambiguity about some of the measures used previously, thereby reducing opportunities for valid comparisons. Secondly, previous research has been confined to owner-managers, whereas the participants in the current study included both owner-managers *and*

managers. Thirdly, most of the earlier studies have not identified levels of significance of factors. And finally, none of the previous research has been undertaken in desert Australia, which arguably possesses unique characteristics that impact on businesses (Stafford Smith 2008).

## Implications

This project has highlighted the important role that owner-managers and managers and their staff play in the success of these businesses. There need to be more developmental opportunities for these groups of individuals, so that businesses have skilled workers at all levels contributing to the success of the business. It was also obvious that these businesses needed certain infrastructures (e.g. email access) to be in place if they are to be successful.

## Structure of the report

There are six chapters in this report. The first serves as a general introduction to the study; the second provides a literature review. The third chapter details the study's approach and provides an overview of the business in the study; this is followed by the results chapter. The fifth chapter discusses these findings and the last chapter draws conclusions from the study. There are also four Appendices that contain detailed information.

# Chapter 1: Introduction

---

## 1.1 Background

This study involved both owner-managers and managers of businesses in desert Australia, which has been described as having variability with respect to the weather, markets, and cultures, sparse resources and populations, remoteness and limited knowledge of the area (Stafford Smith 2008). It was important to identify how successful these businesses were given the significant role they play in their local community. The study also identified how the owner-managers and managers identified success, what factors needed to be available for the business to be successful, the availability of these factors, and finally, the leadership behaviours needed to ensure such success.

## 1.2 Purpose of the study

The overall purpose of this study was to determine how successful businesses were in desert Australia, and what factors were associated with their success. In order to achieve these objectives, the study examined the following issues from both the owner-managers' *and* managers' perspectives:

- the success the businesses had had over the last three years
- factors used to measure business success
- factors important to the success of the business
- the availability of these factors to the business
- importance of various leadership behaviours to the success of the business.

## 1.3 Importance of the study

The study was important on a number of grounds. Firstly, it sought to identify how successful businesses in remote and regional desert Australia had been during the previous three years. Secondly, it investigated owner-manager and manager perceptions of why they had been successful; and lastly, it sought to quantify the factors important to this success.

Desert Australia covers approximately two-thirds of Australia's land mass and has been defined as encompassing arid and semi-arid land in Australia (Stafford Smith 2008) and supports 3% of Australia's population (Taylor et al. 2008). In addition, many of the small communities in these remote regions are heavily dependent on their community businesses, so the risks of not knowing what makes desert businesses successful are great.

Stafford Smith has contended that desert Australia is characterised by seven features:

1. *Climate variability: climatic extremes and unpredictability*
  2. *Scarce resources: widespread, low soil fertility and patchy natural resources*
  3. *Sparse populations: sparse, mobile and patchy, human population*
  4. *Remoteness: distant markets and business, education and political centres*
  5. *Social variability: unpredictability in, or lack of control over, markets, labour and policy*
  6. *Local knowledge: limited research knowledge, and greater significance of local and traditional knowledge.*
  7. *Cultural differences: particular types of people, culture and institutions.*
- (Stafford Smith 2008)

He has argued that these characteristics, or *Desert drivers*, are 'causally linked to act as a consistent syndrome' (p. 3). Such a conclusion has implications for the survival of businesses in desert Australia, as Stafford Smith has argued that if these causal links are found to exist then they 'are unlikely to be

easily broken' (p. 3). He also argued that in order for businesses in desert Australia to be successful, there is a need 'to focus on how to live with, and to make new opportunities out of, all these features instead of railing against them' (p. 11).

In other words, there is always going to be very low rainfall in desert Australia and there is no likelihood that this will change in the foreseeable future. The important conclusion to be made from Stafford Smith's paper is that desert Australia functions significantly differently from the more densely populated areas of Australia, so what works for businesses in these areas may not work in desert Australia. This study provides knowledge about what *does* work for businesses in desert Australia.

In addition to these differences, many businesses in remote locations in desert Australia play a very important role in the survival and quality of life of their local community (Stafford Smith et al. 2008); it is therefore necessary to maximise our knowledge about what makes them successful. In the more remote communities, they are often the only 'local store' providing food, clothing and basic household items. The closest store could be some 300–400 kilometres away on a four-wheel drive track. The owner-managers and managers reside in these communities, and so are connected to the residents, and are also dependent on the 'local store'. In addition to being the only supplier of necessary commodities, they may also be a source of income for either all or some members through their impact on employment opportunities (Fritsch & Schindele 2008).

In some cases, there are also other businesses in these remote locations. For instance, some communities have established successful art businesses. One such example is the Papunya Tula Artists who sell their paintings on the international market, and thereby provides income to some and/or all members of the local community (see Figure 1.1).

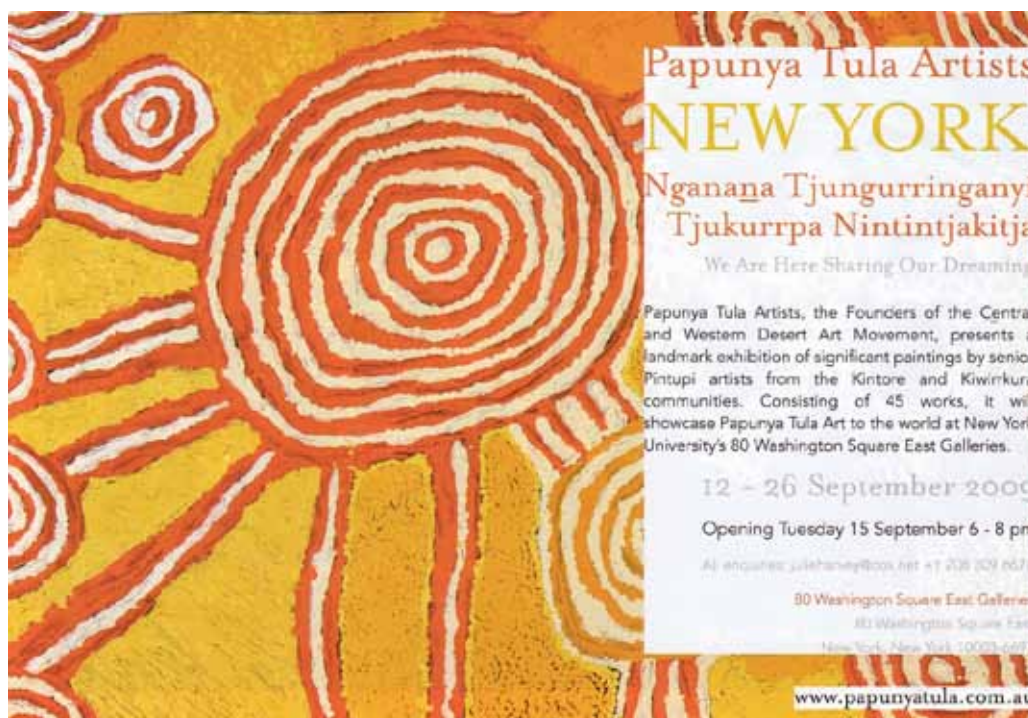


Figure 1.1: Papunya Tula Artist advertisement for a New York exhibition

There may also be large business located close to these remote communities. Typical businesses are mining and pastoral companies. These large businesses often provide work opportunities for the residents of the remote communities, thereby providing income to the members of the community.

In addition, tourism is becoming an important source of income for these remote communities (Stafford Smith et al. 2008). The tourists may want to purchase fuel and supplies, or art products. They may be four-wheel drivers, or not, and may be travelling singly or in groups. One such remote community on

the Canning Stock route is Kunawarritji, which is able to supply fuel and basic supplies to four-wheel drivers who travel along the Canning Stock route, the Telfar and Gary Junction roads, or the Gary and Kidson roads (see Figure 1.2). These are all remote sandy tracks. The closest regional towns are Marble Bar (600 kilometres to the west) and Alice Springs (1,463 kilometres to the east).

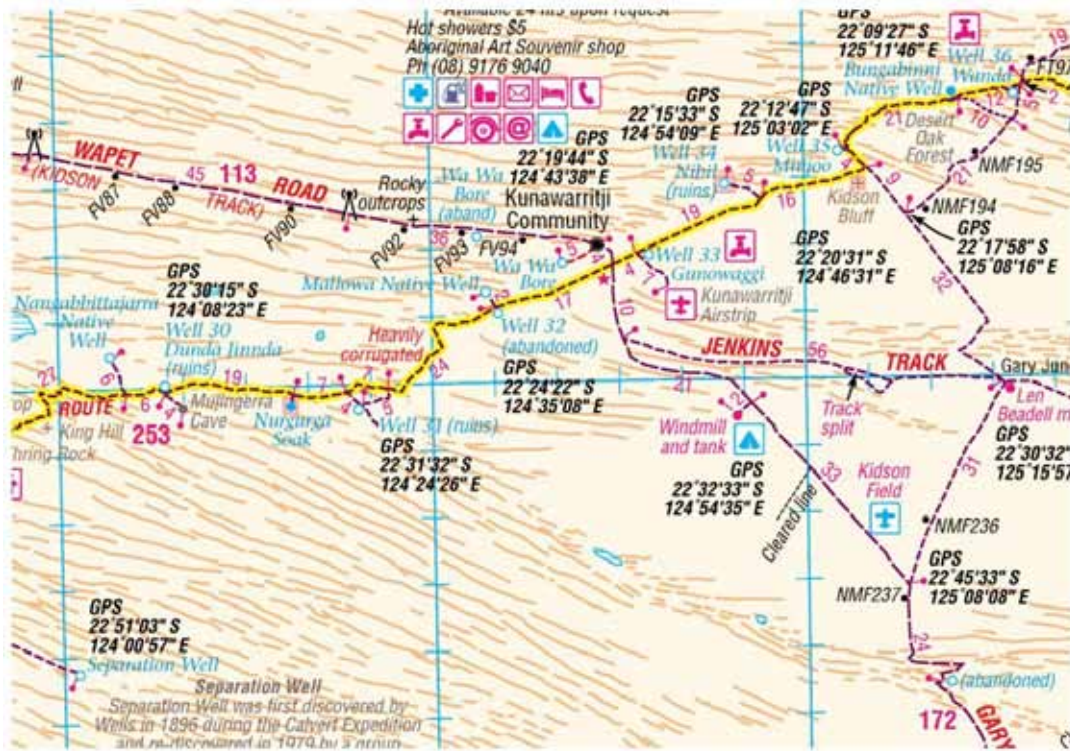


Figure 1.2: Kunawarritji's geographical location

## Chapter 2: Background to study

### 2.1 Overview

This chapter discusses the research that has previously been reported in the literature on factors associated with the success of businesses, and identifies the gaps in the literature that have led to particular areas of focus in the current study. The framework that underpins the study is also discussed (see Figure 2.1).

The current project focused on four main factors thought to be linked to the success of businesses in desert Australia: the geographical location of the business (in terms of remoteness), which Stafford Smith (2008) argues has implications for business survival; the importance of key factors necessary for business success; the availability of these important factors to the business; and the importance of certain leadership behaviours to business success. Each variable will be discussed in turn.

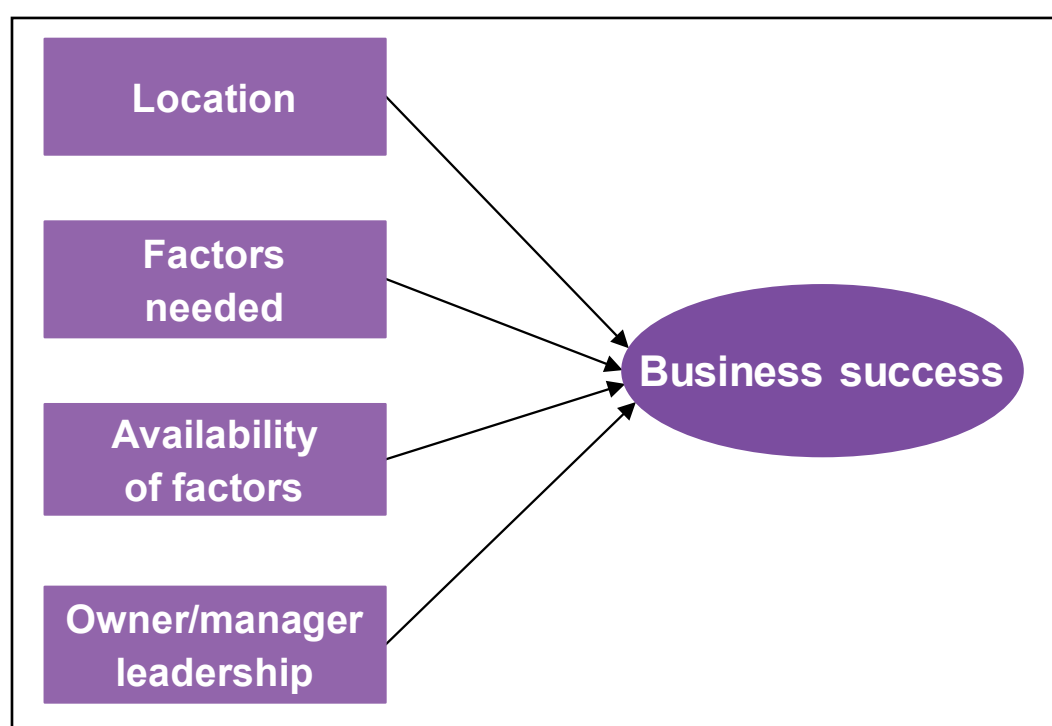


Figure 2.1: Conceptual framework for business success

### 2.2 Business success

Business success has traditionally been measured by financial performance (Getz & Carlsen 2000; Howard 2006; Simpson et al. 2004; Walker & Brown 2004), and the growth of the business in terms of revenue (Walker & Brown 2004; see Table 2.1).

Table 2.1: Summary of previous research findings for factors of business success

Variable identified in previous research	Reference
Customer/client satisfaction	Reijonen (2008); Reijonen & Komppula (2007); Simpson et al. (2004)
Sense of achievement (self-fulfilment)	Simpson et al. (2004); Walker & Brown (2004)
Pride	Getz & Carlsen (2000); Walker & Brown (2004)
Growth of revenue	Getz & Carlsen (2000); Simpson et al. (2004); Walker & Brown (2004)
Personal satisfaction	Getz & Carlsen (2000); Reijonen (2008); Reijonen & Komppula (2007); Walker & Brown (2004)
Earn enough to live on	Reijonen (2008); Reijonen & Komppula (2007)
Staff satisfaction	Simpson et al. (2004)
Make profit	Getz & Carlsen (2000); Howard (2006); Simpson et al. (2004); Walker & Brown (2004)
Teamwork	Simpson et al. (2004)
Allowing lifestyle I value	Getz & Carlsen (2000); Walker & Brown (2004)
Contribute to welfare of community	Niehm et al. (2008); Walker & Brown (2004)
Recognition by others	Reijonen & Komppula (2007); Simpson et al. (2004)
Children wanting to be part of business	Walker & Brown (2004)
Being one's own boss	Walker & Brown (2004)
Running a successful business	Getz & Carlsen (2000); Walker & Brown (2004)
Having a quality product	Reijonen (2008)

However, other research has found that there are other factors that owners use to assess the success of their businesses. Simpson et al. (2004) have argued for the use of the owners' perceptions as a more meaningful measure of success for owners. Among the factors of success used by owners were:

- a sense of achievement (Simpson et al. 2004; Walker & Brown 2004)
- a sense of pride (Getz & Carlsen 2000; Walker & Brown 2004)
- being one's own boss (Walker & Brown 2004)
- contributing to the welfare of the community (Niehm et al. 2008; Walker & Brown 2004)
- customer and client satisfaction (Reijonen 2008; Reijonen & Komppula 2007; Simpson et al. 2004)
- earning a living (Reijonen 2008; Reijonen & Komppula 2007)
- having a quality product (Reijonen 2008)
- lifestyle (Getz & Carlsen 2000; Walker & Brown 2004)
- personal satisfaction (Getz & Carlsen 2000; Reijonen 2008; Reijonen & Komppula 2007; Walker & Brown 2004)
- recognition by others (Reijonen & Komppula 2007; Simpson et al. 2004)
- running a successful business (Getz & Carlsen 2000; Walker & Brown 2004)
- staff satisfaction (Simpson et al. 2004)
- teamwork (Simpson et al. 2004)
- the children wanting to be part of the business (Walker & Brown 2004).

As many of these measures are ambiguous, it is difficult to compare the data between studies. For instance, the indicator 'recognition by others' may mean recognition by members of the community or it may mean recognition by customers. In addition, none of this previous research has been undertaken in arid and semi-arid locations or in remote areas, so their applicability to businesses in desert Australia needs to be established. And finally, thus far, there has not been a focus on investigating the role of *managers* of businesses; hitherto the focus has been on owner-managers only (as per the studies listed in Table 2.1).

Consequently, the current study was interested in how owner-managers *and* managers measured the success of their business, to determine if they used similar or dissimilar measures. If the latter, there may be serious implications for owners of the business as their managers would have a different focus to the owner about how they determine business success.

## 2.3 Factors important to the success of the business

There has been only a limited amount of research investigating the factors that underpin success in business. Thus, Reijonen and Komppula (2007) identified the ‘importance of reliable suppliers’, ‘cooperation with other entrepreneurs’ and a ‘loyal clientele’ as necessary factors that need to be in place if a business is to succeed (see Table 2.2). Headd (2003) has identified the importance of ‘access to finance’, and Kess et al. (2008) have argued the importance of ‘managing external knowledge’. None of this earlier research investigated any relationships between the factors.

*Table 2.2: Summary of previous research findings for factors important for the success of the business*

<b>Variable</b>	<b>Reference</b>
Access to finance	Headd (2003)
Reliable suppliers	Reijonen & Komppula (2007)
Cooperation with other entrepreneurs	Reijonen & Komppula (2007)
Loyal clientele	Reijonen & Komppula (2007)
Knowledge management (external)	Kess et al. (2008)

The importance of these factors for businesses in desert Australia, and the extent to which these factors are available, has hitherto not been fully investigated and is the focus of the current study. In addition to factors necessary for the success of the business, previous research has identified the importance of the ‘capability of the manager’ to this success. This component is discussed in the next section.

## 2.4 Leadership effectiveness

The manager and/or manager-owner have a key role to play in the success of any business. Important characteristics of these key personnel, which impact significantly on the success of businesses include ‘interpersonal skills’ and ‘self-efficacy’ (Markman & Baron 2003), ‘having a university degree’, and ‘starting the business for personal reasons’ (Headd 2003). However, none of this literature has investigated the impact of the leadership capabilities of the manager. Previously, Hart and Quinn (1993) have linked leadership behaviour of CEOs to outcomes of their businesses. That is, these managers’ leadership behaviour was linked to business performance and organisational effectiveness.

The Integrated Competing Values Framework (ICVF) is a useful framework for illustrating the form that manager leadership style might take. It is a framework based on the behaviour of leaders and does not cover traits or personalities. This is a dynamic model that identifies the relationship between various leadership behaviours (Vilkinas & Cartan 2006). The ICVF has been used extensively to explain leadership behaviour of managers in the public and private sector in Australian, Asian and European cultures (Apaydin et al. 2011; Vilkinas & Cartan 2006; Vilkinas & Ladyshevsky forthcoming; Vilkinas et al. 2008; Vilkinas et al. 2009).

At the heart of the ICVF is the observation that there are two key dimensions to effective management: a people–task dimension, and an external–internal focus dimension (Vilkinas & Cartan 2006). This model develops an earlier framework by Quinn and his colleagues (Quinn, 1984, 1988; Quinn et al 2007; Quinn & Rohrbaugh 1983). The model uses these two dimensions to create a four-quadrant model (see Figure 2.2).

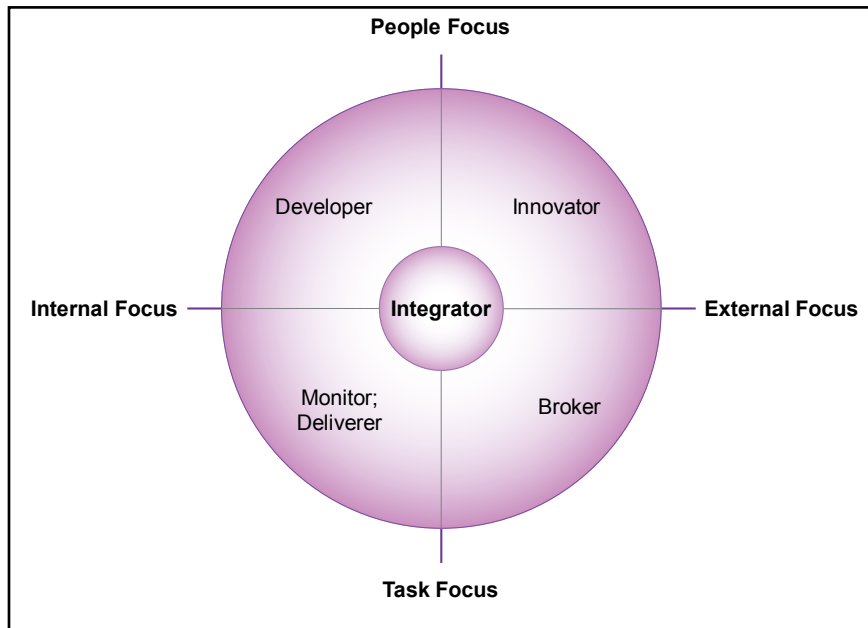


Figure 2.2: Integrated Competing Values Framework

Source: Vilkinas & Cartan 2001, 2006

Within the quadrants, Vilkinas and Cartan (2006) locate five operational roles for leaders: Innovator, Broker, Deliverer, Monitor, and Developer. A brief description of the behaviours associated with each of these roles and how these roles could be displayed by managers is provided in Table 2.3.

