

Intangible Resources as Key Determinants of Job Network Providers' Success: A Resource-based Study

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ABSTRACT

In the last 50 years, many explanations of the determinants of a firm's success have emerged. One main research stream has dominated the literature on strategic management, grounded in the 'resource-based view'. Its main assumptions hold that resources possessing specific characteristics such as being valuable, rare, inimitable and non-substitutable are the key determinants of a firm's success, and are generally regarded to be intangible in nature. In an effort to add to the body of research within the 'resource-based view', this paper seeks to test the core assumptions of the 'resource-based view' within the Job Network industry in Australia. Given that firms access various intangible resources as they try to carry out a market strategy, this present study is interested in investigating whether or not, intangible resources (capabilities) classified as skills contribute more to Job Network providers' success than intangible resources in the form of assets, as prescribed by the 'resource-based view' theory. To carry out the present study, a conceptual model of intangible resources was developed based on Hall's (1992) classification of intangible resources divided into two categories: assets and capabilities, but extends this earlier work by including some other resources available for Job Network providers in Australia (e.g. relationships abilities and functional routine). A single hypothesis was posited to investigate the assumption that capabilities contribute largely to Job Network providers' market and financial performance, rather than intangible assets. This model was tested via a survey encompassing Job Network providers in Australia. Of the 200 questionnaires distributed, a final sample of 69 providers was analysed using multiple regression analysis. Providers' duration in business was used as a control variable. The findings of the present study revealed mixed results. Capabilities were found to be a significant contributor to providers' market performance and not financial performance, after accounting for the effects of other intangible assets and the control variable. By contrast, organisational assets were found to be a significant contributor to both market and financial performance measures. In addition, intellectual property and reputation assets were not found to be significant in predicting providers' market and financial performance. Therefore, in contrast to the 'resource-based-view' theory, capabilities were not found to be the single most important contributor to Job Network providers' performance. Thus, the findings of this study may raise some important issues regarding which intangible resources are the most important contributors to providers' market and financial performance. They also offer a rich avenue for further investigations.

Keywords: Strategic management, Resource-based view, JobNetwork industry, Intangible Resources, Assets, Capabilities.

INTRODUCTION

The aim of this paper is to examine the impact of *intangible resources* on the establishment of sustainable competitive advantage within the context of the Job Network industry in Australia. The question 'Why do some firms outperform others?' (Rumelt, 1984; Porter, 1985; Levinthal, 1995; Hawawini, Subramanian and Verdin, 2003; Newbert, 2007; Sirmon and Hitt, 2007; Teece, 2007) has become a major area of research in the field of strategic management. Newbert (2007) describes strategic management as the process that a firm takes to analyse, decide and implement its strategy or strategies in order to develop and maintain competitive advantages. Many strategy researchers have tried to explain the variances in performance across a range of industries and usually by looking for the source of competitive advantage (Gonzalez and Ventura, 2002; Newbert, 2007; Foss and Foss, 2007; Teece, 2007). In the last 50 years, many explanations of the determinants of a firm's success have emerged. One main research stream has dominated the literature of strategic management, grounded on the 'resource-based view' (Wernerfelt, 1984; Barney, 1991).

The 'resource-based view' focuses on internal idiosyncratic resources in explaining the differences in success levels among firms competing in the same industry (Wernerfelt, 1984; Barney, 1991). Its main assumptions hold that resources possessing specific characteristics such as being valuable, rare, inimitable and non-substitutable are the key determinants of a firm's success and are referred to as strategic assets (Wernerfelt, 1984; Barney, 1991; Amit and Schoemaker, 1993). It is important to note that early works of Wernerfelt (1984) and Barney (1991) are considered very relevant and useful sources of information, and the stepping stones for a clear understanding of the 'resource-based view'. Indeed, the Web of Science, an academic database provided by Thomson Scientific, reported that Wernerfelt's (1984) early 'resource-based view' article attracted over 1,200 citations, and Barney's (1991) article has been cited more than 2,000 times. In addition, their popularity has increased over time. In 2000/2001, these articles received 403 citations, while in 2005/2006 they received 735 citations, an increase of 83 percent over 2001/2001, and 23 percent of the total citations (Crook et al., 2008). In this paper, a conceptual model of resources is developed, following a review of previous and current literature. A pool of resources is used for this study based on a number of established theories relating to competitive advantage in the field of strategic management (Wernerfelt, 1984; Prahalad and Hamel, 1990; Barney, 1991; Hall, 1992; Amit and Shoemaker, 1993; Grant, 2002; McEvily and Chakravarthy, 2002; Galbreath and Galvin, 2006). In the literature of strategic management, *intangible resources* are divided into two categories: *assets* and *capabilities (skills)*. According to Hall (1992), *intangible assets* refer to 'what a firm has' such as intellectual property, *organisational assets* and *reputation assets*, while *intangible resources*, classified as *skills (capabilities)*, are a firm's *skills* or 'what a firm does', namely its managers, staff and firm *know-how*, and these *skills* are also referred to as *competencies*. This model is tested through a survey encompassing Job Network providers in Australia.

LITERATURE REVIEW

Businesses aim to achieve a sustainable competitive advantage by matching customer valued attributes to the firm's *capabilities* and *competencies* namely its management, staff and *know-how* (Prahalad and Hamel, 1990; Fahy, 2002; Grant, 2002). The aim of the present research is to investigate whether *capabilities* and *competencies* make a significantly larger contribution to Job Network providers' success in comparison to *intangible resources* classified as assets within the context of the 'resource-based view' and its core assumptions. The Job Network industry is a funded network of private and community organisations that is contracted through a competitive public tender by the Department of Education, Employment and Workplace Relations (DEEWR). Providers are selected to deliver employment services for unemployed Australians receiving income support payments. The industry commenced in delivering services in 1998, after the dissolution of the Commonwealth Employment Services (CES). As a result of this dissolution, two organisations were created, namely: (a) Centrelink, which was to provide financial support; and (b) the Job Network industry, whose primary responsibility was to assist unemployed Australian to return to work. It is important to note that the newly elected Government renamed the industry as Job Service Australia (JSA) in 2009.

The Emergence of *Intangible Resources* and the New Economy

Neoclassical economic theories are based on two key assumptions of maximisation and optimisation of the physical production factors. Neoclassical theories assume that individuals maximise utility and firms maximise profits, and that individuals act rationally (Conner, 1991, 2007). Neoclassical economics suggest that as a result of the world being uncomplicated and easy to understand, firms can make rational decisions (to maximise their profits). In addition, success is achieved by the optimisation of resources that are tangible in nature and may comprise machinery, land, equipment, buildings and raw materials (Hunt, 1997). Transforming economic output from rural goods/products to manufactured products was the main characteristic of the industrial economic age. The significant assets for the industrial economic age were land, raw materials and machinery. Focusing on the optimisation of physical assets, neoclassical theories suggest that such optimisation leads to the optimisation of capital (Conner, 1991, 2007).

In modern times, different views regarding wealth creation exist. According to D'Aveni (1994), the new business environment is changing rapidly as a result of major developments in economic systems, telecommunications and technology. These changes, which have occurred in most developed nations and in some emerging countries, have led to many heated debates in relation to the shift to a new economy where key assumptions of neoclassical economics are said to be invalid (Charan, 1991). Debates within the new economy suggest that global business environments are changing at such a speed that clear-cut decisions (in relation to tangible resources such as production) are not easily understood and no longer form the basis of competitive advantage. Therefore, firms need to rely on other resources to compete. Indeed, it is argued that success in the new economy is based on the development and use of resources that are intangible in nature (Teece, 2000, 2007). In addition, it has been suggested by Prahalad and Hamel (1990) that, in the creation of competitive advantage, the focus of attention has shifted from tangible resources to *intangible resources*. The main

assumption underlying the new economy is that tangible resources can no longer be the basis of competitive advantage because they are subject to imitation. Based on this assumption, the key determinants of a firm's success are referred to as *intangible resources* (Amit and Schoemaker, 1993; Conner, 2002, 2007). This view strongly parallels a heated and widely debated topic during the 1990s, referred to as the 'resource-based view', where scholars within the field strongly supported *intangible resources* as the most important source of a firm's success (Wernerfelt, 1984; Barney, 1991; Newbert, 2007, 2008).

The Resource-Based View

Theorised first by Wernerfelt (1984) in the literature of strategic management, but drawing upon the early work of Penrose (1959), the 'resource-based view' is the first stream in the field of strategic management that has significantly grounded the understanding of the variations of success levels in firms. The 'resource-based view' stresses the importance of internal idiosyncratic resources in explaining the differences in success levels amongst firms when competing in the same industry (Wernerfelt, 1984; Barney, 1991). These resources are intangible in nature and include *staff know-how*, organisational *culture* and reputation. However, the literature suggests that not all resources contribute equally to a firm's success (Barney, 1991; Peteraf, 1993; Adner and Zemsky, 2006; Moliterno and Wiersema, 2007). It is argued that resources can be an important contributor to a firm's success only if they possess certain characteristics (Barney, 1991). Therefore the 'resource-based view' is prescriptive. The main contributors to the 'resource-based view' suggest that resources possessing specific characteristics are the key determinant of a firm's success. Resources that are valuable, rare, inimitable and non-substitutable are referred to as strategic assets. Strategic assets are defined as being "the set of difficult to trade and imitate, scarce, appropriable and specialized resources and *capabilities* that bestow the firm's competitive advantage" (Amit and Shoemaker, 1993, p36). Strategic assets are also considered to be intangible in nature and include *know-how*, reputation and *organisational assets* (Itami and Roehl, 1987; Hall, 1992; Barney, 2001b; Ray, Barney and Muhanna, 2004; Newbert, 2007).

The 'resource-based view' has branched into various streams throughout the course of its development and these include the competency school (Prahalad and Hamel, 1990), the 'dynamic' *capabilities* concept (Teece, Pisano and Shuen, 1997; Moliterno and Wierseman, 2007; Teece, 2007, 2008) and the knowledge based school (Grant, 1996a). The 'resource-based view' has gained importance in the field of strategic management. Specifically during the 1990s the 'resource-based view' gained much attention in explaining why some firms outperformed others (Barney, 1991; Ray, Barney and Muhanna, 2004). Within the 'resource-based view', *capabilities* are referred to as being the *most important* contributor to a firm's success (Charan, 1991; Day, 1994; Grant, 1996b; Teece, Pisano and Shuen, 1997; McEvily and Chakravarthy, 2002; Grant, 2002; Teece, 2007; Moliterno and Wierseman, 2007), and are ultimately reflected in managers, staff and *know-how* (Grant, 1996b). *Capabilities* can be considered a 'superior' resource in a firm's resource pool as a result of being dynamic. This assists the firm in acquiring, developing and deploying all other assets, including those that are intangible in nature, namely, *intellectual property assets*, *reputation assets* and *organisational assets*, to attain success compared to rivals (Itami and Roehl, 1987). Previous studies within the field of strategic management (Fahy, 2002; Galbreath, 2004a; 2006) reported that *intangible resources* classified as *capabilities* make a larger contribution to a firm's success than some *intangible assets* such as *intellectual property assets*.

THE PAPER THEORETICAL FRAMEWORK

The resource framework for the present paper has integrated a number of established theories relating to competitive advantage and, after an extensive review of previous and current literature in the field of strategic management. It builds on the work of Wernerfelt (1984), Aaker (1989), Prahalad and Hamel (1990), Barney (1991), Hall (1992), Amit and Shoemaker (1993), Teece, Pisano and Shuen (1997); Grant (2002); McEvily and Chakravarthy (2002) and Teece (2007). However, it is extended to include some other resources available for Job Network providers in Australia (e.g. *relationships abilities* and *functional routine*). According to Hall's (1992), *intangible resources* are either what the firm 'has' (*assets*) or what the firm 'does' (*capabilities*). In his commonly cited studies, Hall (1992) uses the terms *skills*, *capabilities*, *competencies* and *know-how* interchangeably. In this paper, the term *capabilities* is used to refer to *skills*, *know-how* and *competencies*.