Table 2.3: Description of each of the ICVF's five operational roles

Role	Leadership behaviours*
Innovator	<ul style="list-style-type: none"> <li>• is creative</li> <li>• encourages, envisions and facilitates change</li> </ul>
Broker	<ul style="list-style-type: none"> <li>• develops, scans, and maintains networks</li> <li>• acquires needed resources</li> </ul>
Deliver	<ul style="list-style-type: none"> <li>• is work focused</li> <li>• motivates behaviour</li> <li>• sets goals</li> <li>• clarifies roles</li> <li>• does scheduling, coordination, and problem solving</li> </ul>
Monitor	<ul style="list-style-type: none"> <li>• sees rules and standards are met</li> <li>• collects and distributes information</li> <li>• checks on performance</li> </ul>
Developer	<ul style="list-style-type: none"> <li>• is aware of individual needs and facilitates development</li> <li>• develops teams</li> </ul>

\*From the work of Vilkinas & Cartan (2001, 2006) based on Quinn's model (1988).

Under the ICVF model, the five operational roles are paradoxical in nature (Vilkinas & Cartan 2001, 2006). That is, effective leaders need to use a range of strategies that could be viewed as inherently contradictory, for example, caring for staff and dealing with their personal issues, (Developer role), while at the same time demanding that the work is completed in time (Deliverer role). The role of the manager in any business is clearly a complex one. As Robertson (2005) has argued, such individuals need to be able to integrate these paradoxical behaviours productively so that they are not disabled by the conflicting demands of the roles. In other words, they need to have the sense of *generative*

*paradoxes* – or contradictions in which both sides of the opposition are true and both sides feed rather than fight each other (Robertson 2005, p. 182) – as opposed to exhausting conflicts, if they are to be effective.

There is also a sixth role within the ICF: the Integrator. This role has previously been described as the ‘behavioural control room’ for the other five operational roles (Vilkinas & Cartan 2001). The Integrator role has two parts: a) the critical observer and b) the reflective learner. The purpose of the former is to decipher which of the operational roles is required at any particular time in response to environmental developments. In this way it assists in the appropriate execution of the chosen role. It ensures a ‘fit’ between context and behaviour (Vilkinas & Cartan 2001).

The purpose of the second part, the reflective learner, is to reflect on past and current experience of the operational roles, and to learn from those experiences. Rogers (2001) has reported that the most common definition of reflection was one that allowed individuals to ‘integrate the understanding gained into one’s experience in order to enable better choices or actions in the future as well to enhance one’s overall effectiveness’ (p. 41). Booth and Anderberg (2005) have argued that reflection underpins an individual’s development. Here, an effective manager would demonstrate a heightened and accurate self-awareness.

A well-developed Integrator will enable behavioural complexity, which is needed if managers are to deliver on the competing demands they face. Behavioural complexity is the ability to move between the five roles with ease, and to be able to deliver any of the five roles depending on which is most appropriate (Denison et al. 1995; Hooijberg 1992; Hooijberg & Quinn 1992). The Integrator is the linchpin that allows managers to move easily between the five operational roles (Vilkinas & Cartan 2001), which, hypothetically, will allow them to deal with the contradictory demands of coordinating the various activities of their business as a *generative* paradox, rather than *paralysing* conflict.

The current study was interested in determining what leadership behaviours the participants in the study considered important as this has not been previously researched. Conclusions about their leadership effectiveness can then be drawn from the results obtained.

## 2.5 Location

Economists have noted that regional characteristics in Germany have an important role in the success of businesses (Falck 2007; Fritsch et al. 2006). Stafford Smith (2008) has argued that there are particular features associated with desert Australia that will impact on businesses in this area. For instance, remoteness means that customer/clients and suppliers are located at great distances from the business. By way of example, one of the most remote communities in Australia is Kiwirrikurra. It is 850 kilometres west of Alice Springs and 1,250 kilometres east of Port Hedland (see Figure 2.3). The roads connecting it to these regional towns are in the main four-wheel drive tracks. Kiwirrikurra is also remote from other communities, that is, 417 kilometres east of Kunawarritji and 210 kilometres west of Kintore. Inevitably, such remoteness impacts on the capacity of the local businesses to survive and to be successful.

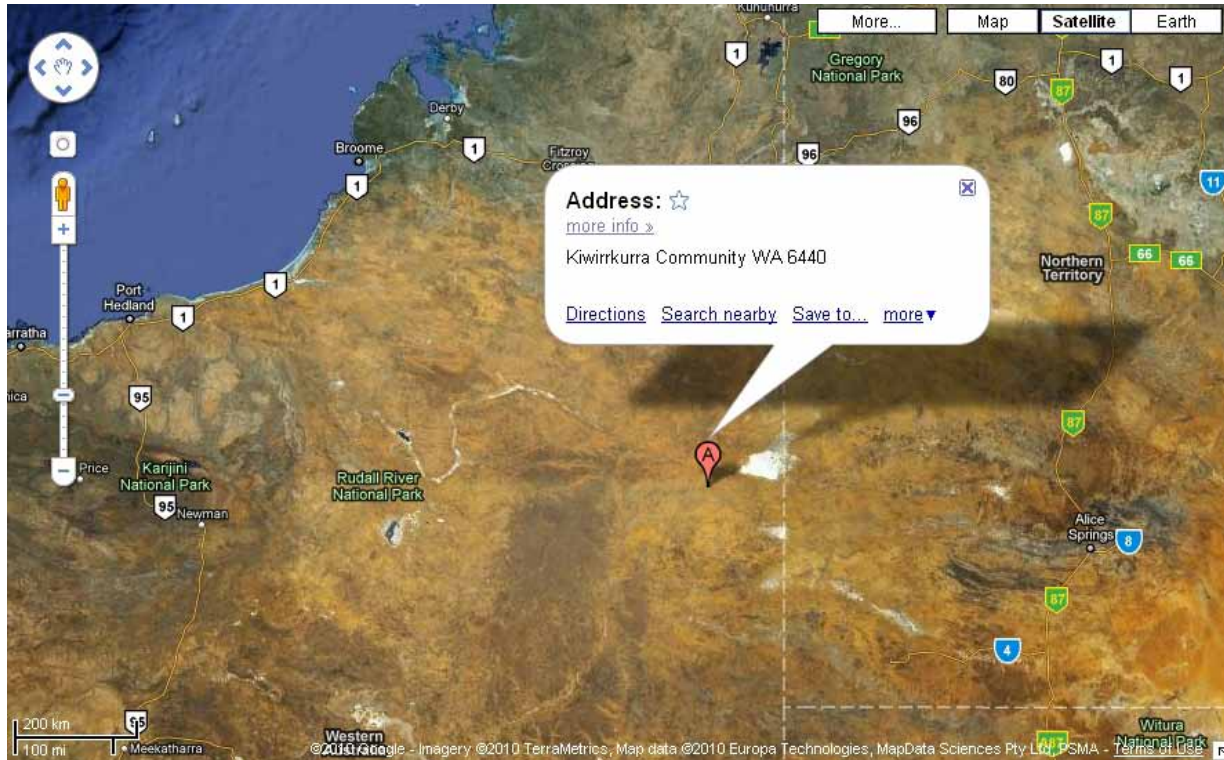


Figure 2.3: The geographical position of Kiwirrkurra

Thus, the current study was important to identify how successful these businesses were in desert Australia and what factors need to be available for them to succeed, as Falck (2007) has argued that his findings may not apply to business survival outside of Western Germany. Fritsch (2008 p. 5) has maintained that:

The employment effects of new business formation will probably be rather positive in high productivity regions with high-quality entries, abundant resources and a well-functioning innovation system. They will be much smaller or may even be negative in low productivity regions with low-quality entries, scarcity of relevant resources and an inefficient innovation system.

## Chapter 3: Study's approach and methodology

### 3.1 Overview

In this project, two studies were conducted. The first one was based on face-to-face interviews, the second was an online survey. The details of each study are presented below.

### 3.2 Study 1: Personal interviews

#### 3.2.1 Participants

Interviews were conducted with 12 owner-managers and 76 managers-only. The interviewees were selected on availability. Of the 88 respondents, 27 were women. The businesses were located in remote areas of desert Australia; that is, normally they were situated on a dirt track where a four-wheel drive was needed and they were at least 300 km from the nearest regional town. The participants were interviewed in their place of work while they were busy looking after their business. This severely limited the time available for the interview and, consequently, the amount of other demographic data that could be obtained from the participants.

#### 3.2.2 Interview questions

The interviewees were asked if they thought their business had been successful over the last three years, what factors they used to measure success, and what factors needed to be in place for their business to be successful in the future.

### 3.3 Study 2: Online Survey

#### 3.3.1 Method

A number of approaches (with varying levels of success) were used to recruit participants for the online survey. The most fruitful approach consisted of a search for business via the Yellow Pages website, entering the business details of the search results into a database, and then contacting the potential participants by phone. Emailing participants did not have a high success rate. In total, 1800 calls (including follow-ups) were made. Approximately 600 small businesses were contacted. An agreement to complete the survey was given by 239 individuals, but only 112 online surveys were actually completed. (The online survey was carried out in two waves: June–September 2008 and November 2008–April 2009.) Three surveys were also completed manually by the Research Fellow over the telephone for respondents who did not have a computer, but who were nevertheless anxious to contribute to the study.

Businesses most likely to participate were those familiar with the University of South Australia; they were more likely to give a fair hearing to the verbal introduction about the research. Some regions appeared 'over-researched' (notably the Northern Territory and north-west Western Australia), and, consequently, were (understandably) very tired of people contacting them to participate in yet another study.

#### 3.3.2 Business demographics

This section provides an overview of the businesses surveyed, according to the final question on the survey instrument (see Appendix 1).

### 3.3.2.1 Types of business

As can be seen from Figure 3.1, most of the businesses were centred on accommodation, tourism and food, followed by retail. As Brown et al. (2008) describe, ‘a marked increase in temporary visitation to desert regions through greatly expanded tourism ... [resulted in] a population that at any time includes large numbers of non-residents thereby adding to service requirements, but also increasing economies of scale’ (p. 40).

The next most commonly occurring businesses were involved in the retail trade and then there was mixture of other businesses such as earth moving, livestock/pastoral, security, aviation, and gold prospecting.

It was quite common for many of these businesses to have diversified. For instance, some of those in the livestock sector also provided accommodation for tourists.

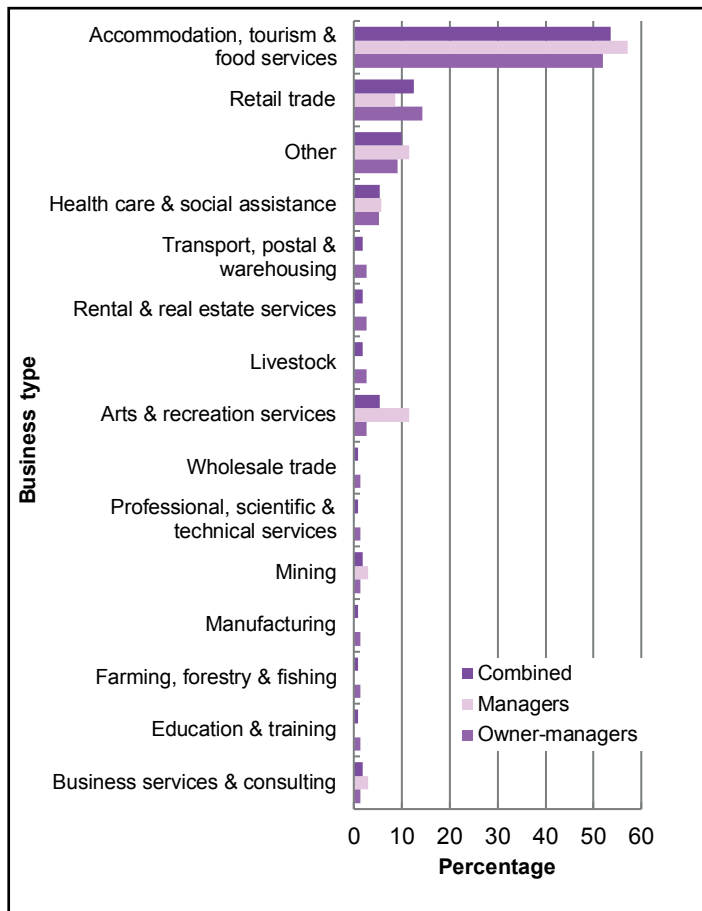


Figure 3.1: Type of business interviewees were involved in

### 3.3.2.2 Days of operation

Approximately two-thirds of respondents indicated that they operated their business seven days per week (see Figure 3.2). Of the remainder, 20% of managers opened their business 6 days a week, and 20% of owner-managers operated 5 days per week. A minority of respondents operated their business between four and five days a week and none for less than 4 days a week.

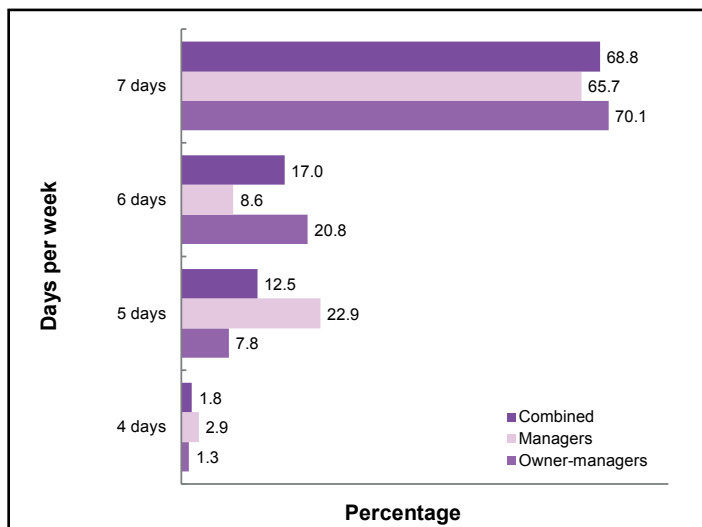


Figure 3.2: Average days per week of business opening

### 3.3.2.3 Hours of operation

There was considerable variation in the number of hours per week that respondents operated their business. About a quarter of the respondents said that they operated their business 31–50 hours per week, while others (mainly owner-managers) said they worked ‘24/7’. However, the majority of respondents worked 51–130 hours per week, and given that most businesses were open seven days/week (see Figure 3.3), it meant that some respondents were working very long hours, for example, up to 18.6 hours per day or 130 hours per 7 days.

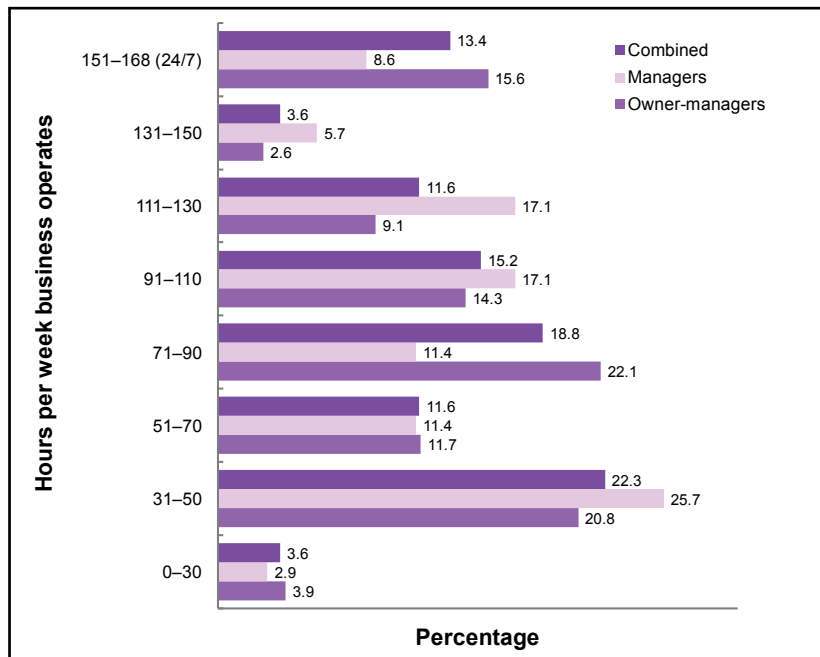


Figure 3.3: Average hours per week of business operation

### 3.3.2.4 Time in the business

About one-third of the respondents had been in the business for 3–5 years (see Figure 3.4). Owner-managers tended to have been in the business for longer, with some (13%) having owned their business for more than 21 years. By comparison, managers tended to have been in the business for much shorter periods of time, that is, 2 years or less.

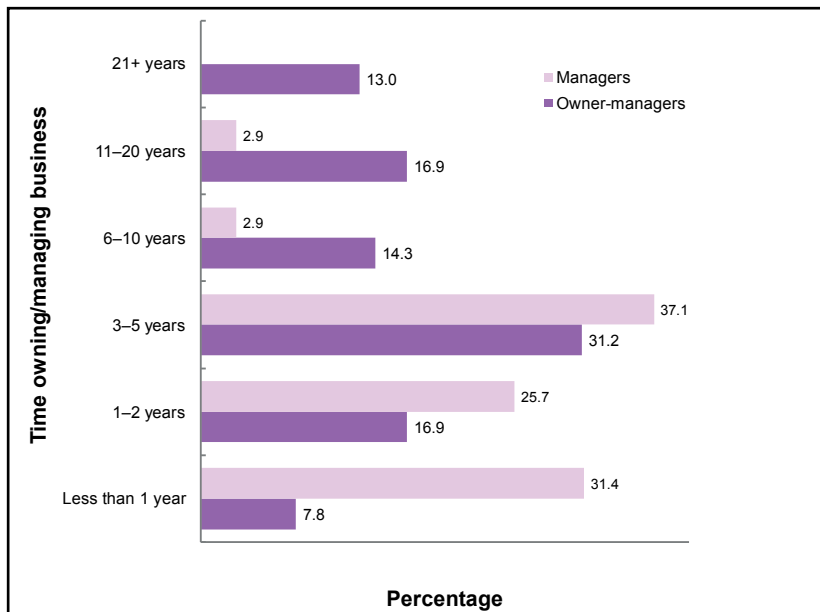


Figure 3.4: Years current owner/manager has been in the business

### 3.3.2.5 Intention to stay in the business

In contrast to owner-managers, managers indicated that they only intended to stay in the business for a short time, that is, 1–2 years (see Figure 3.5). Some (20%) indicated they would stay for 3–5 years, while few said they would stay more than 5 years. A significant proportion (17%) indicated they did not know how long they would remain in the business.

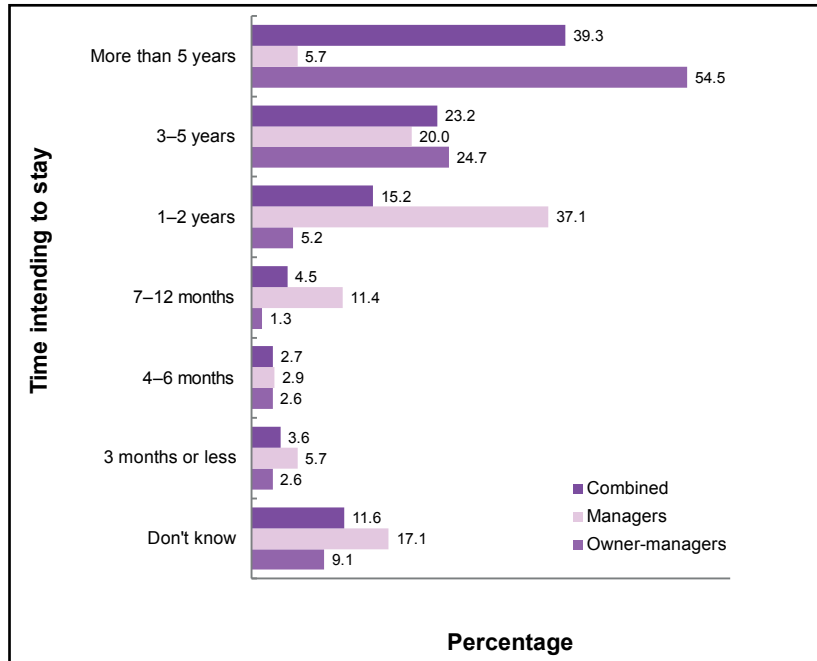


Figure 3.5: Intention to stay in the business

### 3.3.2.6 Number of employees

The majority of the businesses surveyed had 1–5 permanent employees (see Figure 3.6). In addition, one-third indicated having a similar number of seasonal employees. However, many of the businesses (42%) did not use seasonal employees at all. Having fewer than 20 employees in total, the majority of the businesses surveyed would be regarded a ‘small business’.

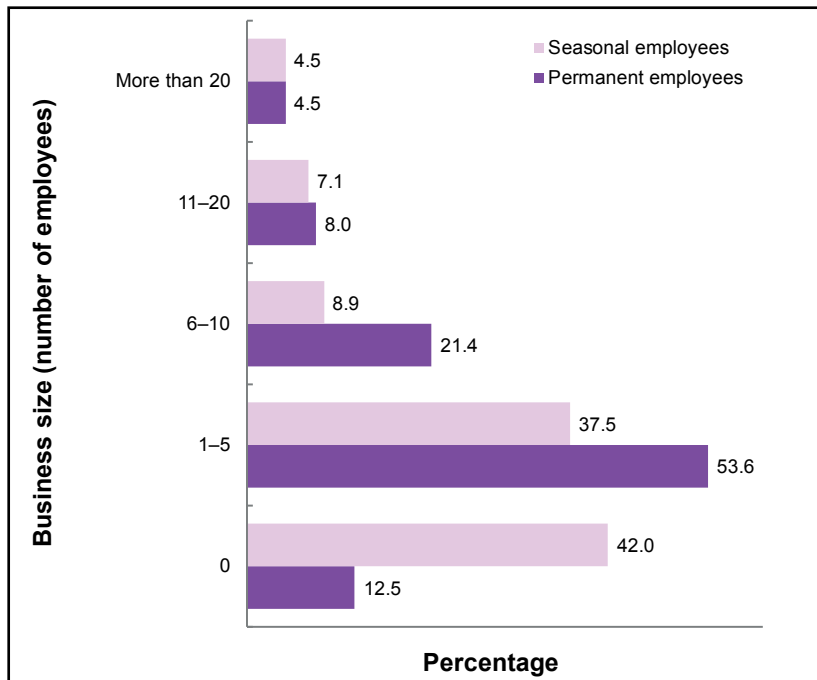


Figure 3.6: Numbers of permanent and seasonal employees

### 3.3.2.7 Duration employees stay in the business

The majority of permanent employees (58.1%) stayed in the business 1–5 years (see Figure 3.7). For the remainder, there was considerable variability in the length of time they stayed in the business. Some 20% stayed for less than 12 months, while others stayed for up to 20 years.