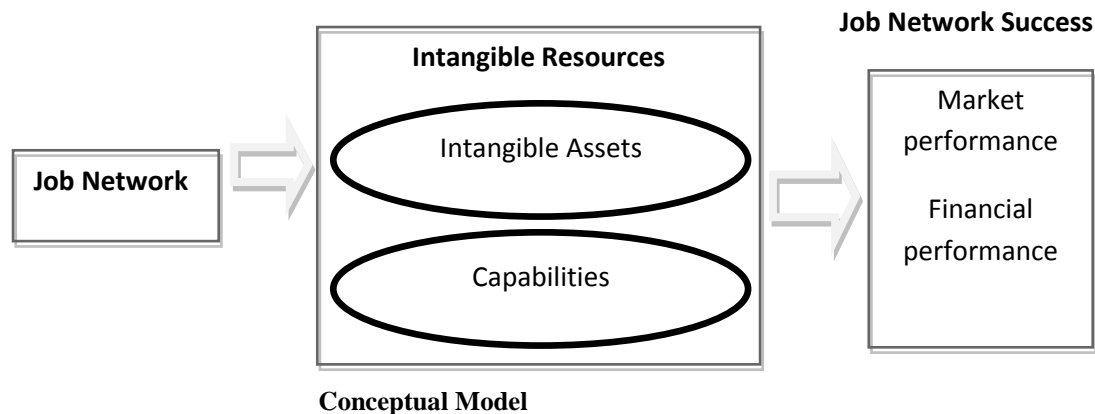
In this present study, *Intangible resources* in the form of assets are what the firm 'has'. For the purpose of this research it includes:

- *Intellectual Property Assets:*
 - *Copyrights, trademarks and trade secrets.*
- *Organisational Assets:*
 - *Organisational structure, HR policies and culture.*
- *Reputation Assets:*
 - *Firm reputation and brand name reputation.*

While, *intangible resources* in the form of *skills* represent what a firm ‘does’ in terms of its *skills* (*know-how*) or its *capabilities* (people dependent). For the purpose of this paper, *capabilities* include:

- *Employment service managers’ know-how.*
- *Employment service consultants’ know-how.*
- *Providers’ know-how.*
- *Functional routines/organisational business processes*

Based upon the ‘resource-based view’, this research aims to test a framework to explore the relationship between *intangible assets* and *intangible capabilities* and their impact upon Job Network providers’ success, as illustrated by the figure below.



Source: Developed for this paper

The above figure shows that firms access various *intangible resources* as they try to implement a market strategy. However, the ‘resource-based view’ suggests that not all *intangible resources* can contribute equally to a firm’s success, and that *capabilities* are more important contributors to a firm’s success (Barney, 1991; Peteraf, 1993; Newbert, 2007; Teece, 2007).

Significance of this paper

There is no evidence of any previous studies trying to validate or disprove the main prescription of the resource-based theory which holds that *capabilities* are the most important contributor to a firm’s success and to test the model proposed within the Job Network industry in Australia. This may be as a result of the Job Network being a relatively new industry. Studies conducted within the Job Network industry have investigated the psychological distress and burn-out in Australian Job Network service provider workers and in particular, case managers (Goddard, Patton and Creed, 2001). Studies have looked at the effectiveness of some specific programs designed to help jobseekers to return to work, such as the New Enterprise Incentive Scheme (NEIS) (Ross, Mulvey and Lewis, 2002). Also investigated was the role of church-based organisations in assisting jobless Australians back to work, including Mission Australia and Wesley Uniting Care (Donnan and Marsh, 2000). However, none of these studies investigated what is contributing most to the Job Networks’ success within the context of the ‘resource-based view’ and its core assumption that *capabilities* is the most important contributor to a firm’s success. Indeed, none of these studies has attempted to test a well defined framework based on Hall’s (1992, 1993) classification of *intangible resources* (assets/capabilities). Most of the studies have focused on the working environment and on the active participation model (APM).

APM is a service delivery model developed by DEEWR for the Job Network industry that tries to improve its success rate by actively engaging jobseekers in appropriate job searching activities to maximise their chances of finding work as quickly as possible. Providers’ success is measured by the return-to-work rates (speed of placements) which may be linked directly to the providers’ *capabilities* such as managerial, staff and *firm know-how*. Well performing providers increase their *market share* by increasing referral rates made by Centrelink. Increasing job seeker referrals and the return-to-work rates have a positive influence on their *financial performance* (*sales volumes*). However, of the studies cited above, none has investigated the industry from a strategic business point of view, in terms of general *market and financial performance*.

In addition, there is a problem with previous empirical work undertaken in relation to the ‘resource-based view’. Studies within the ‘resource-based view’ tend to investigate a large number of resources (tangible and

intangible) by investigating and comparing which resources contribute to a firm's success (Galbreath, 2001a; Galbreath and Galvin, 2006), with few exceptions (Fahy, 2002) relating to the framework of the research. Indeed, Galbreath and Galvin (2006) found that, while the 'resource-based view' associates performance with *intangible resources*, this association may not always be empirically true. These previous studies have offered discouraging results for the 'resource-based view', because they excluded many potential *intangible resources* that could contribute to the success of firms. Those studies which have considered a large pool of mainly tangible resources and used a very limited pool of *intangible resources* or excluded them altogether could be undermining the complexity of the competitive advantage environment. This study investigates if *capabilities* (*intangible resources*) in the form of *skills* (Hall, 1992, 1993) contribute to the success of Job Network providers in terms of 'resource-based view' core prescriptions. In addition, this study tests if the 'resource-based view' can be verified empirically by using an approach that has yet to be tried within the Job Network industry in Australia.

It is suggested by Hax and Wilde (2001) and Newbert (2007) that the 'resource-based view' is vague. In addition, Fahy (2000) suggests that there is minimal agreement among researchers in the way resources are conceptualised. For example, Wernerfelt (1984) suggests that anything which can be a source of strength or weakness within a firm could be considered as a resource. On the other hand, Barney (1991) argues that, for resources to be a source of competitive advantage and in order to make a significant contribution to a firm's success, they should be valuable, rare, imitable and non-substitutable. In addition, Barney (1991) attempted to conceptualise resources in a more constructive way. Much of the research conducted within the 'resource-based view' stream tends to describe a wide range of resources by summarising most of the work carried out by Barney (1991). The present study undertakes a different and new level of analysis which has not been presented before. It aims to investigate whether *capabilities* classified as *intangible resources* in the form of *skills* contribute more to the success of Job Network providers in Australia than do *intangible resources* classified as assets, namely, *intellectual property assets*, *organisational assets* and *reputation assets* within the context of the 'resource-based view'. Researchers reported that the Job Network industry is faced with critical issues such as high rates of burn-out and psychological distress amongst employees, which may have negative consequences on industry performance and raise additional questions about the future of the industry (Goddard, Patton and Creed, 2001). This study stresses the importance of conducting such study. With these considerations in mind, this study investigates the impact of *intangible resources* based on Hall's classifications (assets/*capabilities*) on performance within a single industry, the Job Network industry in Australia. The 'resource-based view' has attracted the attention of executives and managers as a result of being engaged daily in the business world of competitive struggle and market survival. This paper may have strategic implications for Job Network managers, executives and the industry, in regard to where future investments should be considered with respect to the large pool of *intangible resources* available.

The Study Question

Given the core prescription of the 'resource-based view' that points to *capabilities* as the most important contributor to a firm's success (Charan, 1991; Day, 1994; Grant, 1996b; Teece, Pisano and Shuen, 1997; McEvily and Chakravarthy, 2002; Newbert, 2007, 2008; Teece, 2007), the research question of this study is:

Do *intangible resources* (*capabilities*) classified as *skills* contribute more to Job Network providers' success than *intangible resources* in the form of assets?

THE STUDY HYPOTHESIS

As discussed above, *intangible resources* in the form of assets have been referred to as outcomes of a firm's *capabilities*. According to Michalisin, Smith and Kline (1997), assets in the form of intellectual property are a result of the collective *know-how* of firms. Furthermore, Hall (1992) argues that *reputation assets* are an outcome of earlier actions derived from previous events or strategies of the firm's managerial *capabilities*. It is suggested also that within a firm, *know-how* is exercised and applied by individual staff, team members and the firm's *relationships* (Hall, 1992; Galbreath and Galvin, 2004, 2006). Thus, a firm's *know-how* may be referred to as the foundations of a firm's *capabilities* regardless if it is operationalised as a firm-specific level activity or as a *routine*. According to Kogut and Zander (1996), *capabilities* were described as being tacit in nature, as a result of being entrenched in a firm's learning, experience and practice. Thus, it was argued that *capabilities* were the most difficult resources to duplicate as a result of having a high level of causal ambiguity (Teece, 2000, 2007). Previous studies within the field of strategic management (Fahy, 2002; Galbreath and Galvin, 2004, 2006) have argued that *capabilities* make a larger contribution to a firm's success than *intangible assets*. Thus, it is hypothesised that:

H₁: *Capabilities* make a significantly larger contribution to Job Network providers' success than *intangible assets*.

Methodology, Design and Instrumentation

A quantitative method was used for this research. Quantitative method is based on positive facts and not speculation upon origins or causes (Popper, 1959; Astley, 1985; Fahy, 2002; Galbreath and Galvin, 2004, 2006; Newbert, 2007). By using a quantitative method, this paper aims to extend the quantifiable, empirical research base. It addresses the need for scientific facts in testing the main prescriptions of the 'resource-based view' and in generating results that can be used in future studies for verification or replication.

A cross sectional field based survey was used. In this study, a field based survey questionnaire was directed to Chief Executive Officers (CEOs) in the Job Network industry. A five point Likert scale was used for the resource variables. CEOs were asked to assess each variable for the relative impact on the provider's success. In relation to the firm's success variables, CEOs were asked to evaluate the performance of their firms relative to competitors across two measurements (sales growth and *profitability*) on a seven point Likert scale. According to Spanos and Lioukas (2001), the use of a seven point Likert scale provides a wider description of performance responses, which would better represent the wide variety of performance levels in the marketplace. Fahy (2002) argues that, in a sample survey questionnaire, using Likert scales to collect data (on resources and performance) is valid in order to measure the various performance and resource variables. For the purpose of this paper, a questionnaire was developed and used as an alternative approach to collect data on resource variables. A 'funnel format' recommended by Sekaran (2000) was used to administer the questionnaires. A 'funnel format' is a process where respondents are first asked general questions relating to the firm. In a later section of the questionnaire, they are asked questions relating to the firm's *intangible resources* and lastly they are asked to answer questions relating to the firm's success. According to Spanos and Lioukas (2001), a funnel format helps to mitigate the impact of autocorrelation.

Data Collection

It was proposed to survey 100% of the (200) Job Network providers operating in Australia. Contact information for each provider was obtained from a government web-site (www.jobsearch.gov.au), where DEEWR provided a complete list, including telephone numbers and addresses of all providers operating in Australia.

Data Analysis

Multiple linear *regression analysis* was used to test the relationship between *intangible resources* (assets and *capabilities*) and providers' success. This statistical technique can predict changes in a dependent variable (DV) by taking into consideration the effect of various *independent variables* (IV). Correlations between variables were also used to test the hypothesis. In addition, data collected was checked for data entry errors, omissions and for normality of distribution (skewness and kurtosis). Descriptive statistics, such as means and standard deviations, were used to explore, summarise and describe the collected data.