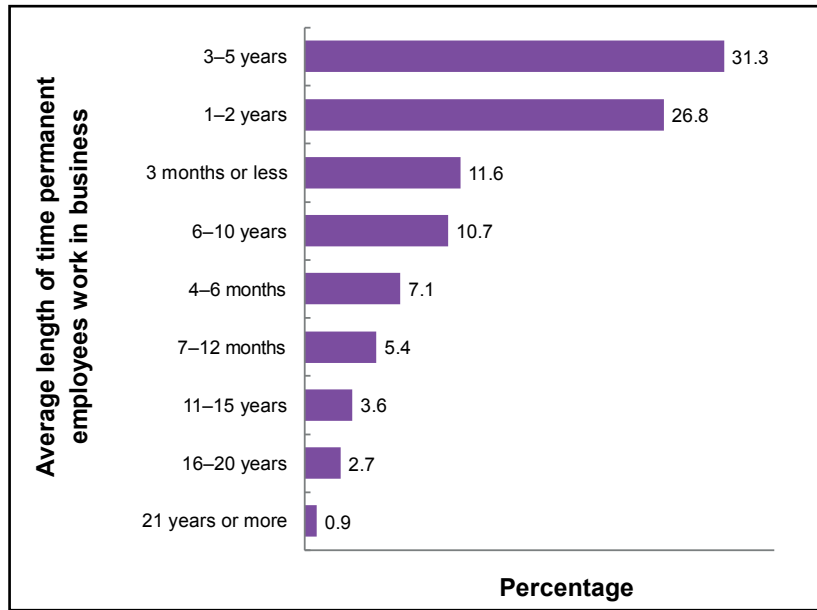


Figure 3.7: Permanent employee tenure length

### 3.3.2.8 Ways employees are attracted to the business

The main way (41.2%) that permanent employees were attracted to the business was by word of mouth (see Figure 3.8). Alternatively, respondents either advertised in the paper (23.1%) or online (15%), with only a view using recruitment agencies (11%).

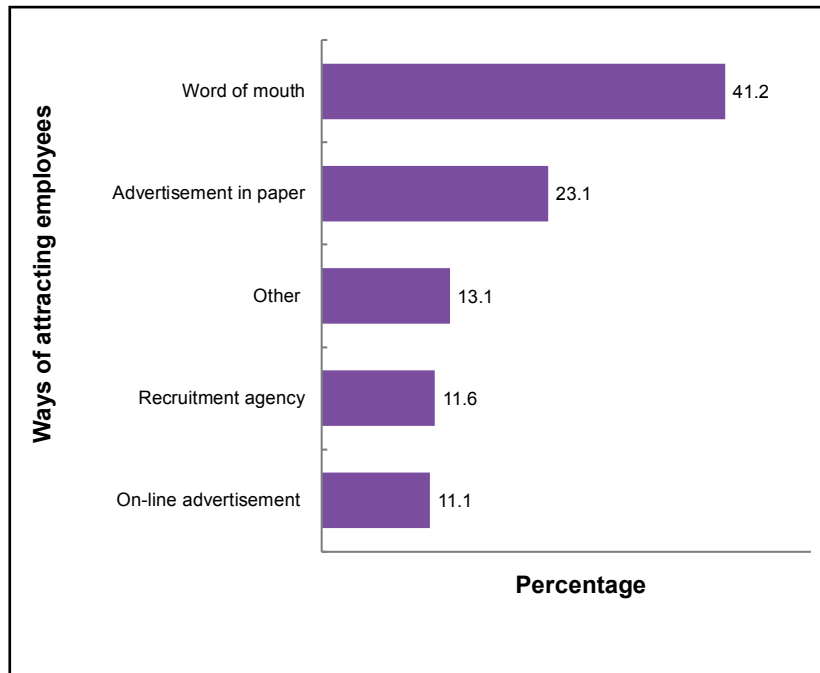


Figure 3.8: Ways of attracting employees to the business

### 3.3.2.9 Legal structure of the business

The largest proportion of businesses investigated (one-third) were partnerships. Approximately one-quarter were registered corporations, and family businesses comprised 20% of the study population. Sole proprietors numbered 18%, and a minority were part of a franchise (see Figure 3.9).

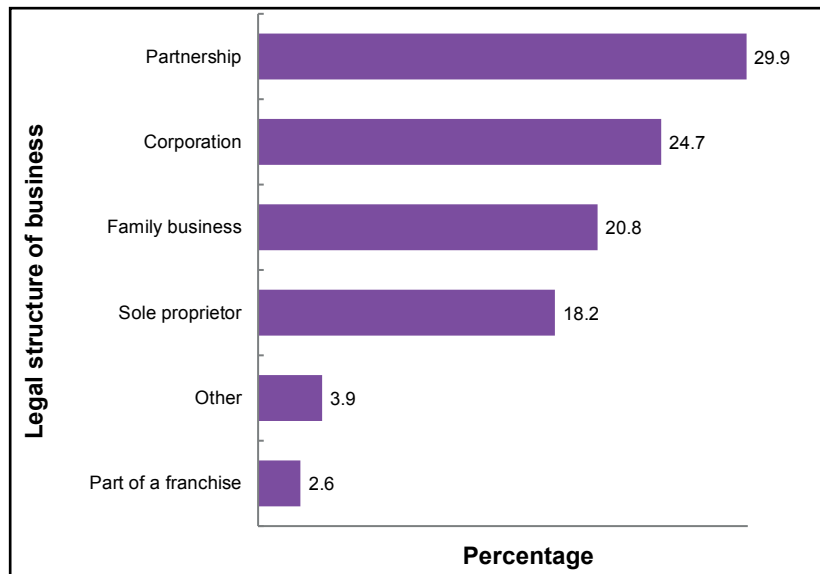


Figure 3.9: Legal structure of the business

### 3.3.2.10 Source of finance

The primary source of finance for the businesses participating in the study was loans (62%), followed by bank overdrafts (39%), trade creditors (25%) and a minority (9%) who indicated a need to either sell their assets or to reduce their stock to provide ongoing finance (see Figure 3.10).

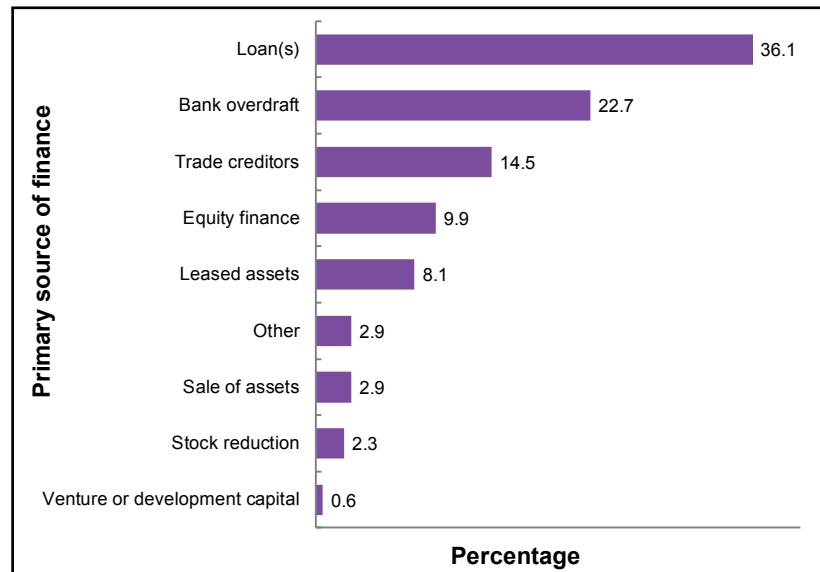


Figure 3.10: Primary sources of finance available to the business

### 3.3.2.11 Distance from nearest town

The majority of the respondents (66%) lived within the town limits (see Figure 3.11). However, some 20% lived more than 100 km from the nearest town. This latter group would be considered to live in reasonably remote conditions.

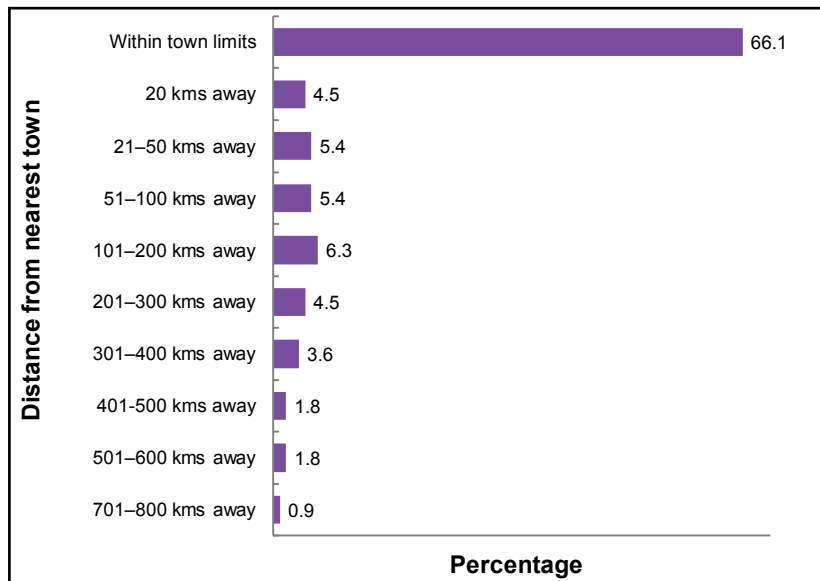


Figure 3.11: Distance from nearest town

### 3.3.3 Participant demographics

This section provides a brief overview of the participants surveyed, according to the final question on the survey instrument (see Appendix 1).

A total of 112 respondents completed the online survey, of whom 77 (68.8%) were owner-managers and 35 managers. Just over half of all respondents were female (55.4%, n=62). Of these, 41 (66.1%) were owner-managers, and 21 (33.9%) were the managers. The owner-manager and manager groups tended to vary in age (see Figure 3.12). Nearly one half of the owner-managers (45.5%) were in the 41-50 age group; the managers fell mostly into one of three age groups: 20% were in the 21-30 age category, 28.6% fell in the 31-40 category, and 31.4% were 51-60 years old.

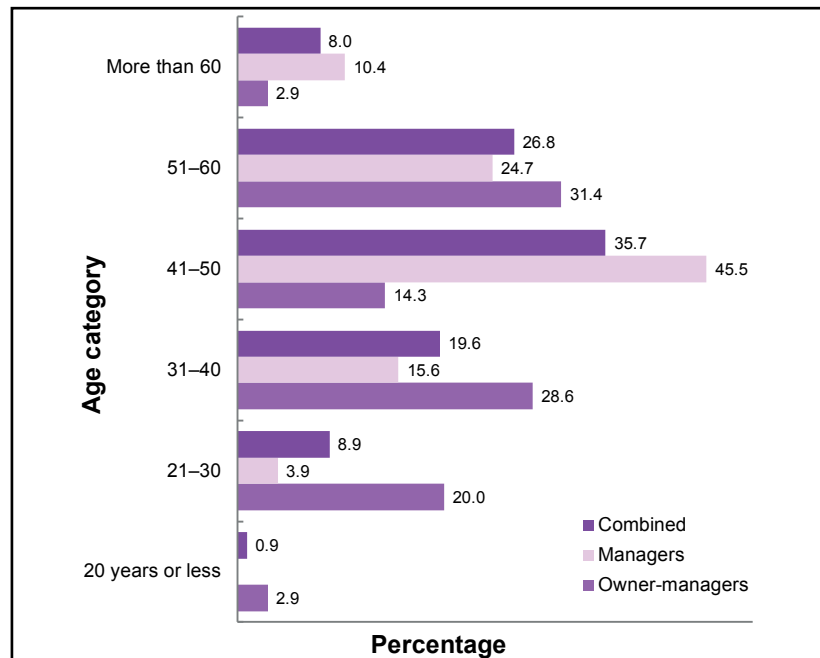


Figure 3.12: Respondents' ages

The educational qualifications of respondents varied, as shown in Figure 3.13. The highest qualification held by 49 (43.8%) respondents was limited to high school completion; 26 (23.2%) held certificate-level qualifications; and 23 (20.5%) had university degrees.

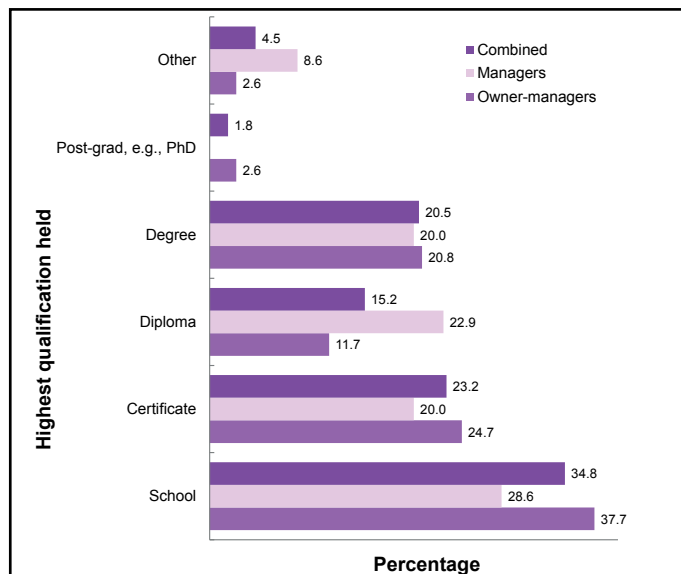


Figure 3.13: Highest qualification held by the respondents

### 3.3.4 Online survey

Originally, the online survey for owner-managers had four sections and the survey for managers-only consisted of 3 sections. Later, relevant questions were added to both surveys so that each had five sections (see Appendix 1). The sections are described next.

#### 3.3.4.1 Business success

A single item rated on a 7-point scale (1 = not successful, 7 = very successful; see Appendix 1) was used to measure how successful the respondents considered their business to have been over the past three years.

#### 3.3.4.2 Identifying factors important to business success in general

To identify what factors owner-managers and managers considered important to the success of a business in general, 20 items rated on a 7-point Likert scale (1 = not important, 7 = very important; see Appendix 1) were included.

#### 3.3.4.3 Factors important for the success of your business in the last three years and their availability

Twenty-seven items were used to measure how important each factor was believed to be to the success of the business for the last three years. Responses were rated on a 7-point Likert scale (1 = not important, 7 = very important; see Appendix 1). The findings of previous research (see Chapter 2), and also the results from the interviews guided the design and selection of the items.

The same 27 items, rated on a 7-point Likert scale (1 = not available, 7 = readily available; see Appendix 1), were used to measure what access the respondents had to these factors.

#### 3.3.4.4 Importance of leadership roles

Twenty-five items were used to measure how important each leadership behaviour was to the success of the business. Responses were rated on a 7-point Likert scale (1 = not important, 7 = very important; see Appendix 1).

#### 3.3.4.5 Demographic information

The survey also included 21 items that were designed to collect various demographic data (see Appendix 1); the data from these questions were used to compile the business demographics and participant demographics sections above.

# Chapter 4: Results

## 4.1 Overview

This chapter outlines the key findings from both studies.

## 4.2 Study 1: Face-to-face interviews

### 4.2.1 Recent success of the business

By and large, the interviewees ( $n = 88$ ), particularly the managers ( $n = 76$ ) thought that the business have been reasonably successful in the last three years. However, the owner-managers ( $n = 12$ ) reported that their business had faced some challenges during that time, and had not been as successful as it had been in previous years. Some of these challenges may have been linked to the drought conditions that had been prevalent during this period. The majority of the businesses were in remote regions of desert Australia.

### 4.2.2 Factors used to measure business success

Interviewees were asked to nominate what factors they used to measure the success of their business (see Figure 4.1). The most common ones were:

- making a profit
- seeing business grow
- rate of return on assets
- making a valuable asset for sale

Interviewees also mentioned several other indices, with the least mentioned ones being ‘valuable asset for children’ and ‘employees working as a team’.

All of these factors were then included in the online survey that was distributed to owner-managers and managers of business in desert Australia in Study 2.

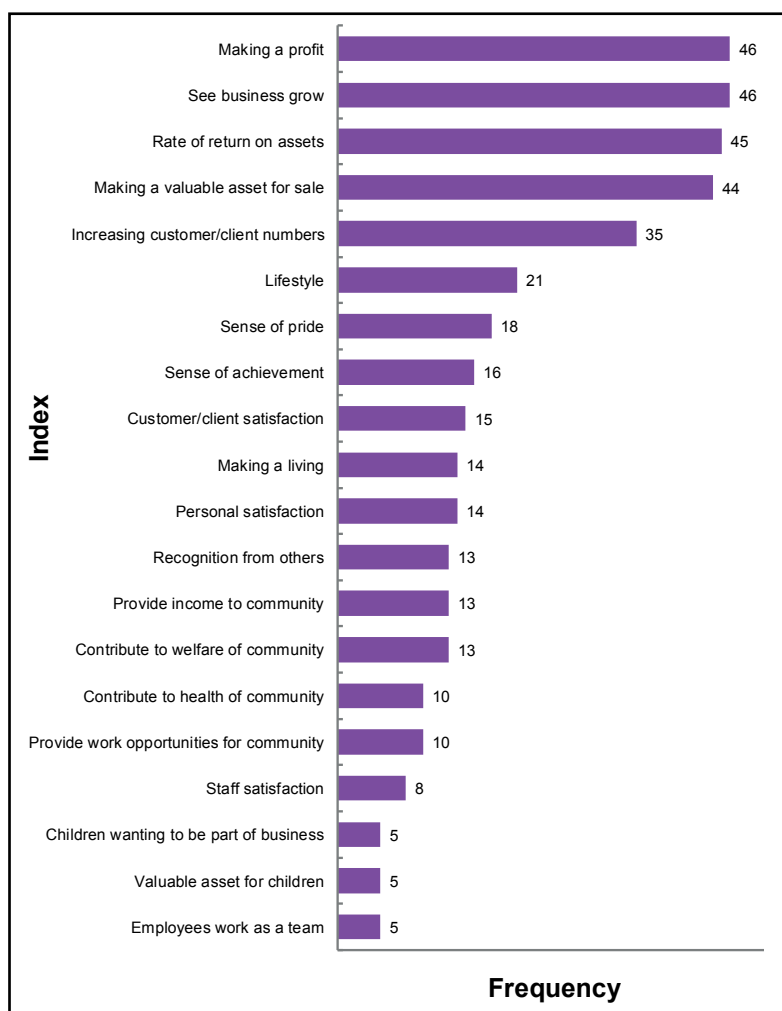


Figure 4.1: Indices of business success for managers and owner-managers interviewed ( $n = 88$ )

### 4.2.3 Factors considered important to the success of the business

The owner-managers and managers were asked to indicate what factors were important to the *success* of the business. The most frequently mentioned factors were safe and all-weather roads, tourist trade, fuel prices, Internet, e-mail access, staff with work skills, availability of staff, road transport, and reliable suppliers (see Figure 4.2).

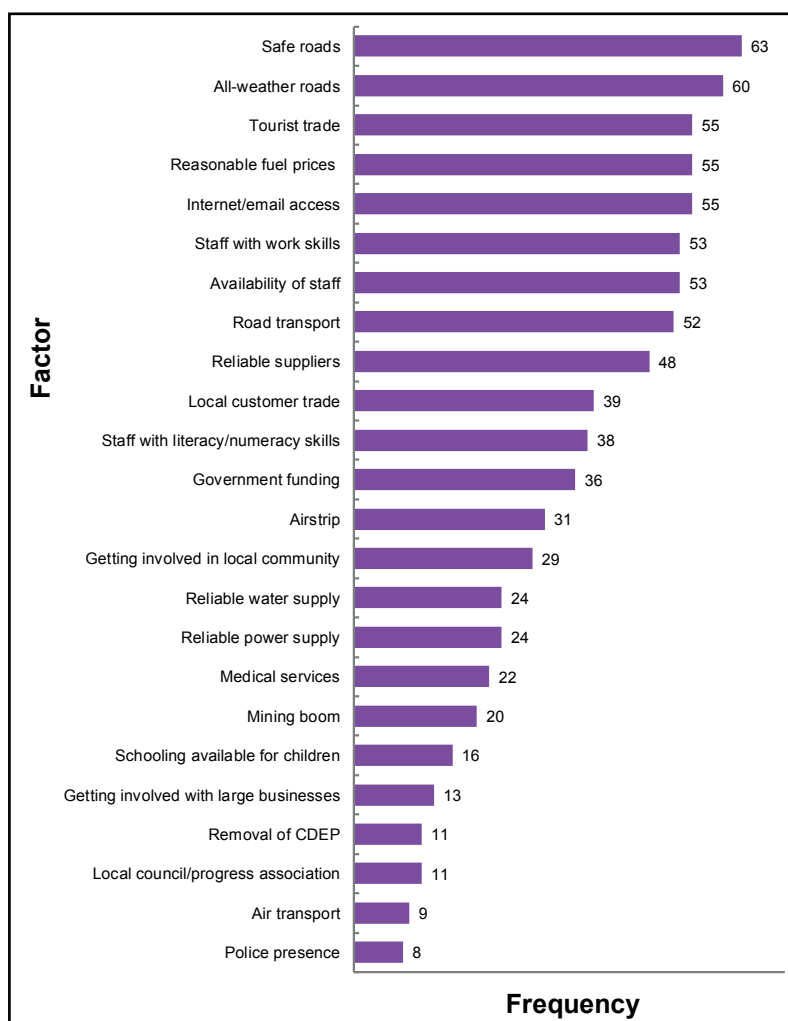


Figure 4.2: Factors important for business success for managers and owner-managers interviewed (n = 88)

Of less importance were getting involved with large businesses, removal of CDEP (Community Development Employment Projects), local council/progress association, air transport and police presence.

These factors were also included in the online survey that was distributed to owner-managers and managers in desert Australia in Study 2.

## 4.3 Results of Study 2: Online survey

### 4.3.1 Recent success of the business

Preliminary data exploration showed that the data were not normally distributed. The Shapiro-Wilk tests (e.g. Field 2005) were significant at  $p < .01$ , regardless of the group tested (total sample, owner-managers, managers). The group difference reported below was thus tested via a Mann-Whitney test.

As a group, the 107 respondents thought the business had been reasonably successful in the last three years, median = 5.00 (on a 7-point scale where 7 = very successful). The Mann-Whitney test yielded a non-significant result which showed that the owner-managers (*mean rank* = 52.7) did not differ from the managers (*mean rank* = 56.7),  $U = 1148.5$ , *ns*, in their perception of business success.

### 4.3.2 Importance of the indices of business success

Before examining the importance differences among the indices of business success, the 20 variables were tested for normality. With one exception, all variables (total sample, owner-managers and managers) were significantly non-normal and so non-parametric tests were used to examine the differences in importance of the indices of business success.

Next, a series of 20 Mann-Whitney tests (with Bonferroni correction) was carried out, to identify any differences in the indices importance between owner-managers and managers. The two groups differed significantly only on two of these variables: ‘providing opportunities for members of local community to develop skills’, effect size =  $-.44$ , and ‘seeing employees work as a team’, effect size =  $-.33$ . In both cases, the managers ascribed greater importance to the index of business success than the owner-managers did.

As can be seen from Table 4.1, the most important factor used by both groups to judge the success of the business was ‘customer/client satisfaction’ ( $mean\ rank_{owners} = mean\ rank_{managers} = 15.03$ ). The least important factors for both groups were ‘children wanting to be part of business’ ( $mean\ rank_{owners} = 3.89$ ,  $mean\ rank_{managers} = 2.50$ ), and ‘valuable asset for children’ ( $mean\ rank_{owners} = 6.74$ ,  $mean\ rank_{managers} = 3.79$ ).

Table 4.1: Mean importance ranks for indices of business success (for owner-managers and managers separately)

Index		Mean importance rank <sup>a</sup>	Index		Mean importance rank <sup>b</sup>
11.	Customer/client satisfaction	15.03	11.	Customer/client satisfaction	15.03
16.	Sense of achievement	13.80	20.	Sense of pride	14.00
20.	Sense of pride	13.63	18.	Employees work as a team*	13.88
4.	Personal satisfaction	13.48	17.	See business grow	13.50
17.	See business grow	12.60	12.	Staff satisfaction	13.03
1.	Making a profit	12.51	16.	Sense of achievement	12.29
5.	Make a living	12.41	6.	Contribute to welfare of community	12.21
12.	Staff satisfaction	12.33	10.	Increasing customer/client numbers	12.09
18.	Employees work as a team*	12.11	7.	Provide work opportunities for community*	11.88
10.	Increasing customer/client numbers	11.96	4.	Personal satisfaction	11.71
15.	Lifestyle	11.07	8.	Provide income to community	11.56
2.	Making a valuable asset for sale	10.22	1.	Making a profit	11.41
6.	Contribute to welfare of community	9.79	5.	Make a living	10.88
3.	Rate of return on assets	9.17	9.	Contribute to health of community	9.50
8.	Provide income to community	7.56	3.	Rate of return on assets	8.35
9.	Contribute to health of community	7.53	15.	Lifestyle	8.29
7.	Provide work opportunities for community*	7.30	19.	Recognition from others	7.59
19.	Recognition from others	6.86	2.	Making a valuable asset for sale	6.50
13.	Valuable asset for children	6.74	13.	Valuable asset for children	3.79
14.	Children wanting to be part of business	3.89	14.	Children wanting to be part of business	2.50

Note: <sup>a</sup> $\chi^2(19, n = 47) = 301.78, p < .001$ ; <sup>b</sup> $\chi^2(19, n = 17) = 129.43, p < .001$ .

Given that only two factors showed a significant difference between the two groups, tests of importance differences between the indices of business success were performed on the data from the two groups of respondents combined. A Friedman’s ANOVA for repeated measures was employed, because of the non-normality of the data. Its significant result,  $\chi^2(19, N = 64) = 389.24, p < .001$ , demonstrated that the indices differed significantly in their importance.

Table 4.2 shows that ‘customer/client satisfaction’ had the highest mean rank importance score. A follow-up Wilcoxon test (with Bonferroni correction) revealed that this factor was significantly more important than all the other measures,  $p < .002$ . Conversely, a Wilcoxon test (with Bonferroni correction) for ‘valuable asset for children’ showed that this factor was significantly more important than ‘children wanting to be part of business’, but significantly less important than the remaining factors. The factor ‘children wanting to be part of business’ was significantly less important than the other 19 factors,  $p < .001$ ; that is, it was the least important factor (see also Figure 4.3).

Index	Mean importance rank
11. Customer/client satisfaction	15.03
20. Sense of pride	13.73
16. Sense of achievement	13.40
4. Personal satisfaction	13.01
17. See business grow	12.84
18. Employees work as a team*	12.58
12. Staff satisfaction	12.52
1. Making a profit	12.22
5. Make a living	12.01
10. Increasing customer/client numbers	11.99
6. Contribute to welfare of community	10.43
15. Lifestyle	10.34
2. Making a valuable asset for sale	9.23
3. Rate of return on assets	8.95
8. Provide income to community	8.63
7. Provide work opportunities for community*	8.52
9. Contribute to health of community	8.05
19. Recognition from others	7.05
13. Valuable asset for children	5.96
14. Children wanting to be part of business	3.52

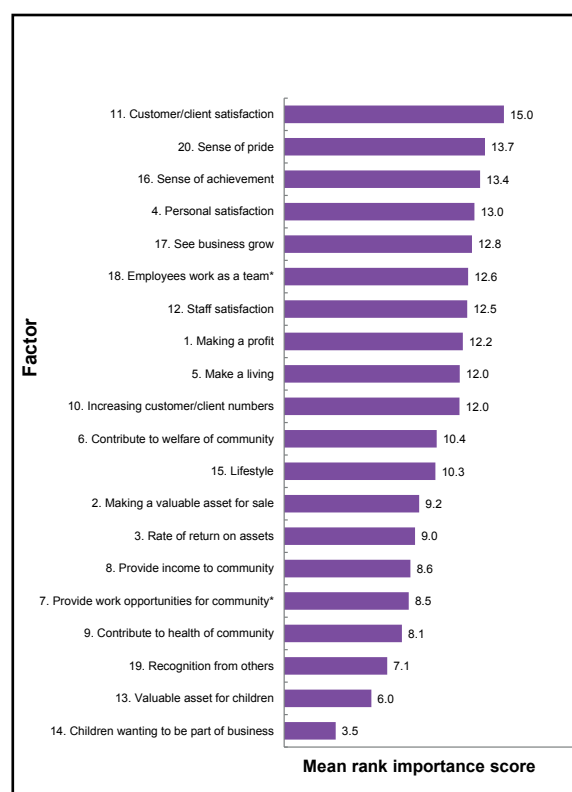


Table 4.2: Mean importance ranks for indices of business success (owner-managers’ and managers’ data combined)

Figure 4.3: Factors used to measure business success and their mean rank importance to managers and owners-managers

Note:\* Factors with significant owner-manager–manager difference in mean rank importance scores.

### 4.3.3 Important factors needed for business success

The respondents were also asked to indicate how important to their business certain factors were in the last three years. The responses to the 27 variables were first tested for non-normality. All Shapiro-Wilk tests were significant at  $p < .05$ . Consequently, tests of differences between owner-managers and managers were carried out using Mann-Whitney test (with Bonferroni correction). None of the results was significant (all significance levels were greater than the adjusted alpha of .00185). Therefore, the owner-managers’ and managers’ data were combined in the analyses of factor importance differences.

Table 4.3 demonstrates that in both groups, ‘Internet/e-mail access’ ( $mean\ rank_{owners} = 20.21$ ;  $mean\ rank_{managers} = 18.74$ ) and ‘reliable power supply’ ( $mean\ rank_{owners} = 19.64$ ;  $mean\ rank_{managers} = 19.12$ ) were the most important factors. The least important factors were ‘rail transport’ ( $mean\ rank_{owners} = 6.93$ ;  $mean\ rank_{managers} = 5.65$ ) and ‘removal of CDEP’ ( $mean\ rank_{owners} = 6.71$ ;  $mean\ rank_{managers} = 7.74$ ).

Table 4.3: Mean importance ranks for factors important to business success (for owner-managers and managers separately)

Owner-managers			Managers		
Factor		Mean importance rank <sup>a</sup>	Factor		Mean importance rank <sup>b</sup>
6.	Internet/e-mail access	20.21	7.	Reliable power supply	19.12
7.	Reliable power supply	19.64	6.	Internet/e-mail access	18.74
18.	Reliable suppliers	18.02	12.	Availability of staff	18.62
8.	Reliable water supply	17.80	18.	Reliable suppliers	17.76
19.	Reasonable fuel prices	16.89	8.	Reliable water supply	17.18
5.	Safe roads	16.88	14.	Staff with literacy/numeracy skills	16.94
27.	Medical services	16.63	13.	Staff with work skills	16.82
17.	My management style	15.88	5.	Safe roads	16.18
13.	Staff with work skills	15.73	9.	Tourist trade	15.62
12.	Availability of staff	15.68	27.	Medical services	15.29
16.	Access to finance	15.59	19.	Reasonable fuel prices	15.26
14.	Staff with literacy/numeracy skills	15.39	17.	My management style	15.26
9.	Tourist trade	15.00	15.	Local customer trade	15.24
4.	All-weather roads	14.88	4.	All-weather roads	15.15
1.	Road transport	14.38	24.	Airstrip	13.56
15.	Local customer trade	13.95	11.	Getting involved in local community	13.50
16.	Access to finance	12.52	25.	Policy presence	13.32
23.	Government funding	12.43	10.	Getting involved with large businesses	13.09
21.	Schooling available for children	12.13	26.	Mining boom	12.32
11.	Getting involved in local community	11.86	1.	Road transport	12.29
24.	Airstrip	11.23	16.	Access to finance	12.12
22.	Local council/progress Association	10.77	22.	Local council/progress Association	11.32
26.	Mining boom	10.77	3.	Air transport	10.53
10.	Getting involved with large businesses	10.38	23.	Government funding	10.32
3.	Air transport	9.75	21.	Schooling available for children	9.06
2.	Rail transport	6.93	20.	Removal of CDEP	7.74
20.	Removal of CDEP	6.71	2.	Rail transport	5.65

Note:  $\chi^2(26, n = 28) = 182.48, p < .001$ ;  $\chi^2(26, n = 17) = 116.35, p < .001$ .

A Friedman’s ANOVA performed on the combined data yielded a significant result,  $\chi^2(26, N = 45) = 281.62, p < .001$ , indicating that the factors differed significantly in their importance.

Table 4.4 shows that ‘Internet/email access’ and ‘reliable power supply’ were seen as the most important factors for business success. Follow-up Wilcoxon tests (with Bonferroni correction) demonstrated that the two factors were equally important ( $z = 0.00, ns$ ), and that they were significantly more important than most of the remaining variables (see Appendix 2, Tables A2.1 and A2.2).

Table 4.4 also indicates that ‘removal of CDEP’ and ‘rail transport’ were seen as the least important. Follow-up Wilcoxon tests (with Bonferroni correction) showed that the two factors did not differ significantly from each other in importance ( $z = -1.13, ns$ ), and that they were significantly less important than most of the remaining 25 variables (see Appendix 2, Tables A2.3 and A2.4).

Factor	Mean importance rank
6. Internet/e-mail access	19.66
7. Reliable power supply	19.44
18. Reliable suppliers	17.92
8. Reliable water supply	17.57
12. Availability of staff	16.79
5. Safe roads	16.61
19. Reasonable fuel prices	16.28
13. Staff with work skills	16.14
27. Medical services	16.12
14. Staff with literacy/numeracy skills	15.98
17. My management style	15.64
9. Tourist trade	15.23
4. All-weather roads	14.98
15. Local customer trade	14.43
16. Access to finance	14.28
1. Road transport	13.59
25. Police presence	12.82
11. Getting involved in local community	12.48
24. Airstrip	12.11
23. Government funding	11.63
10. Getting involved with large businesses	11.40
26. Mining boom	11.36
22. Local council/progress Association	10.98
21. Schooling available for children	10.97
3. Air transport	10.04
20. Removal of CDEP	7.10
2. Rail transport	6.44

Table 4.4: Mean importance ranks of factors of business success (owner-managers' and managers' data combined)

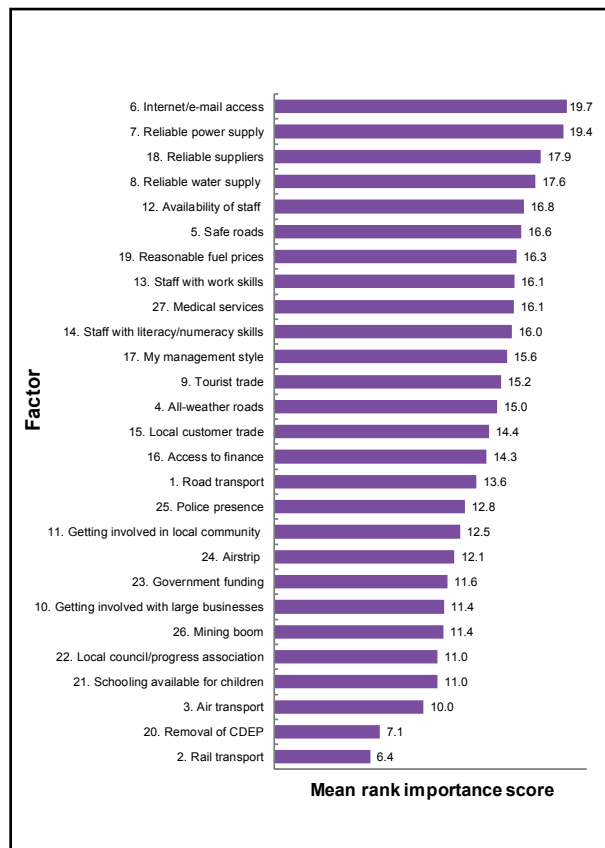


Figure 4.4: Mean rank importance scores of factors important to business success

Table 4.5: Relative importance of factors to business success

Factors important to business success
<b>Most important</b>
<ul style="list-style-type: none"> <li>• Internet, e-mail access</li> <li>• reliable power supply</li> </ul>
<b>Least important</b>
<ul style="list-style-type: none"> <li>• removal of CDEP</li> <li>• rail transport</li> </ul>

#### 4.3.4 Availability of important factors

Respondents were asked to report on the *availability* of the factors thought to be important to the success of the business. The data for the 27 questions were examined for non-normality. All variables in the total sample, 25 in the owner-managers' data, and 13 in the manager's data were significantly non-normal (i.e., Shapiro-Wilk tests were significant at  $p < .05$ ). Therefore, tests of factors availability between owner-managers and managers were performed via a series of Mann-Whitney tests (with

Bonferroni correction of alpha =  $.05/27 = .00185$ ). All 27 tests yielded results with probabilities greater than the adjusted alpha. The owner-managers' and managers' data were thus combined in the analyses of factor availability differences.

However, Table 4.6 suggests that the rank order of factors availability was very different across the two groups. Only 'reasonable fuel prices' was the least available factor in both groups.

Table 4.6: Mean availability ranks for factors important to business success (for owner-managers and managers separately)

Owner-managers			Managers		
Factor		Mean availability rank <sup>a</sup>	Factor		Mean availability rank <sup>b</sup>
6.	Internet/e-mail access	20.98	17.	My management style	20.69
1.	Road transport	20.29	6.	Internet/e-mail access	19.75
7.	Reliable power supply	19.66	8.	Reliable water supply	19.69
8.	Reliable water supply	18.71	11.	Getting involved in local community	19.25
16.	Access to finance	18.68	25.	Police presence	18.69
24.	Airstrip	17.38	7.	Reliable power supply	18.22
18.	Reliable suppliers	16.41	1.	Road transport	16.69
11.	Getting involved in local community	16.36	10.	Getting involved with large businesses	16.66
17.	My management style	16.25	9.	Tourist trade	16.50
21.	Schooling available for children	15.89	24.	Airstrip	16.22
15.	Local customer trade	15.30	15.	Local customer trade	15.94
9.	Tourist trade	15.04	18.	Reliable suppliers	15.72
3.	Air transport	14.95	27.	Medical services	14.72
25.	Police presence	14.66	16.	Access to finance	13.88
5.	Safe roads	14.57	3.	Air transport	13.34
4.	All-weather roads	13.66	22.	Local council/progress Association	13.09
10.	Getting involved with large businesses	12.77	26.	Mining boom	12.56
27.	Medical services	12.30	20.	Removal of CDEP	12.13
22.	Local council/progress Association	12.18	5.	Safe roads	11.69
14.	Staff with literacy/numeracy skills	11.91	4.	All-weather roads	11.22
12.	Availability of staff	10.70	21.	Schooling available for children	10.91
26.	Mining boom	10.34	14.	Staff with literacy/numeracy skills	10.28
13.	Staff with work skills	9.11	2.	Rail transport	10.19
2.	Rail transport	8.73	12.	Availability of staff	8.03
23.	Government funding	8.30	23.	Government funding	7.78
20.	Removal of CDEP	7.29	13.	Staff with work skills	7.19
19.	Reasonable fuel prices	5.59	19.	Reasonable fuel prices	7.00

Note: <sup>a</sup> $\chi^2(26, n = 28) = 219.36, p < .001$ ; <sup>b</sup> $\chi^2(26, n = 16) = 121.30, p < .001$ .

A Friedman's ANOVA performed on the combined data yielded a significant result,  $\chi^2(26, N = 44) = 304.71, p < .001$ , indicating that the factors differed significantly in their availability.

Table 4.7 shows that ‘Internet/email access’, ‘reliable power supply’, ‘reliable water supply’, and ‘road transport’ were seen as the most readily available factors. Follow-up Wilcoxon tests (with Bonferroni correction) demonstrated that the four factors were equally available ( $|z|$  ranged from 0.05 to 1.73, *ns*), and that they were significantly more available than most of the remaining variables (see Appendix 3, Tables A3.1 to A3.4).

Table 4.7 also indicates that ‘staff with work skills’, ‘Government funding’, and ‘reasonable fuel prices’ were seen as the least available factors. Follow-up Wilcoxon tests (with Bonferroni correction) demonstrated that ‘reasonable fuel prices’ was significantly less available than most of the remaining variables, and that the ‘Government funding’ perceived availability did not differ from the availability of ‘staff with work skills’ and ‘reasonable fuel prices’ (see Appendix 3, Tables A3.5 to A3.7).

Factor	Mean availability rank
6. Internet/e-mail access	20.53
7. Reliable power supply	19.14
8. Reliable water supply	19.07
1. Road transport	18.98
17. My management style	17.86
11. Getting involved in local community	17.41
24. Airstrip	16.95
16. Access to finance	16.93
18. Reliable suppliers	16.16
25. Police presence	16.13
9. Tourist trade	15.57
15. Local customer trade	15.53
3. Air transport	14.36
10. Getting involved with large businesses	14.18
21. Schooling available for children	14.08
5. Safe roads	13.52
27. Medical services	13.18
4. All-weather roads	12.77
22. Local council/progress association	12.51
14. Staff with literacy/numeracy skills	11.32
26. Mining boom	11.15
12. Availability of staff	9.73
2. Rail transport	9.26
20. Removal of CDEP	9.05
13. Staff with work skills	8.41
23. Government funding	8.11
19. Reasonable fuel prices	6.10

Table 4.7: Mean availability ranks of factors important to business success (owner-managers’ and managers’ data combined)

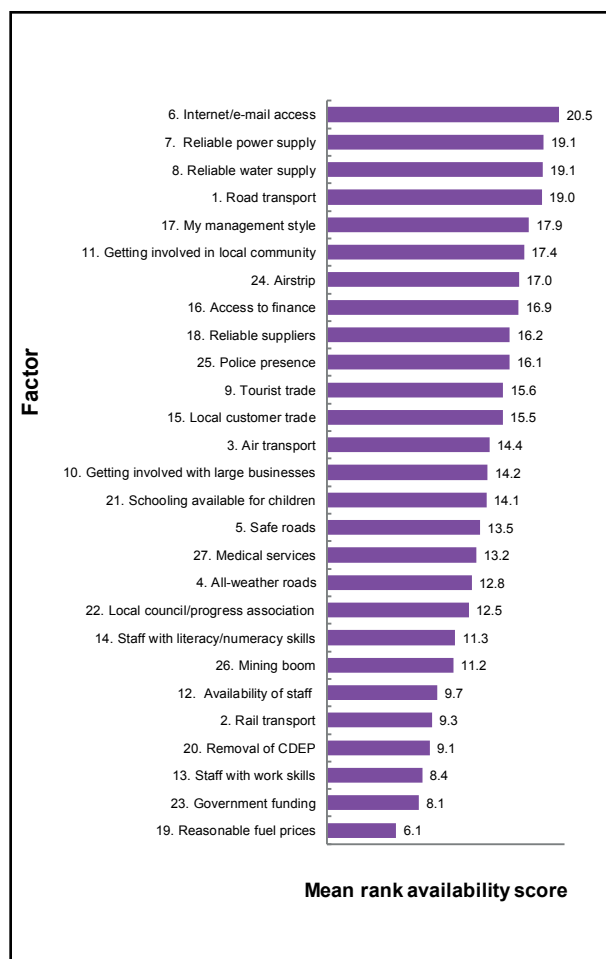


Figure 4.5: Mean rank availability of factors important to business success

Table 4.8: Important factor availability

Factor availability	
Most available	Internet, e-mail access
	reliable power supply
	reliable water supply
	management style
	road transport
	getting involved in local community
	airstrip
	access to finance
	reliable suppliers
	tourist trade
	police presence
Least available	availability of staff
	removal of CDEP
	staff with work skills
	reasonable fuel prices
	government funding
	rail transport

However, the owner-managers and managers differed significantly in the extent to which they considered important factors to be available (see Appendix 4). In particular, the owner-managers said that ‘Internet/ e-mail access’, ‘availability of staff who had literacy and numeracy skills’, ‘access to finance’, and ‘schooling’ (for their children) were significantly more available than the managers indicated (see Table 4.4).