ANALYSIS and RESULTS

1.1 Descriptive Statistics of the Study Variables

Descriptive statistics were computed to assess the distributions of the study variables, namely: (a) *intellectual property assets* (IPA); (b) *organisational assets* (OA); (c) *reputation assets* (RA); (d) *capabilities* (CAP); (e) *market performance* (MP); and (f) *financial performance* (FP). The mean, median, standard deviation, skewness and kurtosis were obtained for each variable.

		<i>IPA</i>	<i>OA</i>	<i>RA</i>	<i>CAP</i>	<i>MP</i>	<i>FP</i>
N	Valid	69	69	69	69	69	69
	Missing	0	0	0	0	0	0
Mean		2.9275	3.2029	2.8406	3.2609	4.0580	4.1449
Median		3.0000	3.0000	3.0000	3.0000	4.0000	4.0000
Std. Deviation		1.03354	0.97889	1.18350	1.02401	1.48407	1.61131

Skewness	0.066	-0.133	0.044	-0.127	-0.019	-0.156
Kurtosis	-0.264	-0.225	-0.767	-0.391	-0.541	-0.533
Minimum	1.00	1.00	1.00	1.00	1.00	1.00
Maximum	5.00	5.00	5.00	5.00	7.00	7.00

Table 1: Descriptive Statistics for IPA, OA, RA, CAP, MP and FP

In summary, it is important to note that all of the study variables (IPA, OA, RA, CAP, MP and FP) were normally distributed as indicated by their associated descriptive statistics (Table 12) and their associated histograms. The mean and median values are close to each other (Table 1), and the skewness and kurtosis values are small (almost zero) (Table 1), which indicate a normal distribution. Normal distribution theory applies to sample sizes of greater than or equal to 30 (Nunnally, 1978; Spanos and lioukas, 2001; Fahy, 2002; Galbreath and Galvin, 2004; Newbert, 2007; Bryman, 2008).

1.1.1 Reliability Analysis

Cronbach's alpha is the most commonly used measure of a scale's internal consistency reliability. A widely acceptable minimum level of *Cronbach's alpha* is 0.70 (Nunnally, 1978). However, it should be noted that *Cronbach's alpha* is affected by the number of items being assessed. In this study, all constructs reported a *Cronbach's alpha* level within and above the acceptable range of 0.70 to 0.80. However, reliability analysis for *reputational assets* is not reported, because the construct contains only one item. The scale demonstrates acceptable internal consistency (reliability) with a *Cronbach's alpha* of 0.824. The standardised alpha (based on standardised, not raw, scores for the items) was 0.800. Table 2 shows each variable and its associated *Cronbach's alpha* coefficient.

Constructs	Cronbach's Alpha
<i>Intellectual Property Assets (3 items)</i>	0.824
<i>Organisational Assets (3 items)</i>	0.827
<i>Capabilities (3 items)</i>	0.827
<i>Providers' success (9 items)</i>	0.802

Table 2: Cronbach's Alpha Scores

1.1.2 Factor Analysis

A confirmatory factor analysis was conducted to determine whether or not the survey items load to their associated constructs and in order to assess convergent validity of the study's constructs (Fahy, 2002; Galbreath and Galvin, 2006). Kaiser-Meyer-Olkin (KMO) test was conducted to measure the adequacy of the sample data for factor analysis. KMO "assesses the factorability of the correlation matrix" (Nunnally, 1978). In this study, the value of KMO is 0.653, which is greater than the recommended value of 0.6 (Nunnally, 1978). Thus, the sample items are suitable for factor analysis. In order to assess the strength of the relationships between items in the instrument, Bartlett's test of sphericity was performed (Nunnally, 1978). Bartlett's test of sphericity revealed a significance $p < 0.05$, indicating that the strength of relationships between the study items is strong enough to conduct the factor analysis. It should be noted that factor solutions with less than three items in a given factor are generally problematic, weak and unstable (e.g. *reputational assets* included only 1 item).

For the present study, a four-factor extraction option was undertaken, as there were four constructs measured in the survey: *intellectual property assets* (IPA), *organisational assets* (OA), *reputation assets* (RA), and *capabilities* (CAP). Items were rotated using the VARIMAX rotation method which offers solutions favouring those variables which "load high" onto one factor rather than several, and facilitates the interpretation of the results. Item rotation revealed a number of discernible patterns that broadly support the theoretical predictions of the present study. Factor loadings are presented in Table 3 below.

Constructs	Item Labels	Item No	Factor 1	Factor 2	Factor 3	Factor 4	% of variance
<i>Intellectual property assets</i>	IPA1	#1	0.700	0.255	0.076	0.161	29.2
	IPA2	#6	0.658	0.262	0.136	0.235	15.8
	IPA3	#9	0.766	0.110	0.362	0.108	12.2
<i>Organisational assets</i>	OS1	#2	0.361	0.779	0.093	0.039	9.8
	OS2	#3	0.017	0.891	0.129	0.058	7.6
	OS3	#4	0.210	0.352	0.615	0.138	7.3
<i>Reputational assets</i>	REP	#10	0.006	0.006	0.705	0.177	6.216
<i>Capabilities</i>	CAP2	#5	0.130	0.085	0.764	0.215	4.3
	CAP3	#7	0.255	0.158	0.008	0.814	3.8
	CAP1	#8	0.120	0.157	0.084	0.842	3.2

Table 3: Confirmatory Factor Analysis and Item Loadings

In the above table, 57.2% of the variance is explained (i.e. the sum of the variances 29.2%, 15.8% and 12.2%). In a factor analysis, *loading level* is utilised to determine whether or not an item loads to its associated variable. Any item with a loading of 0.30 or higher is deemed to belong to a specific factor (Tabachnick and Fidell, 2001). In exploratory studies, a low *loading level* of 0.3 or 0.4 is considered adequate (Nunnally, 1978). Nunnally (1978) reported that a factor loading of 0.30 is considered to be adequate, a loading of 0.40 is considered to be more important, and a loading of 0.50 or greater is deemed to be very significant. Based on the results of the factor analysis (Table 3), *intellectual property assets* items loaded closely on factor one. Most of the *organisational asset* items (OS1, OS2) loaded closely on factor two, with the exception of OS3 (providers *human resource management practices and policies*) which loaded closely with factor 3 (*reputational assets*). The *reputational asset* item (one item only) loaded closely on its associated factor 3. The *capabilities* items (CAP1, CAP3) also loaded closely to their associated factor 4, except for CAP2 (providers' relationship) which has loaded closely with factor 3 (*reputational assets*). However, some inter-relationship between the variables is noticeable. The organisational asset item (organizational *human resource management practices and policies*) loaded more closely with *reputational assets*, which might indicate some form of relationship between providers' *human resource management practices and policies* in the form of best practices and providers' reputation with various stakeholders (factor three). Similarly, providers' *relationships* (*capabilities*) loaded more closely with *reputational assets* (factor 3), which could indicate that *relationships* developed by providers and maintained with various stakeholders, might earn providers a sound reputation in the market. In the main, most of the survey items were confirmed to load closely with their associated constructs. In addition, close examination of the loading levels for the study items revealed that all of the survey items exceeded the recommended 0.30 loading level, ranging from 0.615 to 0.842 (Table 3). Therefore, convergent validity of the present study constructs is established.

1.1.3 Correlations Analysis

Table 4 presents the correlation coefficients for the study variables. From the correlation matrix (Table 4), it can be seen that only *capabilities* is correlated with *market performance* at the order of $r = 0.271$. Although there were some significant inter-correlations between *independent variables* (*capabilities* with *organisational assets* ($r = 0.269$); and *reputation assets* with *intellectual property assets* ($r = 0.255$), all of the inter-correlation

coefficients are below the level considered undesirable, which is generally 0.80 or higher. Therefore, the inter-correlations between the study *independent variables* were less than the threshold point (0.80) that is considered problematic (i.e. there was no presence of multicollinearity amongst *independent variables*) (Nunnally, 1978).

	IPA	OA	RA	CAP	MP	FP
<i>Intellectual Property Assets (IPA)</i>	1					
<i>Organisational Assets (OA)</i>	0.146	1				
	0.233					
<i>Reputation Assets (RA)</i>	0.255*	0.181	1			
	0.035	0.137				
<i>Capabilities (CAP)</i>	-0.010	0.269*	0.083	1		
	0.937	0.025	0.496			
<i>Market Performance (MP)</i>	0.108	-0.130	0.190	0.271*	1	
	0.376	0.288	0.119	0.025		
<i>Financial Performance (FP)</i>	0.192	-0.215	0.120	0.021	0.624**	1
	0.114	0.076	0.325	0.862	0.000	

*p < 0.01; **p < 0.001

Table 4: Correlation Coefficients for the Present Study Measured Variables

Regression Analysis

1.1.4 Analysis 1

In order to evaluate further the relationship between some of the present study inter-correlated variables (*Capabilities* and *Organizational Assets*) and providers' *market performance*, and to explore the unique contribution of each of the *independent variables* in explaining the dependent variable, multiple regression analyses were undertaken. In this study, all four *independent variables* together explain 17.6 per cent of the variance (*R square*) and 11 per cent of the variance (*adjusted R square*) in relation to the Job Network providers' *market performance*. The low values obtained in Analysis 1, imply that the results should be interpreted with caution. Hence, an important explanation for these low values could be attributed to other intangible or even *tangible resources* (financial, physical) underlying providers' *market performance*. This may explain a larger percentage of providers' *market performance* variation. Moreover, it is reported by Galbreath and Galvin (2004), that there are other external resources (e.g. resources of joint ventures) which might be significantly related to a given firm's performance, and that might explain a larger proportion of providers' performance.

Table 5 summarises the statistics for the *market performance* variable. An examination of the Analysis 1 figures reveals significance as indicated by the *p* model value of Analysis 1 ($p = 0.029 < 0.05$).

Analysis 1	Market performance (market share) (DV)							
	<i>R</i>	<i>R square</i>	<i>Adjusted R square</i>	<i>F</i>	<i>P Model</i>	β	<i>t</i>	<i>P Variables</i>
IPA, OA, RA, CAP								
Regression				2.686	0.029			
<i>R</i>	0.419							
<i>R square</i>		0.176						
<i>Adjusted R square</i>			0.110					
Constant							1.637	0.107
IPA						0.109	0.912	0.365
OA						0.290	2.304	0.025
RA						0.186	1.556	0.125
CAP						0.303	2.438	0.018

Dependent variable: *Market share* significant if $p < 0.05$;

Table 5: Statistics for Market Performance as the Dependent Variable

The results for the analysis of *intangible resources* in the form of assets (predictors), *capabilities* and providers' *market performance* (criteria) are as follows:

1. *Intellectual property assets* (IPA) are not significant in predicting the Job Network providers' *market performance* (MP) ($p = 0.365 > 0.05$);
2. *Organisational assets* (OA) are significant in predicting Job Network providers' *market performance* (MP) ($p = 0.025 < 0.05$);
3. *Reputation assets* (RA) are not significant in predicting the Job Network providers' *market performance* and success (*market share*) ($p = 0.125 > 0.05$); and
4. *Capabilities* (CAP) contribute more than *organisational assets* (OA) to providers' *market performance* (MP) ($p = 0.018 < 0.05$).
5. Providers' duration in business (age of business), is not-significantly associated with providers' *market performance* (MP) ($p = 0.484 > 0.05$).

An assessment of *capabilities* to providers' *market performance* relative to *intangible assets* reveals significant results ($p = 0.018$). Furthermore, *capabilities* contribute largely to providers' *market performance and success*, after accounting for the effects of *intangible assets*. Moreover, an examination of *organisational assets* ($p = 0.025$) also reveals significant results. *Organisational assets* (i.e. structure and human resource management practices and policies) do in fact contribute significantly ($p = 0.025$) to providers' *market performance* than do *reputation assets* and *intellectual property assets*.