Table 4.9: Availability of factors important to business success (owner-managers vs. managers)

Factor		Mean rank		Mann-Whitney U	Asymp.Sig* (2-tailed)
		Owner-managers	Managers		
6.	Internet, e-mail access	21.0	19.8	826.0	.005
12.	availability of staff	10.7	8.0	765.5	.024
14.	staff with literacy and numeracy skills	11.9	10.2	725.5	.011
16.	access to finance	18.7	13.9	656.5	.009
20.	removal of CDEP	7.3	11.7	250.0	.009
21.	schooling available for my children	15.9	10.9	489.0	.043

When the most important factors (for business success) were compared to their availability, respondents indicated reasonable access to six of these; ‘reliable power’ and ‘water supply’, ‘Internet/e-mail access’, ‘reliable suppliers’, (their) ‘management style’ and ‘tourist trade’ (see Table 4.5). They also reported moderate access to four very important factors, namely; ‘safe roads’, ‘medical services’, ‘all-weather roads’ and ‘staff with literacy/numeracy skills’. The remaining three very important factors, i.e., ‘staff with work skills’, ‘availability of staff’, and ‘reasonable fuel prices’ were available only to a very limited extent.

Table 4.10: Availability of factors important for business success

<b>Importance</b>	<b>Availability</b>
<b>Very important factor (Mean = 6.0 to 6.8 on a 7-point scale)</b>	<b>Reasonable access (Mean = 5.1 to 5.9 on a 7-point scale)</b>
7. Reliable power supply	√
6. Internet, e-mail access	√
18. Reliable suppliers	√
8. Reliable water supply	√
17. My management style	√
9. Tourist trade	√
	<b>Moderate access (Mean = 4.2 to 4.9 on a 7-point scale)</b>
5. Safe roads	√
27. Medical services	√
4. All-weather roads	√
14. Staff with literacy /numeracy skills	√
	<b>Limited access (Mean = 3.3 to 3.7 on a 7-point scale)</b>
13. Staff with work skills	√
12. Availability of staff	√
19. Reasonable fuel prices	√
<b>Reasonably important factor (Mean = 5.0 to 5.9 on a 7-point scale)</b>	<b>Reasonable access (Mean = 5.1 to 5.9 on a 7-point scale)</b>
1. Road transport	√
16. Access to finance	√
11. Getting involved in local community	√
25. Police presence	√
24. Airstrip	√
	<b>Moderate access (Mean = 4.2 to 4.9 on a 7-point scale)</b>
15. Local customer trade	√
22. Local council/progress association	√
26. Mining boom	√
10. Getting involved with large businesses	√
21. Schooling available for children	√
	<b>Limited access (Mean = 3.3 to 3.7 on a 7-point scale)</b>
23. Government funding	√
<b>Moderately important factor (Mean = 3.6 to 4.6 on a 7-point scale)</b>	<b>Moderate access (Mean = 4.2 to 4.9 on a 7-point scale)</b>
3. Air transport	√
	<b>Limited access (Mean = 3.3 to 3.7 on a 7-point scale)</b>
20. Removal of CDEP	√
2. Rail transport	√

Respondents had reasonable to moderate access to the factors they regarded as *reasonably* important, i.e., ‘road transport’ and ‘finance’ (see Table 4.5). Factors regarded as *moderately* important were available to only a moderate or limited extent. (see Table 4.5)

### 4.3.5 Importance of leadership roles

Both owner-managers and managers were asked about the importance of a number of effective leadership behaviours thought to constitute the six leadership roles in the ICVF model (Vilkinas & Cartan 2001, 2006). As can be seen from the mean role scores in Figure 4.6, the roles were regarded as extremely important (on a 1–7 scale, where 7 = very important).

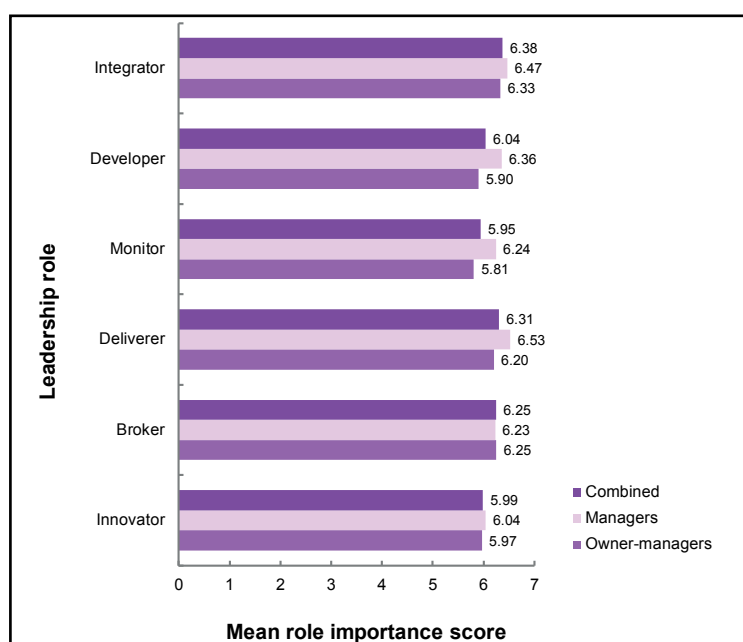


Figure 4.6: Importance of leadership roles to business success

Before undertaking any analyses, the data were examined for non-normality. All three data sets (total sample, owner-manager, and manager data) contained significant non-normality, and so non-parametric tests were used in subsequent analyses.

To see whether owner-managers and managers differed on any of the six leadership roles, Mann-Whitney U tests (with Bonferroni correction of  $\alpha = .05/6 = .0083$ ) were applied to the data. None of the tests yielded a significant result (all probabilities were greater than .02).

To test the relative importance of the six roles, a Friedman's ANOVA performed on the combined data yielded a significant result,  $\chi^2(5, N = 112) = 32.76, p < .001$ , indicating that the roles differed significantly in their importance.

As can be seen in Table 4.11 the Integrator role was relatively the most important leadership role. Five Wilcoxon tests (with Bonferroni adjustment to  $\alpha = .05/5 = .01$ ) were carried out, to compare the relative importance of the Integrator role to the importance of the Innovator, Broker, Deliverer, Monitor, and Developer. Their results (see Appendix 4, Table A4.1) showed that the Integrator was significantly more important than the Innovator, Monitor, and Developer, but that its importance was not different from that of the Broker and Deliverer.

Table 4.11 also indicates that the relatively least important leadership role was the Innovator. Four Wilcoxon tests (with Bonferroni adjustment of  $\alpha = .05/4 = .0125$ ) showed that the Innovator role was significantly less important than the Broker and Deliverer, but equally important as the Monitor and Developer (see Appendix 4, Table A4.2).

Table 4.11: Mean importance ranks of leadership roles (owner-managers' and managers' data combined)

Leadership role	Mean importance rank
Integrator	3.98
Deliverer	3.83
Broker	3.67
Developer	3.27
Monitor	3.26
Innovator	2.99

## Chapter 5: Discussion

This chapter discusses the results from both studies and embeds these within the previous literature.

### 5.1 The businesses

#### 5.1.1 Businesses profile

As described in more detail above (section 3), the majority of the businesses were involved in providing accommodation and food, and serving the tourism industry. This was followed by the retail trade and a mixture of businesses such as earth moving, livestock/pastoral, security, aviation, and gold prospecting. More managers were involved in arts and recreation services than owner-managers. Many of the participants said that worked long hours operating their businesses over most, if not all, days of the week.

The majority of the businesses were either partnerships or registered corporations and their primary source of finance was loans. Most of the respondents to the online survey operated within the town limits, whereas most of the interviewees were more than 100 kilometres from their nearest town. The reason behind this was that the researchers were able to access the businesses in remote areas personally and were part of the interviews.

The majority of the business had 1–5 permanent employees, with one-third having a similar number of seasonal employees. The majority of permanent employees stayed in the business 1–5 years. For the remainder of the employees there was quite a lot of variability in the length of time they stayed in the business. Some stayed there for less than 12 months, while others stayed up to 20 years. Many of the businesses did not use seasonal employees. Most of the businesses would be considered to be ‘small’ businesses, as they had less than 20 employees. The main way that permanent employees were attracted to the business was by word of mouth followed by advertising (in either the paper or online) with only a few respondents using recruitment agencies.

#### 5.1.2 Respondents’ profiles

The owner-managers tended to have been involved in their business for 3–5 years, though 13% of them had owned the business for more than 21 years. By comparison, managers tended to be relatively new, having been in the business for a shorter time (typically for 2 years or less), and did not intend to stay long.

### 5.2 Recent success of the business

The participants in both the interview and online studies thought their business had been reasonably successful in the previous 3 years. In the online study<sup>1</sup>, there was no significant difference between the owner-managers and the managers in the extent to which they indicated that their business had been successful.

### 5.3 Factors used to measure business success

Both owner-managers and managers were in agreement about the (5) factors they regarded as most important for measuring the success of their business. These were ‘customer/client satisfaction’ followed by a ‘sense of achievement’, ‘sense of pride’, ‘being able to see the business grow’ and ‘personal satisfaction’ (see Table 5.1). These factors were regarded as significantly more important than all the others.

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<sup>1</sup> Significance could not be tested for the interview study, because of the nature of the data collected.

These factors have also been identified as measures of business success in previous research. For instance, Simpson et al. (2004) identified customer/client satisfaction as a measure of business success for small businesses, as did Reijonen (Reijonen 2008; Reijonen & Komppula 2007) in her studies of craft and rural tourism in Finland (see Table 5.1). The factors of 'sense of achievement' and 'sense of pride' have also been identified in an earlier Australian study of small businesses (Walker & Brown 2004). Simpson et al. (2004) similarly reported that 'sense of achievement' was an important measure, while Getz and Carlsen (2000) found 'sense of pride' to be important for family-operated business in the rural tourism and hospitality industries (see Table 5.1).

The importance to business success of the factor, 'seeing the business grow' has also been identified in two previous studies, that is, Simpson et al. (2004) and Getz and Carlsen (2000). And finally, the importance of 'personal satisfaction' has been reported by Walker and Brown (2004), Getz and Carlsen (2000), Reijonen (2008), and Reijonen and Komppula (2007; and see Table 5.1).

Interestingly, owner-managers and managers indicated that they used several additional measures to determine the success of their business (see Table 5.1), including factors associated with their staff, supporting the work of Simpson et al. (2004), 'being able to make a living' (Reijonen 2008; Reijonen & Komppula 2007) and 'allowing a lifestyle I value' (Getz & Carlsen 2000; Walker & Brown 2004) as important. They also indicated the importance of 'making a profit', consistent with the work of Howard (2006), Simpson et al. (2004), Walker and Brown (2004) and Getz and Carlsen (2000).

Other factors identified included increasing customer/client numbers, teamwork and factors associated with impact of the business success on the local community. These later factors have rarely been identified previously, with the exception of Walker and Brown (2004) and Niehm et al. (2008) who identified 'contribution to the welfare of the local community'. Manager interviewees in Study 1 stated that such contributions to the local community were used by them as factors of business success (see Table 5.1).

Of lesser importance to both owner-managers and managers (but still important as indicators) were the business as a 'valuable asset for the owner's children', 'making a valuable asset for sale', and (the owner's) 'children wanting to be part of business'. Only the latter indicator has been identified previously (Walker & Brown 2004). Both owner-managers and managers said that while 'rate of return on assets' was important, it was not necessarily as important as the top five indicators. Simpson et al. (2004) and Reijonen and Komppula (2007) reported finding 'recognition by others' to be associated with business success; however, in this study it was not regarded as important as the top five factors mentioned above.

As is evident from Figure 4.3, owner-managers and managers were in agreement on most of the important factors they used to measure business success. The two groups of respondents differed only on 2 of the 20 factors (see also Table 4.1): 'seeing employees working as a team' and 'providing income and work opportunities for members of the local community'. As measures of business success, the two factors were of greater importance to managers than they were to the owner-managers.

Table 5.1: Comparison of study results with past research

	Variable identified in current study	Reference	Identified in interviews
Decreasing importance	Customer/client satisfaction	Reijonen (2008); Reijonen & Komppula (2007); Simpson et al. (2004)	√
	Sense of achievement (self-fulfilment)	Simpson et al. (2004); Walker & Brown (2004)	√
	Pride	Getz & Carlsen (2000); Walker & Brown (2004)	√
	Growth	Getz & Carlsen (2000); Simpson et al. (2004)	√
	Personal satisfaction	Getz & Carlsen (2000); Reijonen (2008); Reijonen & Komppula (2007); Walker & Brown (2004)	√
	Earn enough to live on	Reijonen (2008); Reijonen & Komppula (2007)	√
	Staff satisfaction	Simpson et al. (2004)	√
	Make profit	Getz & Carlsen (2000); Howard (2006); Simpson et al. (2004); Walker & Brown (2004)	√
	Increasing customer/client numbers		√
	Teamwork	Simpson et al. (2004)	√
	Allowing lifestyle   value	Getz & Carlsen (2000); Walker & Brown (2004)	√
	Valuable asset for sale		√
	Contribute to welfare of community	Nieham et al. (2008); Walker & Brown (2004)	√
	Rate of return on asset		√
	Provide income to community		√
	Contribute to health of community		√
	Provide work opportunities for community		√
	Recognition by others	Reijonen & Komppula (2007); Simpson et al. (2004)	√
Valuable asset to pass on to owner's children		√	
My children wanting to be part of business	Walker & Brown (2004)	√	

There are a number of possible reasons for inconsistency between the results of our study and those reported in the literature. Firstly, there has been ambiguity about some of the measures used previously, thereby reducing opportunities for valid comparisons. Secondly, previous research has been confined to owner-managers, whereas the participants in the current study included both owner-managers *and* managers. Thirdly, most of the earlier studies have not identified levels of significance of factors. And finally, none of the previous research has been undertaken in desert Australia, which arguably possesses unique characteristics that impact on businesses (Stafford Smith 2008).

## 5.4 Factors important to the success of the business

### 5.4.1 Importance

Both owner-managers and managers were in substantial agreement as to how important particular factors were to the success of the business (see Figure 4.4). Of the 27 factors identified, two were significantly more important than most of the others. They were 'Internet/e-mail access' and 'reliable power supply' (see Figure 4.4, and Tables A2.1 and A2.2). When the results were compared to previous findings (see Table 2.2), only one was similar, namely, 'reliable suppliers' (Reijonen & Komppula 2007). Previously, there has been only limited research reporting on the importance of factors for business success, and none undertaken in desert Australia.

Other lesser factors respondents identified as important to business success were 'networking with tourism industry' [such as the Australian Tourism Development Program (ATDP)]. They also mentioned 'rebates for own power generation', 'fuel', 'good loyal staff', infrastructure such as 'better roads',

‘police with more power’, ‘suitable low-cost accommodation for tourists’, ‘bus services’ and suitable ‘affordable premises’ for businesses. Finally, the role the media plays in attracting tourists and the importance of ethical business practices were also mentioned.

#### 5.4.2 Availability

Owner-managers and managers were also asked to indicate the *actual availability* of the factors that they had identified as being important to the success of the business. Both groups of respondents were in agreement on the availability of most of the factors. When the most important factors for business success are compared with their availability, the owner-managers and managers indicated reasonable access to six of the factors: ‘Internet/ e-mail access’, ‘reliable power supply’, ‘reliable water supply’, ‘reliable suppliers’, ‘my management style’ and ‘tourist trade’. The three very important factors to which the respondents reported only *limited* access were ‘staff with work skills’, ‘availability of staff’, and ‘reasonable fuel prices’. There were five other factors with high availability, ‘road transport’, ‘getting involved in local community’, ‘airstrip’, ‘access to finance’, and ‘police presence’ (see Figure 4.6 and Table 4.7). Previously, Rola-Rubzen et al. (2009) reported that most businesses (owner-managers only) in desert Australia had Internet access.

The owner-managers and the managers differed notably in their perceptions of the extent to which certain of these factors were available. In particular, the owner-managers believed that ‘Internet/ e-mail access’, ‘access to finance’, ‘having a police presence’, ‘having literate staff with numeracy skills’ and ‘staff availability’ were more available than the managers indicated. By comparison, the managers indicated that the ‘removal of CDEP’ was more common in their communities than the owner-managers indicated for their communities.

To date, research investigating the availability of factors essential to businesses has been limited, and there has been no research on the availability of these factors to business in desert Australia.

### 5.5 Importance of leadership roles

The owner-managers and managers were asked to indicate how important various leadership roles were to the success of their businesses. All of the roles were regarded as extremely important. In fact, there were no significant differences in how important each role was valued. That is, both owner-managers and managers were indicating that they needed to possess behavioural complexity: the ability to deliver all of the roles required, depending on which one is appropriate at a particular time. Previously, Denison et al. (1995) have linked such behavioural complexity to leadership effectiveness.

Effective leadership in complex environments requires complex behaviour, which includes competence in a number of roles, and the capacity to move effectively between them. The capacity of managers to be both critical observers and reflective learners (i.e. to be effective ‘Integrators’) will facilitate their capacity as an effective leader in their business. They must be able to perform a broad range of competing roles and functions – developing, innovating, brokering, delivering, and monitoring (Vilkinas & Cartan 2001, 2006). These roles and functions are all relevant to the role of manager in an effective business.

# Chapter 6: Conclusions

## 6.1 Overview

This chapter highlights the key findings and discusses the strengths and limitations of the study. Also discussed are the implications of these findings followed by a discussion of future studies and associated recommendations. Finally, some general conclusions are drawn.

## 6.2 Summary of key findings

It can be concluded that the businesses were reasonably successful from the perspective of both the owner-managers and the managers. The participants indicated that they used five main factors to measure their business success. These factors were:

- client/customer satisfaction
- sense of achievement
- sense of pride
- seeing the business grow
- personal satisfaction.

There were six key factors important to the success of the business, which were *also* readily available. These were:

- reliable power supply
- reliable water supply
- reliable suppliers
- Internet and email access
- (their) management style
- tourist trade.

There were also three factors that the participants identified as being very important to business success but to which they only had limited access. These were:

- the availability of staff
- staff with work skills
- reasonable fuel prices.

Both groups of participants reported that they needed to have behavioural complexity with regard to their leadership capability. That is, they needed to be able to deliver a range of leadership behaviours equally. They also indicated that they needed to have the capability to develop their leadership behaviours.

Inconsistency between the results of our study and those reported in the literature may be due to ambiguity about some of the measures used previously, thereby reducing opportunities for valid comparisons; the fact that previous research has been confined to owner-managers, whereas the participants in the current study included both owner-managers *and* managers; most of the earlier studies have not identified levels of significance of factors; and finally, none of the previous research has been undertaken in desert Australia, which arguably possesses unique characteristics that impact on businesses (Stafford Smith 2008).

## 6.3 Strengths and limitations of the study

### 6.3.1 Strengths

There were a number of strengths associated with this study. They are discussed in detail below.

The study brought information and knowledge from the leadership literature that to date has not widely been used in research on business success factors.

This study is the foundation of a database that will be informative for Chambers of Commerce/ Business, Development Boards, Local Government Authorities and Government policy. The information contained in the database may be expected to enable interested parties to compare the leadership capability of managers. In addition, the effectiveness of any development programs for managers may be better assessed over time.

The current study highlighted that many of the previous research findings have limited application to businesses in desert Australia. So future research need to be wary of applying these earlier findings when wanting to understand businesses in desert Australia.

Both owner-managers and managers were involved in the current study. Previous research has been limited to owner-managers. While the responses of the two groups were similar, there were some significant differences: notably, the managers tended to have more of a community focus than did the owner-managers.

### 6.3.2 Limitations

There are also a number of limitations to the current study. These are discussed below.

The study populations were relatively small, and less than hoped for. Nevertheless, the survey group was of sufficient size to undertake *t* tests with a power of .08 to detect large (.05) effect sizes with a study  $\alpha$  of .05 and to conduct F-tests. While this is relatively modest, for a pilot study of this type it can be considered adequate. However, the small sample size means that the generalisability of the study results to the general population of business owner-managers and managers in desert Australia is limited. The challenge for the future is to encourage more owner-managers and managers to participate in the study.

The measures of business success used in the current study are limiting. That is to say, when using the ICVF model to explain the measures of business success used, it became obvious that the focus was on 'getting the job done' (Deliverer), on people such as staff (Developer) and on self-satisfaction (see Figure 6.1). There are significant implications for researchers in using such limiting measures of business success. It may mean that the other activities such as 'introducing needed changes' (Innovator) or 'networking' (Broker) (whose elements have been firmly linked to business success) (Vilkinas & Cartan 2001) are undervalued.

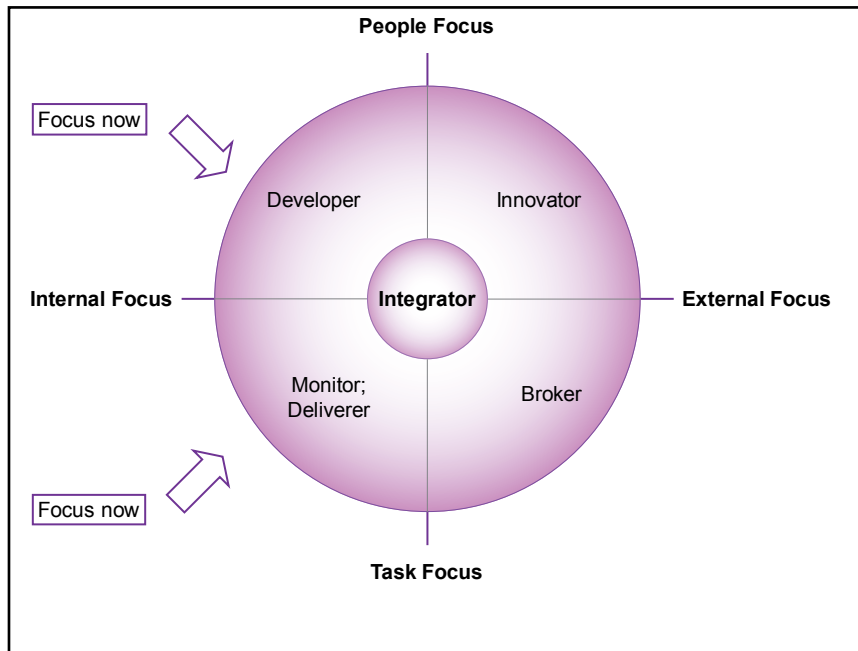


Figure 6.1: Integrated Competing Values Framework

Source: Vilkinas and Cartan (2001, 2006)

If research findings based on the findings of other researchers in non-desert regions, are allowed to influence government initiatives and development programs, they may reinforce a view that the owner-managers and managers need to have an internal focus. This may result in them failing to be sufficiently aware of what is happening in their external environment, and not knowing how to influence key players in that environment. Consequently, they may be less likely to introduce the changes that are necessary to keep pace with a constantly changing external environment. An example would be that; although communication technologies evolve (external change), owner-managers and managers fail to apply such communication developments appropriately to their business, and/ or how they sell their products. In addition, if they do not value and apply the activities associated with the Broker role (e.g. networking), appropriately to their businesses. Owner-managers and managers may fail to link with key decision makers in government, who may be able to provide them with resources to assist their business to grow. Such a 'static' approach might well put the success of their business at risk. Government agencies could assist here by improving telecommunications and assisting with the development of networks.