1.1.5 Analysis 2

An examination of the correlation matrix (Table 15), reveals that *organisational assets* (OA) is correlated with *financial performance* (FP) to the order of $r = -0.215$. Given the previous correlation matrix results (Table 15), then *multiple regression analysis* is conducted in order to evaluate further the relationship between some of the inter-correlated variables and providers' *financial performance*, to explore the unique contribution of each of IV (*intellectual property assets*, *organizational assets*, *reputation assets* and *capabilities*) in explaining DV (*profitability*). All four *independent variables* (*intellectual property assets*, *organizational assets*, *reputation*

assets and capabilities) together explain 11.9 per cent of the variance (*R square*) in relation to *profitability (net profits)* and 4.9 per cent (*adjusted R square*). The *adjusted R square* score of providers' *financial performance* is lower (Table 6) than the *adjusted R square* value for providers' *market performance* (Table 5). An important explanation for these low values could be that there are other *intangible resources* or even tangible resources (physical and financial assets) that explain a larger percentage of the *financial performance* variation. There may also be other external resources, such as alliances, that could explain a larger proportion of providers' *financial performance*.

It is not clear if net profit is a good indicator of Job Network providers' *financial performance*. To illustrate, it could be that the providers participating in this study are more concerned in achieving a larger *market share* (*adjusted R square* = 11 percent) than *profitability* (*adjusted R square* = 4.9 percent).

Analysis 2 is not significant as indicated by the *p*-value ($0.148 > 0.05$). Table 17 summarises the statistics for the *financial performance* variable.

Analysis 2	Profitability (Net Profits) (DV)							
	<i>R</i>	<i>R square</i>	<i>Adjusted R square</i>	F	<i>P</i> Model	β	<i>t</i>	<i>P</i> Variables
IPA, OA, RA, CAP								
Regression				1.700	0.148			
<i>R</i>	0.345							
<i>R square</i>		0.119						
<i>Adjusted R square</i>			0.049					
Constant							2.959	0.004
IPA					0.203		1.647	0.105
OA					0.278		2.137	0.036
RA					0.111		0.897	0.373
CAP					0.104		0.813	0.419

Dependent variable: *Profitability* significant if $p < 0.05$;

Table 6: Statistics for Financial Performance as the Dependent Variable

The results (Table 6) from the analysis of *intangible resources* in the form of assets (predictors), *capabilities* and providers' *financial performance* (criterion) are as follows:

1. *Intellectual property assets* are not significant contributors to Job Network providers' *profitability* ($p = 0.105 > 0.05$);
2. *Organisational assets* contribute significantly to Job Network providers' *profitability* ($p = 0.036 < 0.05$);
3. *Reputation assets* are not significant in predicting providers' *financial performance* and success. ($p = 0.373 > 0.05$);
4. *Capabilities* do not contribute or predict providers' *financial performance* and success ($p = 0.419 > 0.05$).

5. The examination of the *capabilities* results to providers' *financial performance (profitability)*, relative to *intangible assets*, is not significant ($p = 0.419 > 0.05$). Therefore, *capabilities* are not significant in predicting providers' *financial performance*, after accounting for the effects of *intangible assets*. Thus, no evidence is found to support the study hypothesis.

By contrast, *organisational assets* are significantly associated with providers' *financial performance and success* ($p = 0.036 < 0.05$). Thus, *organisational assets* contribute more significantly to providers' *financial performance* than do *capabilities* and other *intangible assets* (i.e. *intellectual property assets* and *reputation assets*).

Theoretical Implications

the first theoretical implication of this study is to provide a more robust measure of the 'resource-based view' in the context of a broader pool of *intangible resources* classified as assets and *skills* (Hall, 1992; 1993) rather than relying only on a purely individual resource or a single performance or success measure (such as *market* or *financial performance* only).

In addition, the findings suggest that *organisational assets (assets)* might be more important contributors to Job Network providers' performance than *capabilities* as posited by the 'resource-based view' to be the single most important contributor to Job Network providers' performance (McEvily and Chakravarthy, 2002). Thus, the findings do not support the core assumption of the 'resource-based view', referring to *capabilities* as the single most important contributor to both *market and financial performance* (Day, 1994). The results of this study report that, if taken in the context of a provider's broader *intangible resources* pool, some *intangible resources* in the form of assets, but not all, might possess the characteristics of rareness, inimitability, valuable and non-substitutable (VRIN) and therefore could create resource positional barriers. To illustrate, Hall (1992) claimed that *organisational assets* are one of the strongest forms of *intangible resources* as a result of being enforced and protected by a legal system. Thus, they help in building and sustaining a competitive advantage position amongst organizations. However, it was claimed by Brooking (1996), that the importance of *organisational assets* is derived from their ability to influence and strengthen the relationship between *capabilities* and other *intangible resources* within a firm.

Another major theoretical implication is focused on the *intangible resources* suggested to be the most important determinant of Job Network providers' success. These resources are a firm's *capabilities (skills)*, reflected by its managers' *know-how*, *staff know-how* and the firm's *relationships (know-how)* at large. *Capabilities* were found to contribute significantly to Job Networks providers' *market performance* and not significantly associated with providers' *financial performance*. The findings of this study do not support or replicate previous studies conducted (Fahy, 2002), in which firms' *capabilities* were found to be the most important contributor to firms' *market and financial performance* and success.

Managerial Implications

Managers in the Job Network industry in Australia are faced with crucial issues (e.g. high and low unemployment, psychological distress, staff burnout, *skills* shortages and competition) which may hinder their ability to achieve and retain a relatively consistent level of performance and success in the employment market. To illustrate, high level of staff psychological distress, burnout and *skills* shortage, may affect (negatively) the ability of providers' to deliver effective service. The findings of this study may provide assistance to industry managers for early intervention actions, without providing definite answers.