## 6.4 Future studies

The current study approach and its findings could be developed further by:

- encouraging more owner-managers and managers to participate in the same survey so that predictive analyses can be undertaken
- including absent owners
- investigating the impact of gender, level of remoteness and type of business
- involving owner-managers and managers in businesses that have failed recently
- broadening the measures of business success.

## 6.5 Implications

The current results suggest that while businesses in desert Australia are reasonably successful, they could be more successful if some of the factors important for them to succeed were more readily available, e.g., staff with work skills. It is also important to take account of the particular characteristics that impact on both living and doing business in desert Australia. Previous research undertaken in other geographical areas arguably has only a limited application.

## 6.6 Recommendations

Given that the participants in this study indicated that they are open to developing their leadership capabilities, there is an opportunity for government entities to provide such development opportunities. Previously, Bassano and McConnon (2008) reported that as a result of a “business conference” the participants (small business owners) stated that they had acquired knowledge and skills that would enable their businesses to be more successful.

The online survey we undertook was very successful suggesting, that the respondents could be expected to be quite capable of developing their business skills via web-based material. This belief is reinforced by the fact that the participants said they would be keen to maintain an online contact, and receive electronic copies of the study results.

There is an important need for desert Australia businesses to be able to acquire staff with work appropriate work skills. However, the difficulties of doing so were very evident in this study. Some solutions have been found to date. For example, the Indigenous Land Corporation (ILC) has started a program aimed at the development of Aborigines for work in pastoralism and the tourism and hospitalities industries (ILC 2008; Myers 2010). There are also other programs aimed at developing work skills such as the Northern Exposure program which focuses on income generating activities to improve the viability of remote communities (Arts Access Australia 2006).

The development or creation of appropriate incentives to work in desert Australia may improve the availability of suitable staff. While we acknowledge that this is not a new idea, perhaps this aspect needs to be seriously considered afresh.

Another approach is the development of business networks which Farinda et al. (2009) reported have been linked to business success. These business networks are similar to cluster developments which Taylor et al. (2008) have shown to have benefits for businesses in desert Australia.

Local shires and government authorities also need to support these businesses, as they are geographically closer to them and generally have local knowledge that will assist with the delivery of appropriate support.

## 6.7 Conclusions

The businesses in desert Australia were successful despite the difficult conditions under which they operate, such as isolation, sparse populations, scarce resources, and challenging climate. In addition, owner-managers and managers indicated that many of the requirements they believed were needed for their success were available, with the exception of the most important factor of staff, particularly those with adequate work skills. The participants also indicated that they needed to be able to deliver a variety of leadership behaviours and (importantly) that they were willing to learn such behaviours where needed.

Future studies of business in desert Australia need to be wary of assuming that findings about businesses from very different geographical areas (such as may apply in other countries) are relevant to desert Australia. In addition, there is a strong need for a broadening in how businesses success is measured.

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# Appendix 1: Survey items

Business Success Survey

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## Owner–Manager Version (Wave 1)

**Section 1: Listed below are factors often used to measure business success. How important are they to you?**

Low	1	2	3	4	5	6	7	High
Not								Very
important								important

- 1.1 Making a profit
- 1.2 Valuable asset for sale
- 1.3 Rate of return on assets
- 1.4 My personal satisfaction
- 1.5 Being able to earn enough to live on
- 1.6 Contributing to the welfare of my local community
- 1.7 Contributing to the health of my community
- 1.8 Increasing customer numbers
- 1.9 Customer satisfaction
- 1.10 Staff satisfaction
- 1.11 Valuable asset to pass onto my children
- 1.12 My children wanting to be part of the business
- 1.13 Other (*specify up to three*)

**Section 2: How important has each of the following factors been in the last 3 years to the success of your business?**

	Low Not important	1	2	3	4	5	6	7	High Very important
2.1									
2.2									
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**Section 3: As a manager, how important is it that I:**

	Low Not important	1	2	3	4	5	6	7	High Very important
3.1									
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3.6									
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**Section 4: Please supply the following demographic information:**

- 4.1 What sort of business do you manage?
- 4.2 On average, how many days per week does this business operate?
- 4.3 On average, how many hours per week does this business operate?
- 4.4 Which of the following describes the legal structure of this business?
- 4.5 What are the main sources of finances that are available to this business?  
*(tick as many as relevant)*
- 4.6 If you bought this business, why did you decided to buy? *(please state reasons)*
- 4.7 If you bought this business, how did you find out that this business was for sale?  
*(tick as many as relevant)*
- 4.8 How long have you owned this business?
- 4.9 Number of permanent employees (part time or full time)?
- 4.10 Number of seasonal employees (part time or full time)?
- 4.11 On average, how long have permanent employees stayed working in this business?
- 4.12 How do you attract employees to work in this business? *(tick as many as relevant)*
- 4.13 How long do you intend to stay in this business?
- 4.14 Your age group:
- 4.15 Your gender:
- 4.16 Your highest academic qualification:
- 4.17 Other qualifications or training (e.g. Certificate III or IV):
- 4.18 Where did you work previously? Type of job?
- 4.19 What is the Postcode of this business?
- 4.20 What is the closest town to this business?
- 4.21 How far by road is this business from this town?

## Owner–Manager Version (Wave 2)

### Section 1: In the last 3 years do you think that your business has been successful?

Low Not successful	1	2	3	4	5	6	7	High Very successful
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### Section 2: Listed below are factors often used to measure business success. How important are they to you?

Low Not important	1	2	3	4	5	6	7	High Very important
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- 2.1 Making a profit
- 2.2 Making a valuable asset for sale
- 2.3 Rate of return on the assets
- 2.4 My personal satisfaction
- 2.5 Being able to earn enough to live on
- 2.6 Contributing to the welfare of my local community
- 2.7 Providing opportunities for members of my local community to develop skills
- 2.8 Providing income to members of my local community
- 2.9 Contributing to the health of my local community
- 2.10 Increasing customer/client numbers
- 2.11 Customer/client satisfaction
- 2.12 Staff satisfaction
- 2.13 Valuable asset to pass onto my children
- 2.14 My children wanting to be part of the business
- 2.15 Allowing me to have a lifestyle that I value
- 2.16 Giving me a sense of achievement
- 2.17 Seeing the business grow
- 2.18 Seeing our employees work as a team
- 2.19 Getting recognition from others
- 2.20 Having a sense of pride in the business
- 2.21 Other (*specify up to three*)

**Section 3: How important has each of the following factors been in the last 3 years to the success of your business? What access do you have to these factors? (Answer both scales)**

Low Not important	1	2	3	4	5	6	7	High Very important
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Low Not available	1	2	3	4	5	6	7	High Very available
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- 3.1 Road transport
- 3.1 Road transport
- 3.2 Rail transport
- 3.2 Rail transport
- 3.3 Air transport
- 3.3 Air transport
- 3.4 All-weather roads
- 3.4 All-weather roads
- 3.5 Safe roads
- 3.5 Safe roads
- 3.6 Internet, e-mail access
- 3.6 Internet, e-mail access
- 3.7 Reliable power supply
- 3.7 Reliable power supply
- 3.8 Reliable water supply
- 3.8 Reliable water supply
- 3.9 Tourist trade
- 3.9 Tourist trade
- 3.10 Getting involved with large business in the area (e.g. mining companies, cattle stations, etc.)
- 3.10 Getting involved with large business in the area (e.g. mining companies, cattle stations, etc.)
- 3.11 Getting involved in local community activities
- 3.11 Getting involved in local community activities
- 3.12 Availability of staff
- 3.12 Availability of staff
- 3.13 Staff with work skills
- 3.13 Staff with work skills

- 3.14 Staff with literacy and numeracy skills
- 3.14 Staff with literacy and numeracy skills
- 3.15 Local customer trade
- 3.15 Local customer trade
- 3.16 Access to finance
- 3.16 Access to finance
- 3.17 My management style
- 3.17 My management style
- 3.18 Reliable suppliers
- 3.18 Reliable suppliers
- 3.19 Reasonable fuel prices
- 3.19 Reasonable fuel prices
- 3.20 Removal of CDEP
- 3.20 Removal of CDEP
- 3.21 Schooling available for my children
- 3.21 Schooling available for my children
- 3.22 Local council/progress association
- 3.22 Local council/progress association
- 3.23 Government funding
- 3.23 Government funding
- 3.24 Airstrip
- 3.24 Airstrip
- 3.25 Police presence
- 3.25 Police presence
- 3.26 Mining boom
- 3.26 Mining boom
- 3.27 Medical services
- 3.27 Medical services
- 3.28 Other (*specify up to three*)

**Section 4: As a manager, how important is it that I:**

	Low Not important	1	2	3	4	5	6	7	High Very important
4.1									
4.2									
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**Section 5: Please supply the following demographic information:**

- 5.1 What sort of business do you own?
- 5.2 On average, how many days per week does this business operate?
- 5.3 On average, how many hours per week does this business operate?
- 5.4 Which of the following describes the legal structure of this business?
- 5.5 What are the main sources of finances that are available to this business? (*tick as many as relevant*)
- 5.6 If you bought this business, why did you decided to buy? (*please state reasons*)
- 5.7 If you bought this business, how did you find out that this business was for sale? (*tick as many as relevant*)
- 5.8 How long have you owned this business?
- 5.9 Number of permanent employees (part time or full time)?
- 5.10 Number of seasonal employees (part time or full time)?
- 5.11 On average, how long have permanent employees stayed working in this business?
- 5.12 How do you attract employees to work in this business? (*tick as many as relevant*)
- 5.13 How long do you intend to stay in this business?
- 5.14 Your age group:
- 5.15 Your gender:
- 5.16 Your highest academic qualification:
- 5.17 Other qualifications or training (e.g. Certificate III or IV):
- 5.18 Where did you work previously? Type of job?
- 5.19 What is the Postcode of this business?
- 5.20 What is the closest town to this business?
- 5.21 How far by road is this business from this town?

## Manager Version (Wave 1)

### Section 1: How important has each of the following factors been in the last 3 years to the success of your business?

	Low Not important	1	2	3	4	5	6	7	High Very important
1.1									
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**Section 2: As a manager, how important is it that I:**

	Low Not important	1	2	3	4	5	6	7	High Very important
2.1									
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**Section 3: Please supply the following demographic information:**

- 3.1 What sort of business do you manage?
- 3.2 On average, how many days per week does this business operate?
- 3.3 On average, how many hours per week does this business operate?
- 3.4 How did you find out that this business needed a manager?
- 3.5 How long have you managed this business?
- 3.6 Number of permanent employees (part time or full time)?
- 3.7 Number of seasonal employees (part time or full time)?
- 3.8 On average, how long have permanent employees stayed working in this business?
- 3.9 How do you attract employees to work in this business? (*tick as many as relevant*)
- 3.10 How long do you intend to stay managing this business?
- 3.11 Your age group:
- 3.12 Your gender:
- 3.13 Your highest academic qualification:
- 3.14 Other qualifications or training (e.g. Certificate III or IV):
- 3.15 Where did you work previously? Type of job?
- 3.16 What is the Postcode of this business?
- 3.17 What is the closest town to this business?
- 3.18 How far by road is this business from this town?

## Manager Version (Wave 2)

### Section 1: In the last 3 years do you think that your business has been successful?

Low Not successful	1	2	3	4	5	6	7	High Very successful
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### Section 2: Listed below are factors often used to measure business success. How important are they to you?

Low Not important	1	2	3	4	5	6	7	High Very important
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- 2.1 Making a profit for the owners
- 2.2 Making a valuable asset for sale
- 2.3 Rate of return on the owner's assets
- 2.4 My personal satisfaction
- 2.5 Being able to earn enough to live on
- 2.6 Contributing to the welfare of my local community
- 2.7 Providing opportunities for members of my local community to develop skills
- 2.8 Providing income to members of my local community
- 2.9 Contributing to the health of my local community
- 2.10 Increasing customer/client numbers
- 2.11 Customer/client satisfaction
- 2.12 Staff satisfaction
- 2.13 Valuable asset to pass onto the owner's children
- 2.14 My children wanting to be part of the business
- 2.15 Allowing me to have a lifestyle that I value
- 2.16 Giving me a sense of achievement
- 2.17 Seeing the business grow
- 2.18 Seeing our employees work as a team
- 2.19 Getting recognition from others
- 2.20 Having a sense of pride in the business
- 2.21 Other (*specify up to three*)

**Section 3: How important has each of the following factors been in the last 3 years to the success of your business? What access do you have to these factors? (Answer both scales)**

Low Not important	1	2	3	4	5	6	7	High Very important
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Low Not available	1	2	3	4	5	6	7	High Very available
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- 3.1 Road transport
- 3.1 Road transport
- 3.2 Rail transport
- 3.2 Rail transport
- 3.3 Air transport
- 3.3 Air transport
- 3.4 All-weather roads
- 3.4 All-weather roads
- 3.5 Safe roads
- 3.5 Safe roads
- 3.6 Internet, e-mail access
- 3.6 Internet, e-mail access
- 3.7 Reliable power supply
- 3.7 Reliable power supply
- 3.8 Reliable water supply
- 3.8 Reliable water supply
- 3.9 Tourist trade
- 3.9 Tourist trade
- 3.10 Getting involved with large business in the area (e.g. mining companies, cattle stations, etc.)
- 3.10 Getting involved with large business in the area (e.g. mining companies, cattle stations, etc.)
- 3.11 Getting involved in local community activities
- 3.11 Getting involved in local community activities
- 3.12 Availability of staff
- 3.12 Availability of staff
- 3.13 Staff with work skills
- 3.13 Staff with work skills

- 3.14 Staff with literacy and numeracy skills
- 3.14 Staff with literacy and numeracy skills
- 3.15 Local customer trade
- 3.15 Local customer trade
- 3.16 Access to finance
- 3.16 Access to finance
- 3.17 My management style
- 3.17 My management style
- 3.18 Reliable suppliers
- 3.18 Reliable suppliers
- 3.19 Reasonable fuel prices
- 3.19 Reasonable fuel prices
- 3.20 Removal of CDEP
- 3.20 Removal of CDEP
- 3.21 Schooling available for my children
- 3.21 Schooling available for my children
- 3.22 Local council/progress association
- 3.22 Local council/progress association
- 3.23 Government funding
- 3.23 Government funding
- 3.24 Airstrip
- 3.24 Airstrip
- 3.25 Police presence
- 3.25 Police presence
- 3.26 Mining boom
- 3.26 Mining boom
- 3.27 Medical services
- 3.27 Medical services
- 3.28 Other (*specify up to three*)

**Section 4: As a manager, how important is it that I:**

	Low Not important	1	2	3	4	5	6	7	High Very important
4.1									
4.2									
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**Section 5: Please supply the following demographic information:**

- 5.1 What sort of business do you manage?
- 5.2 On average, how many days per week does this business operate?
- 5.3 On average, how many hours per week does this business operate?
- 5.4 How did you find out that this business needed a manager? (*tick as many as relevant*)
- 5.5 How long have you managed this business?
- 5.6 Number of permanent employees (part time or full time)?
- 5.7 Number of seasonal employees (part time or full time)?
- 5.8 On average, how long have permanent employees stayed working in this business?
- 5.9 How do you attract employees to work in this business? (*tick as many as relevant*)
- 5.10 How long do you intend to stay managing this business?
- 5.11 Your age group:
- 5.12 Your gender:
- 5.13 Your highest academic qualification:
- 5.14 Other qualifications or training (e.g. Certificate III or IV):
- 5.15 Where did you work previously? Type of job?
- 5.16 What is the Postcode of this business?
- 5.17 What is the closest town to this business?
- 5.18 How far by road is this business from this town?

## Appendix 2: Follow-up Wilcoxon tests for factors important to business success

Table A2.1: Wilcoxon tests for comparing the importance of Internet/email access to the importance of the remaining 26 factors (with Bonferroni correction of  $.05/26 = .0019$ )

Factors compared	Ranks	Mean rank	Sum of ranks	Z <sup>c</sup>	Asympt. Sig. (2-tailed)
1. Road transport – 6. Internet/e-mail access	Negative Positive	12.71 4.50	267.00 9.00	-3.95 <sup>a</sup>	.000
2. Rail transport – 6. Internet/e-mail access	Negative Positive	19.50 0.00	741.00 0.00	-5.42 <sup>a</sup>	.000
3. Air transport – 6. Internet/e-mail access	Negative Positive	15.00 0.00	435.00 0.00	-4.72 <sup>a</sup>	.000
4. All-weather roads – 6. Internet/e-mail access	Negative Positive	10.50 0.00	210.00 0.00	-4.03 <sup>a</sup>	.000
5. Safe roads – 6. Internet/e-mail access	Negative Positive	8.63 6.50	129.50 6.50	-3.34 <sup>a</sup>	.001
7. Reliable power supply – 6. Internet/e-mail access	Negative Positive	1.50 3.00	3.00 3.00	0.00 <sup>b</sup>	1.000
8. Reliable water supply – 6. Internet/e-mail access	Negative Positive	5.33 7.00	48.00 7.00	-2.12 <sup>a</sup>	.034
9. Tourist trade – 6. Internet/e-mail access	Negative Positive	13.26 5.50	225.50 27.50	-3.24 <sup>a</sup>	.001
10. Getting involved with large businesses – 6. Internet/e-mail access	Negative Positive	13.50 0.00	351.00 0.00	-4.49 <sup>a</sup>	.000
11. Getting involved in local community – 6. Internet/e-mail access	Negative Positive	14.00 0.00	378.00 0.00	-4.61 <sup>a</sup>	.000
12. Availability of staff – 6. Internet/e-mail access	Negative Positive	8.54 5.83	102.50 17.50	-2.45 <sup>a</sup>	.014
13. Staff with work skills – 6. Internet/e-mail access	Negative Positive	9.73 8.33	146.00 25.00	-2.71 <sup>a</sup>	.007
14. Staff with literacy/numeracy skills – 6. Internet/e-mail access	Negative Positive	10.19 9.00	163.00 27.00	-2.82 <sup>a</sup>	.005
15. Local customer trade – 6. Internet/e-mail access	Negative Positive	12.24 6.83	232.50 20.50	-3.47 <sup>a</sup>	.001
16. Access to finance – 6. Internet/e-mail access	Negative Positive	12.83 5.00	295.00 5.00	-4.19 <sup>a</sup>	.000
17. My management style – 6. Internet/e-mail access	Negative Positive	12.52 12.33	263.00 37.00	-3.36 <sup>a</sup>	.001
18. Reliable suppliers – 6. Internet/e-mail access	Negative Positive	7.91 6.00	87.00 18.00	-2.29 <sup>a</sup>	.022
19. Reasonable fuel prices – 6. Internet/e-mail access	Negative Positive	8.29 4.00	116.00 4.00	-3.22 <sup>a</sup>	.001
20. Removal of CDEP – 6. Internet/e-mail access	Negative Positive	19.50 0.00	741.00 0.00	-5.42 <sup>a</sup>	.000
21. Schooling available for children – 6. Internet/e-mail access	Negative Positive	14.80 4.00	370.00 8.00	-4.41 <sup>a</sup>	.000
22. Local council/progress Association – 6. Internet/e-mail access	Negative Positive	15.00 0.00	435.00 0.00	-4.74 <sup>a</sup>	.000
23. Government funding – 6. Internet/e-mail access	Negative Positive	13.00 0.00	325.00 0.00	-4.39 <sup>a</sup>	.000
24. Airstrip – 6. Internet/e-mail access	Negative Positive	13.87 3.00	319.00 6.00	-4.23 <sup>a</sup>	.000
25. Police presence – 6. Internet/e-mail access	Negative Positive	15.56 7.50	420.00 15.00	-4.45 <sup>a</sup>	.000
26. Mining boom – 6. Internet/e-mail access	Negative Positive	15.83 6.00	459.00 6.00	-4.70 <sup>a</sup>	.000
27. Medical services – 6. Internet/e-mail access	Negative Positive	9.25 5.00	148.00 5.00	-3.45 <sup>a</sup>	.001

Note: <sup>a</sup>Based on positive ranks. <sup>b</sup>The sum of negative ranks equals the sum of positive ranks. <sup>c</sup>Wilcoxon Signed Ranks Test.

Table A2.2: Wilcoxon test for comparing the importance of Reliable Power Supply to the importance of the remaining 25 factors (with Bonferroni correction of  $.05/25 = .002$ )

Factors compared	Ranks	Mean rank	Sum of ranks	Z <sup>b</sup>	Asympt. Sig. (2-tailed)
1. Road transport – 7. Reliable power supply	Negative Positive	13.57 5.00	285.00 15.00	-3.89 <sup>a</sup>	.000
2. Rail transport – 7. Reliable power supply	Negative Positive	19.00 0.00	703.00 0.00	-5.35 <sup>a</sup>	.000
3. Air transport – 7. Reliable power supply	Negative Positive	15.91 3.50	461.50 3.50	-4.73 <sup>a</sup>	.000
4. All-weather roads – 7. Reliable power supply	Negative Positive	9.50 0.00	171.00 0.00	-3.79 <sup>a</sup>	.000
5. Safe roads – 7. Reliable power supply	Negative Positive	7.69 5.00	100.00 5.00	-3.08 <sup>a</sup>	.002
8. Reliable water supply – 7. Reliable power supply	Negative Positive	4.50 0.00	36.00 0.00	-2.56 <sup>a</sup>	.010
9. Tourist trade – 7. Reliable power supply	Negative Positive	13.26 5.50	225.50 27.50	-3.24 <sup>a</sup>	.001
10. Getting involved with large businesses – 7. Reliable power supply	Negative Positive	14.93 3.00	403.00 3.00	-4.59 <sup>a</sup>	.000
11. Getting involved in local community – 7. Reliable power supply	Negative Positive	14.00 0.00	378.00 0.00	-4.60 <sup>a</sup>	.000
12. Availability of staff – 7. Reliable power supply	Negative Positive	8.75 5.00	105.00 15.00	-2.62 <sup>a</sup>	.009
13. Staff with work skills – 7. Reliable power supply	Negative Positive	10.10 6.50	151.50 19.50	-2.98 <sup>a</sup>	.003
14. Staff with literacy/numeracy skills – 7. Reliable power supply	Negative Positive	10.47 7.50	167.50 22.50	-3.06 <sup>a</sup>	.002
15. Local customer trade – 7. Reliable power supply	Negative Positive	13.37 5.50	254.00 22.00	-3.57 <sup>a</sup>	.000
16. Access to finance – 7. Reliable power supply	Negative Positive	13.65 5.50	314.00 11.00	-4.13 <sup>a</sup>	.000
17. My management style – 7. Reliable power supply	Negative Positive	12.93 9.50	271.50 28.50	-3.66 <sup>a</sup>	.000
18. Reliable suppliers – 7. Reliable power supply	Negative Positive	9.00 7.00	108.00 28.00	-2.21 <sup>a</sup>	.027
19. Reasonable fuel prices – 7. Reliable power supply	Negative Positive	8.00 8.00	112.00 8.00	-2.98 <sup>a</sup>	.003
20. Removal of CDEP – 7. Reliable power supply	Negative Positive	19.00 0.00	703.00 0.00	-5.34 <sup>a</sup>	.000
21. Schooling available for children – 7. Reliable power supply	Negative Positive	14.70 5.25	367.50 10.50	-4.35 <sup>a</sup>	.000
22. Local council/progress Association – 7. Reliable power supply	Negative Positive	15.88 4.50	460.50 4.50	-4.73 <sup>a</sup>	.000
23. Government funding – 7. Reliable power supply	Negative Positive	13.88 4.00	347.00 4.00	-4.38 <sup>a</sup>	.000
24. Airstrip – 7. Reliable power supply	Negative Positive	13.74 4.50	316.00 9.00	-4.16 <sup>a</sup>	.000
25. Police presence – 7. Reliable power supply	Negative Positive	15.92 7.00	414.00 21.00	-4.30 <sup>a</sup>	.000
26. Mining boom – 7. Reliable power supply	Negative Positive	14.87 4.50	401.50 4.50	-4.55 <sup>a</sup>	.000
27. Medical services – 7. Reliable power supply	Negative Positive	10.06 5.00	161.00 10.00	-3.34 <sup>a</sup>	.001

Note: <sup>a</sup>Based on positive ranks. <sup>b</sup>Wilcoxon Signed Ranks Test.

Table A2.3: Wilcoxon tests for comparing the importance of rail transport to the importance of the remaining 26 factors (with Bonferroni correction of  $.05/26 = .0019$ )

Factors compared	Ranks	Mean rank	Sum of ranks	Z <sup>b</sup>	Asympt. Sig. (2-tailed)
1. Road transport – 2. Rail transport	Negative	7.25	14.50	-4.51 <sup>a</sup>	.000
	Positive	16.09	450.50		
3. Air transport – 2. Rail transport	Negative	17.10	85.50	-2.87 <sup>a</sup>	.004
	Positive	14.56	349.50		
4. All-weather roads – 2. Rail transport	Negative	12.50	12.50	-4.72 <sup>a</sup>	.000
	Positive	16.63	515.50		
5. Safe roads – 2. Rail transport	Negative	2.50	2.50	-4.99 <sup>a</sup>	.000
	Positive	17.45	558.50		
6. Internet/e-mail access – 2. Rail transport	Negative	0.00	0.00	-5.42 <sup>a</sup>	.000
	Positive	19.50	741.00		
7. Reliable power supply – 2. Rail transport	Negative	0.00	0.00	-5.35 <sup>a</sup>	.000
	Positive	19.00	703.00		
8. Reliable water supply – 2. Rail transport	Negative	0.00	0.00	-5.13 <sup>a</sup>	.000
	Positive	17.50	595.00		
9. Tourist trade – 2. Rail transport	Negative	21.33	64.00	-4.14 <sup>a</sup>	.000
	Positive	17.69	566.00		
10. Getting involved with large businesses – 2. Rail transport	Negative	13.00	104.00	-3.32 <sup>a</sup>	.001
	Positive	18.88	491.00		
11. Getting involved in local community – 2. Rail transport	Negative	8.75	52.50	-4.32 <sup>a</sup>	.000
	Positive	19.91	577.50		
12. Availability of staff – 2. Rail transport	Negative	13.00	26.00	-4.77 <sup>a</sup>	.000
	Positive	18.30	604.00		
13. Staff with work skills – 2. Rail transport	Negative	9.83	29.50	-4.80 <sup>a</sup>	.000
	Positive	19.29	636.50		
14. Staff with literacy/numeracy – 2. Rail transport	Negative	12.00	48.00	-4.62 <sup>a</sup>	.000
	Positive	19.85	655.00		
15. Local customer trade – 2. Rail transport	Negative	9.33	56.00	-4.48 <sup>a</sup>	.000
	Positive	20.87	647.00		
16. Access to finance – 2. Rail transport	Negative	10.88	43.50	-4.36 <sup>a</sup>	.000
	Positive	18.38	551.50		
17. My management style – 2. Rail transport	Negative	7.00	14.00	-5.11 <sup>a</sup>	.000
	Positive	19.69	689.00		
18. Reliable suppliers – 2. Rail transport	Negative	0.00	0.00	-5.26 <sup>a</sup>	.000
	Positive	18.50	666.00		
19. Reasonable fuel prices – 2. Rail transport	Negative	10.50	10.50	-4.94 <sup>a</sup>	.000
	Positive	17.71	584.50		
20. Removal of CDEP – 2. Rail transport	Negative	12.83	154.00	-1.13 <sup>a</sup>	.260
	Positive	15.75	252.00		
21. Schooling available for children – 2. Rail transport	Negative	20.00	200.00	-1.67 <sup>a</sup>	.094
	Positive	16.46	395.00		
22. Local council/progress Association – 2. Rail transport	Negative	9.29	65.00	-3.74 <sup>a</sup>	.000
	Positive	18.52	463.00		
23. Government funding – 2. Rail transport	Negative	11.50	57.50	-3.49 <sup>a</sup>	.000
	Positive	15.73	377.50		
24. Airstrip – 2. Rail transport	Negative	15.25	61.00	-3.40 <sup>a</sup>	.001
	Positive	14.96	374.00		
25. Police presence – 2. Rail transport	Negative	18.50	55.50	-4.27 <sup>a</sup>	.000
	Positive	17.95	574.50		
26. Mining boom – 2. Rail transport	Negative	11.43	80.00	-3.47 <sup>a</sup>	.001
	Positive	17.92	448.00		
27. Medical services – 2. Rail transport	Negative	10.75	21.50	-4.74 <sup>a</sup>	.000
	Positive	17.92	573.50		

Note: <sup>a</sup>Based on positive ranks. <sup>b</sup>Wilcoxon Signed Ranks Test.

Table A2.4: Wilcoxon Tests for Comparing the Importance of Removal of CDEP to the Importance of the Remaining 25 Factors (with Bonferroni correction of  $.05/25 = .002$ )

Factors compared	Ranks	Mean rank	Sum of ranks	Z <sup>b</sup>	Asympt. Sig. (2-tailed)
1. Road transport – 20. Removal of CDEP	Negative Positive	13.69 20.47	109.50 593.50	-3.67 <sup>a</sup>	.000
3. Air transport – 20. Removal of CDEP	Negative Positive	20.54 18.26	246.50 456.50	-1.59 <sup>a</sup>	.111
4. All-weather roads – 20. Removal of CDEP	Negative Positive	7.00 19.55	21.00 645.00	-4.94 <sup>a</sup>	.000
5. Safe roads – 20. Removal of CDEP	Negative Positive	4.50 18.90	4.50 661.50	-5.19 <sup>a</sup>	.000
6. Internet/e-mail access – 20. Removal of CDEP	Negative Positive	0.00 19.50	0.00 741.00	-5.42 <sup>a</sup>	.000
7. Reliable power supply – 20. Removal of CDEP	Negative Positive	0.00 19.00	0.00 703.00	-5.34 <sup>a</sup>	.000
8. Reliable water supply – 20. Removal of CDEP	Negative Positive	4.00 19.82	12.00 654.00	-5.08 <sup>a</sup>	.000
9. Tourist trade – 20. Removal of CDEP	Negative Positive	7.60 18.68	38.00 523.00	-4.37 <sup>a</sup>	.000
10. Getting involved with large businesses – 20. Removal of CDEP	Negative Positive	18.90 19.71	189.00 552.00	-2.67 <sup>a</sup>	.008
11. Getting involved in local community – 20. Removal of CDEP	Negative Positive	6.00 20.00	30.00 600.00	-4.70 <sup>a</sup>	.000
12. Availability of staff – 20. Removal of CDEP	Negative Positive	4.00 17.84	8.00 553.00	-4.90 <sup>a</sup>	.000
13. Staff with work skills – 20. Removal of CDEP	Negative Positive	4.50 19.27	13.50 616.50	-4.97 <sup>a</sup>	.000
14. Staff with literacy/numeracy – 20. Removal of CDEP	Negative Positive	8.17 18.40	24.50 570.50	-4.69 <sup>a</sup>	.000
15. Local customer trade – 20. Removal of CDEP	Negative Positive	10.70 18.67	53.50 541.50	-4.20 <sup>a</sup>	.000
16. Access to finance – 20. Removal of CDEP	Negative Positive	14.17 17.82	42.50 552.50	-4.39 <sup>a</sup>	.000
17. My management style – 20. Removal of CDEP	Negative Positive	13.00 18.66	13.00 653.00	-5.05 <sup>a</sup>	.000
18. Reliable suppliers – 20. Removal of CDEP	Negative Positive	3.50 18.93	3.50 662.50	-5.21 <sup>a</sup>	.000
19. Reasonable fuel prices – 20. Removal of CDEP	Negative Positive	7.75 18.11	15.50 579.50	-4.85 <sup>a</sup>	.000
21. Schooling available for children – 20. Removal of CDEP	Negative Positive	16.79 16.33	201.50 326.50	-1.18 <sup>a</sup>	.239
22. Local council/progress Association – 20. Removal of CDEP	Negative Positive	6.94 18.07	55.50 379.50	-3.54 <sup>a</sup>	.000
23. Government funding – 20. Removal of CDEP	Negative Positive	9.78 17.35	88.00 347.00	-2.81 <sup>a</sup>	.005
24. Airstrip – 20. Removal of CDEP	Negative Positive	11.43 15.52	80.00 326.00	-2.82 <sup>a</sup>	.005
25. Police presence – 20. Removal of CDEP	Negative Positive	16.63 17.05	66.50 494.50	-3.85 <sup>a</sup>	.000
26. Mining boom – 20. Removal of CDEP	Negative Positive	18.38 16.56	147.00 414.00	-2.43 <sup>a</sup>	.015
27. Medical services – 20. Removal of CDEP	Negative Positive	4.00 17.91	4.00 591.00	-5.05 <sup>a</sup>	.000

Note: <sup>a</sup>Based on positive ranks. <sup>b</sup>Wilcoxon Signed Ranks Test.

## Appendix 3: Follow-up Wilcoxon tests for availability of factors important to business success

Table A3.1: Wilcoxon tests for comparing the availability of Internet/email access to the availability of the remaining 26 factors (with Bonferroni correction of  $.05/26 = .0019$ )

Factors compared	Ranks	Mean rank	Sum of ranks	Z <sup>b</sup>	Asympt. Sig. (2-tailed)
1. Road transport – 6. Internet/e-mail access	Negative	10.42	125.00	-1.73 <sup>a</sup>	.083
	Positive	7.67	46.00		
2. Rail transport – 6. Internet/e-mail access	Negative	18.87	641.50	-4.87 <sup>a</sup>	.000
	Positive	12.25	24.50		
3. Air transport – 6. Internet/e-mail access	Negative	18.25	438.00	-3.76 <sup>a</sup>	.000
	Positive	8.29	58.00		
4. All-weather roads – 6. Internet/e-mail access	Negative	21.03	715.00	-4.58 <sup>a</sup>	.000
	Positive	13.00	65.00		
5. Safe roads – 6. Internet/e-mail access	Negative	20.35	631.00	-4.25 <sup>a</sup>	.000
	Positive	12.00	72.00		
7. Reliable power supply – 6. Internet/e-mail access	Negative	11.37	170.50	-0.60 <sup>a</sup>	.550
	Positive	14.39	129.50		
8. Reliable water supply – 6. Internet/e-mail access	Negative	14.93	224.00	-1.24 <sup>a</sup>	.214
	Positive	11.55	127.00		
9. Tourist trade – 6. Internet/e-mail access	Negative	19.73	473.50	-2.62 <sup>a</sup>	.009
	Positive	14.23	156.50		
10. Getting involved with large businesses – 6. Internet/e-mail access	Negative	19.42	602.00	-3.82 <sup>a</sup>	.000
	Positive	16.83	101.00		
11. Getting involved in local community – 6. Internet/e-mail access	Negative	16.21	340.50	-2.26 <sup>a</sup>	.024
	Positive	13.83	124.50		
12. Availability of staff – 6. Internet/e-mail access	Negative	20.38	754.00	-5.10 <sup>a</sup>	.000
	Positive	13.00	26.00		
13. Staff with work skills – 6. Internet/e-mail access	Negative	21.10	823.00	-5.12 <sup>a</sup>	.000
	Positive	19.00	38.00		
14. Staff with literacy/numeracy skills – 6. Internet/e-mail access	Negative	20.21	687.00	-4.62 <sup>a</sup>	.000
	Positive	13.50	54.00		
15. Local customer trade – 6. Internet/e-mail access	Negative	16.46	411.50	-3.25 <sup>a</sup>	.001
	Positive	14.08	84.50		
16. Access to finance – 6. Internet/e-mail access	Negative	14.78	295.50	-2.60 <sup>a</sup>	.009
	Positive	11.79	82.50		
17. My management style – 6. Internet/e-mail access	Negative	16.27	358.00	-1.79 <sup>a</sup>	.074
	Positive	17.00	170.00		
18. Reliable suppliers – 6. Internet/e-mail access	Negative	18.05	523.50	-3.04 <sup>a</sup>	.002
	Positive	20.36	142.50		
19. Reasonable fuel prices – 6. Internet/e-mail access	Negative	21.88	897.00	-5.60 <sup>a</sup>	.000
	Positive	6.00	6.00		
20. Removal of CDEP – 6. Internet/e-mail access	Negative	18.76	656.50	-5.12 <sup>a</sup>	.000
	Positive	9.50	9.50		
21. Schooling available for children – 6. Internet/e-mail access	Negative	18.58	483.00	-3.64 <sup>a</sup>	.000
	Positive	11.14	78.00		
22. Local council/progress Association – 6. Internet/e-mail access	Negative	17.94	556.00	-3.97 <sup>a</sup>	.000
	Positive	18.50	74.00		
23. Government funding – 6. Internet/e-mail access	Negative	19.81	733.00	-5.28 <sup>a</sup>	.000
	Positive	8.00	8.00		
24. Airstrip – 6. Internet/e-mail access	Negative	17.00	340.00	-2.23 <sup>a</sup>	.026
	Positive	12.50	125.00		
25. Police presence – 6. Internet/e-mail access	Negative	18.48	462.00	-2.84 <sup>a</sup>	.005
	Positive	14.78	133.00		
26. Mining boom – 6. Internet/e-mail access	Negative	22.07	772.50	-4.93 <sup>a</sup>	.000
	Positive	9.50	47.50		
27. Medical services – 6. Internet/e-mail access	Negative	19.27	597.50	-4.19 <sup>a</sup>	.000
	Positive	13.70	68.50		

Note: <sup>a</sup>Based on positive ranks. <sup>b</sup>Wilcoxon Signed Ranks Test.

Table A3.2: Wilcoxon tests for comparing the availability of Reliable Power Supply to the availability of the remaining 25 factors (with Bonferroni correction of  $.05/25 = .002$ )

Factors compared	Ranks	Mean rank	Sum of ranks	Z <sup>b</sup>	Asympt. Sig. (2-tailed)
1. Road transport – 7. Reliable power supply	Negative	17.38	226.00	-0.53 <sup>a</sup>	.596
	Positive	12.00	180.00		
2. Rail transport – 7. Reliable power supply	Negative	17.69	513.00	-4.67 <sup>a</sup>	.000
	Positive	5.00	15.00		
3. Air transport – 7. Reliable power supply	Negative	17.00	340.00	-3.14 <sup>a</sup>	.002
	Positive	8.25	66.00		
4. All-weather roads – 7. Reliable power supply	Negative	16.93	457.00	-3.63 <sup>a</sup>	.000
	Positive	14.20	71.00		
5. Safe roads – 7. Reliable power supply	Negative	16.98	407.50	-4.15 <sup>a</sup>	.000
	Positive	5.50	27.50		
8. Reliable water supply – 7. Reliable power supply	Negative	15.25	122.00	-0.64 <sup>a</sup>	.520
	Positive	7.33	88.00		
9. Tourist trade – 7. Reliable power supply	Negative	16.76	385.50	-2.30 <sup>a</sup>	.022
	Positive	15.83	142.50		
10. Getting involved with large businesses – 7. Reliable power supply	Negative	18.42	479.00	-3.13 <sup>a</sup>	.002
	Positive	14.50	116.00		
11. Getting involved in local community – 7. Reliable power supply	Negative	14.78	295.50	-2.16 <sup>a</sup>	.031
	Positive	13.81	110.50		
12. Availability of staff – 7. Reliable power supply	Negative	21.50	752.50	-5.11 <sup>a</sup>	.000
	Positive	6.88	27.50		
13. Staff with work skills – 7. Reliable power supply	Negative	22.54	834.00	-5.28 <sup>a</sup>	.000
	Positive	6.75	27.00		
14. Staff with literacy/numeracy skills – 7. Reliable power supply	Negative	20.59	679.50	-4.52 <sup>a</sup>	.000
	Positive	12.30	61.50		
15. Local customer trade – 7. Reliable power supply	Negative	16.20	372.50	-2.92 <sup>a</sup>	.004
	Positive	13.21	92.50		
16. Access to finance – 7. Reliable power supply	Negative	16.92	321.50	-1.47 <sup>a</sup>	.142
	Positive	14.54	174.50		
17. My management style – 7. Reliable power supply	Negative	18.18	363.50	-1.15 <sup>a</sup>	.250
	Positive	16.54	231.50		
18. Reliable suppliers – 7. Reliable power supply	Negative	18.08	452.00	-2.71 <sup>a</sup>	.007
	Positive	15.89	143.00		
19. Reasonable fuel prices – 7. Reliable power supply	Negative	20.97	818.00	-5.51 <sup>a</sup>	.000
	Positive	2.00	2.00		
20. Removal of CDEP – 7. Reliable power supply	Negative	22.56	767.00	-4.82 <sup>a</sup>	.000
	Positive	8.83	53.00		
21. Schooling available for children – 7. Reliable power supply	Negative	18.98	455.50	-3.15 <sup>a</sup>	.002
	Positive	11.72	105.50		
22. Local council/progress Association – 7. Reliable power supply	Negative	19.21	557.00	-3.99 <sup>a</sup>	.000
	Positive	12.17	73.00		
23. Government funding – 7. Reliable power supply	Negative	19.25	616.00	-4.95 <sup>a</sup>	.000
	Positive	4.67	14.00		
24. Airstrip – 7. Reliable power supply	Negative	16.80	336.00	-1.74 <sup>a</sup>	.081
	Positive	14.55	160.00		
25. Police presence – 7. Reliable power supply	Negative	18.80	432.50	-2.33 <sup>a</sup>	.020
	Positive	14.77	162.50		
26. Mining boom – 7. Reliable power supply	Negative	19.21	653.00	-4.58 <sup>a</sup>	.000
	Positive	16.67	50.00		
27. Medical services – 7. Reliable power supply	Negative	21.39	599.00	-3.76 <sup>a</sup>	.000
	Positive	11.56	104.00		

Note: <sup>a</sup>Based on positive ranks. <sup>b</sup>Wilcoxon Signed Ranks Test.

Table A3.3: Wilcoxon tests for comparing the availability of Reliable Water Supply to the availability of the remaining 24 factors (with Bonferroni correction of  $.05/24 = .0021$ )

Factors compared	Ranks	Mean rank	Sum of ranks	Z <sup>b</sup>	Asympt. Sig. (2-tailed)
1. Road transport – 8. Reliable water supply	Negative	14.69	191.00	-0.05 <sup>a</sup>	.961
	Positive	13.36	187.00		
2. Rail transport – 8. Reliable water supply	Negative	18.94	587.00	-4.48 <sup>a</sup>	.000
	Positive	10.75	43.00		
3. Air transport – 8. Reliable water supply	Negative	15.28	305.50	-2.82 <sup>a</sup>	.005
	Positive	10.36	72.50		
4. All-weather roads – 8. Reliable water supply	Negative	19.41	524.00	-3.45 <sup>a</sup>	.001
	Positive	13.25	106.00		
5. Safe roads – 8. Reliable water supply	Negative	17.98	521.50	-3.89 <sup>a</sup>	.000
	Positive	14.70	73.50		
9. Tourist trade – 8. Reliable water supply	Negative	17.86	375.00	-1.71 <sup>a</sup>	.088
	Positive	15.50	186.00		
10. Getting involved with large businesses – 8. Reliable water supply	Negative	17.68	442.00	-2.49 <sup>a</sup>	.013
	Positive	17.00	153.00		
11. Getting involved in local community – 8. Reliable water supply	Negative	15.67	329.00	-1.25 <sup>a</sup>	.212
	Positive	18.09	199.00		
12. Availability of staff – 8. Reliable water supply	Negative	20.17	706.00	-4.91 <sup>a</sup>	.000
	Positive	11.67	35.00		
13. Staff with work skills – 8. Reliable water supply	Negative	22.94	826.00	-5.18 <sup>a</sup>	.000
	Positive	7.00	35.00		
14. Staff with literacy/numeracy skills – 8. Reliable water supply	Negative	19.39	601.00	-4.24 <sup>a</sup>	.000
	Positive	13.00	65.00		
15. Local customer trade – 8. Reliable water supply	Negative	14.90	357.50	-2.63 <sup>a</sup>	.008
	Positive	17.92	107.50		
16. Access to finance – 8. Reliable water supply	Negative	14.53	261.50	-0.96 <sup>a</sup>	.337
	Positive	15.77	173.50		
17. My management style – 8. Reliable water supply	Negative	15.41	262.00	-0.28 <sup>a</sup>	.781
	Positive	16.71	234.00		
18. Reliable suppliers – 8. Reliable water supply	Negative	16.07	369.50	-2.03 <sup>a</sup>	.043
	Positive	17.61	158.50		
19. Reasonable fuel prices – 8. Reliable water supply	Negative	20.96	817.50	-5.50 <sup>a</sup>	.000
	Positive	2.50	2.50		
20. Removal of CDEP – 8. Reliable water supply	Negative	20.21	667.00	-4.79 <sup>a</sup>	.000
	Positive	9.00	36.00		
21. Schooling available for children – 8. Reliable water supply	Negative	18.10	434.50	-2.77 <sup>a</sup>	.006
	Positive	14.06	126.50		
22. Local council/progress Association – 8. Reliable water supply	Negative	18.02	504.50	-4.04 <sup>a</sup>	.000
	Positive	11.30	56.50		
23. Government funding – 8. Reliable water supply	Negative	21.04	736.50	-4.85 <sup>a</sup>	.000
	Positive	10.88	43.50		
24. Airstrip – 8. Reliable water supply	Negative	17.55	333.50	-0.96 <sup>a</sup>	.339
	Positive	16.25	227.50		
25. Police presence – 8. Reliable water supply	Negative	16.33	343.00	-1.89 <sup>a</sup>	.059
	Positive	15.30	153.00		
26. Mining boom – 8. Reliable water supply	Negative	19.27	616.50	-4.03 <sup>a</sup>	.000
	Positive	17.30	86.50		
27. Medical services – 8. Reliable water supply	Negative	20.29	568.00	-3.29 <sup>a</sup>	.001
	Positive	15.00	135.00		

Note: <sup>a</sup>Based on positive ranks. <sup>b</sup>Wilcoxon Signed Ranks Test.

Table A3.4: Wilcoxon tests for comparing the availability of Reliable Water Supply to the availability of the remaining 23 factors (with Bonferroni correction of  $.05/23 = .0022$ )

Factors compared	Ranks	Mean rank	Sum of ranks	Z <sup>b</sup>	Asympt. Sig. (2-tailed)
2. Rail transport – 1. Road transport	Negative	16.36	458.00	-4.66 <sup>a</sup>	.000
	Positive	3.50	7.00		
3. Air transport – 1. Road transport	Negative	12.33	222.00	-2.57 <sup>a</sup>	.010
	Positive	10.80	54.00		
4. All-weather roads – 1. Road transport	Negative	17.40	452.50	-3.56 <sup>a</sup>	.000
	Positive	12.58	75.50		
5. Safe roads – 1. Road transport	Negative	16.76	486.00	-3.25 <sup>a</sup>	.001
	Positive	21.80	109.00		
9. Tourist trade – 1. Road transport	Negative	14.48	318.50	-1.39 <sup>a</sup>	.164
	Positive	19.72	177.50		
10. Getting involved with large businesses – 1. Road transport	Negative	20.14	584.00	-2.36 <sup>a</sup>	.018
	Positive	21.45	236.00		
11. Getting involved in local community – 1. Road transport	Negative	15.83	332.50	-0.61 <sup>a</sup>	.544
	Positive	20.19	262.50		
12. Availability of staff – 1. Road transport	Negative	21.56	711.50	-4.51 <sup>a</sup>	.000
	Positive	11.42	68.50		
13. Staff with work skills – 1. Road transport	Negative	21.70	759.50	-4.72 <sup>a</sup>	.000
	Positive	12.10	60.50		
14. Staff with literacy/numeracy skills – 1. Road transport	Negative	19.41	563.00	-4.09 <sup>a</sup>	.000
	Positive	11.17	67.00		
15. Local customer trade – 1. Road transport	Negative	17.10	410.50	-1.58 <sup>a</sup>	.115
	Positive	19.95	219.50		
16. Access to finance – 1. Road transport	Negative	15.30	306.00	-1.53 <sup>a</sup>	.125
	Positive	15.90	159.00		
17. My management style – 1. Road transport	Negative	14.58	262.50	-0.29 <sup>a</sup>	.774
	Positive	17.96	233.50		
18. Reliable suppliers – 1. Road transport	Negative	15.60	390.00	-1.60 <sup>a</sup>	.110
	Positive	22.78	205.00		
19. Reasonable fuel prices – 1. Road transport	Negative	21.78	849.50	-5.46 <sup>a</sup>	.000
	Positive	5.75	11.50		
20. Removal of CDEP – 1. Road transport	Negative	19.58	607.00	-4.33 <sup>a</sup>	.000
	Positive	11.80	59.00		
21. Schooling available for children – 1. Road transport	Negative	17.81	427.50	-3.08 <sup>a</sup>	.002
	Positive	12.56	100.50		
22. Local council/progress Association – 1. Road transport	Negative	16.37	442.00	-3.35 <sup>a</sup>	.001
	Positive	17.20	86.00		
23. Government funding – 1. Road transport	Negative	20.10	683.50	-5.03 <sup>a</sup>	.000
	Positive	6.50	19.50		
24. Airstrip – 1. Road transport	Negative	16.13	306.50	-0.80 <sup>a</sup>	.423
	Positive	17.04	221.50		
25. Police presence – 1. Road transport	Negative	15.68	345.00	-1.53 <sup>a</sup>	.127
	Positive	18.30	183.00		
26. Mining boom – 1. Road transport	Negative	19.22	615.00	-3.58 <sup>a</sup>	.000
	Positive	21.00	126.00		
27. Medical services – 1. Road transport	Negative	16.42	410.50	-3.21 <sup>a</sup>	.001
	Positive	14.25	85.50		

Note: <sup>a</sup>Based on positive ranks. <sup>b</sup>Wilcoxon Signed Ranks Test.

Table A3.5: Wilcoxon tests for comparing the availability of Staff With Work Skills to the availability of the remaining 26 factors (with Bonferroni correction of .05/26 = .0019)

Factors compared	Ranks	Mean rank	Sum of ranks	Z <sup>c</sup>	Asympt. Sig. (2-tailed)
1. Road transport – 13. Staff with work skills	Negative	12.10	60.50	-4.72 <sup>a</sup>	.000
	Positive	21.70	759.50		
2. Rail transport – 13. Staff with work skills	Negative	15.00	330.00	-0.05 <sup>a</sup>	.962
	Positive	24.00	336.00		
3. Air transport – 13. Staff with work skills	Negative	14.60	146.00	-3.28 <sup>a</sup>	.001
	Positive	21.25	595.00		
4. All-weather roads – 13. Staff with work skills	Negative	16.00	208.00	-2.91 <sup>a</sup>	.004
	Positive	23.32	653.00		
5. Safe roads – 13. Staff with work skills	Negative	10.64	74.50	-3.85 <sup>a</sup>	.000
	Positive	19.28	520.50		
6. Internet/e-mail access – 13. Staff with work skills	Negative	19.00	38.00	-5.12 <sup>a</sup>	.000
	Positive	21.10	823.00		
7. Reliable power supply – 13. Staff with work skills	Negative	6.75	27.00	-5.28 <sup>a</sup>	.000
	Positive	22.54	834.00		
8. Reliable water supply – 13. Staff with work skills	Negative	7.00	35.00	-5.18 <sup>a</sup>	.000
	Positive	22.94	826.00		
9. Tourist trade – 13. Staff with work skills	Negative	6.40	32.00	-4.57 <sup>a</sup>	.000
	Positive	19.41	563.00		
10. Getting involved with large businesses – 13. Staff with work skills	Negative	15.00	135.00	-3.45 <sup>a</sup>	.001
	Positive	20.90	606.00		
11. Getting involved in local community – 13. Staff with work skills	Negative	10.67	32.00	-4.85 <sup>a</sup>	.000
	Positive	19.74	671.00		
12. Availability of staff – 13. Staff with work skills	Negative	6.00	24.00	-2.08 <sup>a</sup>	.037
	Positive	8.73	96.00		
14. Staff with literacy/numeracy skills – 13. Staff with work skills	Negative	7.00	28.00	-3.28 <sup>a</sup>	.001
	Positive	12.50	225.00		
15. Local customer trade – 13. Staff with work skills	Negative	14.67	44.00	-4.14 <sup>a</sup>	.000
	Positive	16.69	484.00		
16. Access to finance – 13. Staff with work skills	Negative	11.60	58.00	-4.66 <sup>a</sup>	.000
	Positive	21.24	722.00		
17. My management style – 13. Staff with work skills	Negative	4.00	4.00	-5.29 <sup>a</sup>	.000
	Positive	19.42	699.00		
18. Reliable suppliers – 13. Staff with work skills	Negative	5.00	15.00	-5.04 <sup>a</sup>	.000
	Positive	19.73	651.00		
19. Reasonable fuel prices – 13. Staff with work skills	Negative	15.29	321.00	-2.26 <sup>b</sup>	.024
	Positive	14.25	114.00		
20. Removal of CDEP – 13. Staff with work skills	Negative	17.03	289.50	-0.69 <sup>a</sup>	.490
	Positive	19.82	376.50		
21. Schooling available for children – 13. Staff with work skills	Negative	13.80	138.00	-2.75 <sup>a</sup>	.006
	Positive	19.04	457.00		
22. Local council/progress Association – 13. Staff with work skills	Negative	11.13	89.00	-3.15 <sup>a</sup>	.002
	Positive	17.70	407.00		
23. Government funding – 13. Staff with work skills	Negative	16.68	317.00	-0.66 <sup>b</sup>	.510
	Positive	17.43	244.00		
24. Airstrip – 13. Staff with work skills	Negative	15.75	63.00	-4.27 <sup>a</sup>	.000
	Positive	18.84	603.00		
25. Police presence – 13. Staff with work skills	Negative	13.17	39.50	-4.44 <sup>a</sup>	.000
	Positive	17.92	555.50		
26. Mining boom – 13. Staff with work skills	Negative	18.50	185.00	-2.16 <sup>a</sup>	.031
	Positive	17.80	445.00		
27. Medical services – 13. Staff with work skills	Negative	9.19	73.50	-3.60 <sup>a</sup>	.000
	Positive	18.94	454.50		

Note: <sup>a</sup>Based on negative ranks. <sup>b</sup>Based on positive ranks. <sup>c</sup>Wilcoxon Signed Ranks Test.

Table A3.6: Wilcoxon tests for comparing the availability of Government Funding to the availability of the remaining 25 factors (with Bonferroni correction of  $.05/25 = .002$ )

Factors compared	Ranks	Mean rank	Sum of ranks	Z <sup>c</sup>	Asympt. Sig. (2-tailed)
1. Road transport – 23. Government funding	Negative Positive	6.50 20.10	19.50 683.50	-5.03 <sup>a</sup>	.000
2. Rail transport – 23. Government funding	Negative Positive	13.69 18.47	219.00 277.00	-0.57 <sup>a</sup>	.567
3. Air transport – 23. Government funding	Negative Positive	15.90 20.15	159.00 544.00	-2.92 <sup>a</sup>	.004
4. All-weather roads – 23. Government funding	Negative Positive	16.60 20.54	166.00 575.00	-2.98 <sup>a</sup>	.003
5. Safe roads – 23. Government funding	Negative Positive	14.38 19.07	115.00 515.00	-3.30 <sup>a</sup>	.001
6. Internet/e-mail access – 23. Government funding	Negative Positive	8.00 19.81	8.00 733.00	-5.28 <sup>a</sup>	.000
7. Reliable power supply – 23. Government funding	Negative Positive	4.67 19.25	14.00 616.00	-4.95 <sup>a</sup>	.000
8. Reliable water supply – 23. Government funding	Negative Positive	10.88 21.04	43.50 736.50	-4.85 <sup>a</sup>	.000
9. Tourist trade – 23. Government funding	Negative Positive	12.19 20.88	97.50 605.50	-3.85 <sup>a</sup>	.000
10. Getting involved with large businesses – 23. Government funding	Negative Positive	12.44 20.52	112.00 554.00	-3.49 <sup>a</sup>	.000
11. Getting involved in local community – 23. Government funding	Negative Positive	8.10 20.70	40.50 662.50	-4.72 <sup>a</sup>	.000
12. Availability of staff – 23. Government funding	Negative Positive	19.68 17.23	216.50 413.50	-1.63 <sup>a</sup>	.102
14. Staff with literacy/numeracy skills – 23. Government funding	Negative Positive	17.63 16.80	141.00 420.00	-2.51 <sup>a</sup>	.012
15. Local customer trade – 23. Government funding	Negative Positive	10.70 18.13	53.50 507.50	-4.08 <sup>a</sup>	.000
16. Access to finance – 23. Government funding	Negative Positive	12.25 21.41	73.50 706.50	-4.44 <sup>a</sup>	.000
17. My management style – 23. Government funding	Negative Positive	9.67 19.82	29.00 674.00	-4.89 <sup>a</sup>	.000
18. Reliable suppliers – 23. Government funding	Negative Positive	10.00 19.87	50.00 616.00	-4.47 <sup>a</sup>	.000
19. Reasonable fuel prices – 23. Government funding	Negative Positive	16.94 14.69	305.00 191.00	-1.13 <sup>b</sup>	.258
20. Removal of CDEP – 23. Government funding	Negative Positive	20.30 16.33	203.00 392.00	-1.64 <sup>a</sup>	.102
21. Schooling available for children – 23. Government funding	Negative Positive	17.71 16.16	124.00 404.00	-2.63 <sup>a</sup>	.009
22. Local council/progress Association – 23. Government funding	Negative Positive	14.36 16.48	100.50 395.50	-2.91 <sup>a</sup>	.004
24. Airstrip – 23. Government funding	Negative Positive	11.93 20.09	83.50 582.50	-3.94 <sup>a</sup>	.000
25. Police presence – 23. Government funding	Negative Positive	16.00 18.81	64.00 602.00	-4.25 <sup>a</sup>	.000
26. Mining boom – 23. Government funding	Negative Positive	17.90 17.33	179.00 416.00	-2.04 <sup>a</sup>	.042
27. Medical services – 23. Government funding	Negative Positive	18.88 19.67	151.00 590.00	-3.21 <sup>a</sup>	.001

Note: <sup>a</sup>Based on negative ranks. <sup>b</sup>Based on positive ranks. <sup>c</sup>Wilcoxon Signed Ranks Test.

Table A3.7: Wilcoxon tests for comparing the availability of Reasonable Fuel Prices to the availability of the remaining 24 factors (with Bonferroni correction of .05/24 = .0021)

Factors compared	Ranks	Mean rank	Sum of ranks	Z <sup>b</sup>	Asympt. Sig. (2-tailed)
1. Road transport – 19. Reasonable fuel prices	Negative	5.75	11.50	-5.46 <sup>a</sup>	.000
	Positive	21.78	849.50		
2. Rail transport – 19. Reasonable fuel prices	Negative	10.86	119.50	-2.36 <sup>a</sup>	.019
	Positive	18.18	345.50		
3. Air transport – 19. Reasonable fuel prices	Negative	9.30	93.00	-4.29 <sup>a</sup>	.000
	Positive	24.23	727.00		
4. All-weather roads – 19. Reasonable fuel prices	Negative	6.50	39.00	-4.45 <sup>a</sup>	.000
	Positive	19.86	556.00		
5. Safe roads – 19. Reasonable fuel prices	Negative	7.00	28.00	-4.92 <sup>a</sup>	.000
	Positive	20.45	675.00		
6. Internet/e-mail access – 19. Reasonable fuel prices	Negative	6.00	6.00	-5.60 <sup>a</sup>	.000
	Positive	21.88	897.00		
7. Reliable power supply – 19. Reasonable fuel prices	Negative	2.00	2.00	-5.51 <sup>a</sup>	.000
	Positive	20.97	818.00		
8. Reliable water supply – 19. Reasonable fuel prices	Negative	2.50	2.50	-5.50 <sup>a</sup>	.000
	Positive	20.96	817.50		
9. Tourist trade – 19. Reasonable fuel prices	Negative	10.25	41.00	-5.07 <sup>a</sup>	.000
	Positive	22.16	820.00		
10. Getting involved with large businesses – 19. Reasonable fuel prices	Negative	5.50	16.50	-5.00 <sup>a</sup>	.000
	Positive	19.68	649.50		
11. Getting involved in local community – 19. Reasonable fuel prices	Negative	0.00	0.00	-5.47 <sup>a</sup>	.000
	Positive	20.00	780.00		
12. Availability of staff – 19. Reasonable fuel prices	Negative	13.19	105.50	-3.17 <sup>a</sup>	.002
	Positive	18.22	455.50		
14. Staff with literacy/numeracy skills – 19. Reasonable fuel prices	Negative	13.33	80.00	-3.62 <sup>a</sup>	.000
	Positive	17.81	481.00		
15. Local customer trade – 19. Reasonable fuel prices	Negative	8.33	25.00	-5.20 <sup>a</sup>	.000
	Positive	21.49	795.00		
16. Access to finance – 19. Reasonable fuel prices	Negative	8.50	34.00	-5.00 <sup>a</sup>	.000
	Positive	21.31	746.00		
17. My management style – 19. Reasonable fuel prices	Negative	3.50	7.00	-5.44 <sup>a</sup>	.000
	Positive	21.39	813.00		
18. Reliable suppliers – 19. Reasonable fuel prices	Negative	0.00	0.00	-5.47 <sup>a</sup>	.000
	Positive	20.00	780.00		
20. Removal of CDEP – 19. Reasonable fuel prices	Negative	17.77	195.50	-2.18 <sup>a</sup>	.029
	Positive	18.82	470.50		
21. Schooling available for children – 19. Reasonable fuel prices	Negative	10.43	73.00	-3.86 <sup>a</sup>	.000
	Positive	19.33	522.00		
22. Local council/progress Association – 19. Reasonable fuel prices	Negative	6.50	39.00	-4.46 <sup>a</sup>	.000
	Positive	19.86	556.00		
24. Airstrip – 19. Reasonable fuel prices	Negative	3.00	6.00	-5.01 <sup>a</sup>	.000
	Positive	18.41	589.00		
25. Police presence – 19. Reasonable fuel prices	Negative	12.75	25.50	-5.11 <sup>a</sup>	.000
	Positive	20.39	754.50		
26. Mining boom – 19. Reasonable fuel prices	Negative	9.45	94.50	-3.65 <sup>a</sup>	.000
	Positive	21.42	535.50		
27. Medical services – 19. Reasonable fuel prices	Negative	9.25	18.50	-4.71 <sup>a</sup>	.000
	Positive	17.50	542.50		

Note: <sup>a</sup>Based on negative ranks. <sup>b</sup>Wilcoxon Signed Ranks Test.

## Appendix 4: Follow-up Wilcoxon tests for importance of leadership roles

Table A4.1: Wilcoxon tests for comparing the importance of Integrator Role to the importance of the remaining 5 leadership roles (with Bonferroni correction of  $.05/5 = .01$ )

Roles compared	Ranks	Mean rank	Sum of ranks	Z <sup>b</sup>	Asympt. Sig. (2-tailed)
Innovator – Integrator	Negative	45.86	2660.00	-5.00 <sup>a</sup>	.000
	Positive	26.36	580.00		
Broker – Integrator	Negative	39.58	1702.00	-1.70 <sup>a</sup>	.090
	Positive	34.61	1073.00		
Deliverer – Integrator	Negative	34.87	1325.00	-0.71 <sup>a</sup>	.480
	Positive	35.16	1090.00		
Monitor – Integrator	Negative	44.46	2134.00	-3.48 <sup>a</sup>	.001
	Positive	28.29	792.00		
Developer – Integrator	Negative	46.11	2628.50	-4.29 <sup>a</sup>	.000
	Positive	30.98	774.50		

Note: <sup>a</sup>Based on positive ranks. <sup>b</sup>Wilcoxon Signed Ranks Test.

Table A4.2: Wilcoxon tests for comparing the importance of Innovator Role to the importance of the remaining 4 leadership roles (with Bonferroni correction of  $.05/4 = .0125$ )

Roles compared	Ranks	Mean rank	Sum of ranks	Z <sup>b</sup>	Asympt. Sig. (2-tailed)
Broker – Innovator	Negative	30.10	602.00	-2.96 <sup>a</sup>	.003
	Positive	33.59	1478.00		
Deliverer – Innovator	Negative	27.41	630.50	-4.32 <sup>a</sup>	.000
	Positive	43.31	2295.50		
Monitor – Innovator	Negative	43.03	1506.00	-0.17 <sup>a</sup>	.862
	Positive	36.63	1575.00		
Developer – Innovator	Negative	39.98	1199.50	-1.54 <sup>a</sup>	.123
	Positive	38.37	1803.50		

Note: <sup>a</sup>Based on negative ranks. <sup>b</sup>Wilcoxon Signed Ranks Test.

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