1. The findings suggest that *organisational assets* may be the most important *intangible assets* in firms' *intangible resources* pool. Based on the results of the study, *organisational assets (organisational structure, human resources management policies and practices, and organisational culture)* appear to make a significant contribution to the performance of Job Network providers relative to other *intangible assets* and *capabilities*. Providers' *human resource management practices and policies* are deemed important for the development of competitive advantage (Schuler and MacMillan, 1984; Huselid, 1995; Teece, 2000; Galbreath and Galvin, 2006). They are important in the sense that they can minimise staff turnover and burnout, and improve staff productivity, which might have a positive impact on a firm's performance and success. In addition, by taking into consideration the ever-changing business environment, an effective structure, that is able to create an efficient and quick response to customer needs and market changes, is also important (Teece, 2000). In addition, a provider's *culture* has been long considered an important driver of a firm's performance and success. A firm's *culture* shapes attitudes, habits, beliefs, values and customs, and determines a firm's decision-making patterns (Itami and Roehl, 1987; Hall, 1992; Hofstede, 1997; Galbreath and Galvin, 2006). Thus, the first priority for industry managers is to establish a business environment that allows a unique *culture* to be created

and developed, leading to improved staff productivity and performance. The study found that Job Network *capabilities* are not major contributors to providers' performance as posited by the 'resource-based view' theory. However, ignoring or minimizing a firm's *capabilities* might be a poor strategic decision and the results obtained in the present study in relation to the Job Network *capabilities* should be interpreted with caution from a management point of view. To illustrate, an examination of the correlation matrix (Table 15), reveals that providers' *capabilities* and *organisational assets* are correlated, which indicates that *capabilities* might be contributing to a more aggregated level of *intangible resources* (e.g. *culture*).

2. The second important implication for management is related to *intellectual property assets*. Despite their isolating characteristics (difficult to be duplicated), *intellectual property assets* were not significant in explaining or predicting Job Network providers' performance and success, after taking into consideration the effects of other *intangible resources* and the control variable (age of the firm). A possible explanation for this result might be that *intellectual property assets* are important to some organizations but not to others (including the Job Network industry). Despite the findings, previous studies have found a significant positive relationship between *intellectual property assets* and firms' performance and success (Bosworth and Rogers, 2001).

3. *Reputation assets* are another type of intangible asset found in this study not to be significant in predicting Job Network *market and financial performance* and success. Previous studies reported a positive relationship between reputation and firms' performance and success (Brown and Perry, 1995; Roberts and Dowling, 2002). The results of this study do not support or replicate some of previous findings (Galbreath and Galvin, 2004). *Reputation assets*, according to previous studies, exhibit characteristics of non-substitutability, rareness, valuable and inimitability. A good reputation asset (i.e. brand, customer service) is vital in driving a firm's overall performance and success. However, given the broad *intangible resources* pool that a firm can leverage in order to execute a market strategy, *reputation assets* may not be as important as reported by scholars (Fahy, 2002; Rose and Thomsen, 2004; Galbreath and Galvin, 2006). An explanation for this might be related to the interconnectedness of assets or simply to a specific market (Dierickx and Cool, 1989; Fahy, 2002; Galbreath and Galvin, 2004). To illustrate, *reputation assets* have been described as an outcome of a firm's previous management and employee *skills (capabilities)* (Hall, 1992; 1993). Therefore, when *reputation assets* are presented in the context of the larger *intangible resources* pool needed for building reputations, their effects on firm performance might not be as important as reported by previous studies. In addition, similar to *intellectual property assets*, *reputation assets* might be more important to specific industries.

Implications to Job Network Industry in Australia

1. *Organisational assets* were found to be significant in predicting success for both performance measures (*market and financial*). *Capabilities* were found to be significant for *market performance (market share)* but not *financial performance (profitability)*. Considering that this study applied only to the Job Network industry in Australia, and *capabilities* and *organisational assets* were significant in predicting *market performance*, this may allow smaller companies and new businesses to enter and compete in the industry provided they have the correct *organisational assets (structure, culture and HR)*. Having the right people (e.g. employees, management) may allow a smaller provider to remain competitive and increase its *market share*.

2. *Intellectual property assets* and *reputation assets* were not found to be significant in predicting success. This contradicts previous studies conducted by Bosworth and Rogers (2001). The fact that these factors were not significant in predicting success means that larger well-known providers may not necessarily be able to monopolise the market. If providers are to remain successful, it is more important to invest in *organisational assets* rather than reputation and *intellectual property assets*. This could mean focusing less on marketing strategies since they do not contribute significantly to the success of the Job Network industry in Australia. However, it should be noted that providers' *organisational assets* (e.g. *HRMPP, culture* and providers' *structure*), accounted for only a small percentage of variance in providers' success.

3. In addition, this study found that *organisational assets* contributed significantly to Job Network providers' success in terms of *financial and market performance*. While previous studies have found other *intangible resources* to be significant to the success of firms, it appears that *organisational assets* may be the most important contributor to the success of the Job Network providers operating in Australia, within the pool of variables selected for this present study and noting that they accounted for only a small percentage of the variance of success. There may be implications relating to the global market where employment networks exist or are currently being established in other countries. An Australian provider adopting a global scope may find it easier to break into the overseas employment market because it would have existing *organisational structure, culture* and *HR policies* and procedures ensure success. Firms look for optimum investments with maximum returns and, if *organisational assets* are the best predictors of the Job Network providers' success, this may lead management to devote energy and resources to shaping the *culture* and people in the business rather than spending on other *intangible resources* such as intellectual property and *reputation assets*. This would lead to greater investment in human resources and less in marketing strategies.

Limitations and Constraints of the Research

There is no study without limitations and this study is no exception. The first limitation is related to the measures used in this study. The dependence on *subjective measures* in the study as opposed to *objective measures* is one limitation. The second limitation is the use of CEOs as the single informants. Measuring variables based only on the perceptions of CEOs can be a source of bias, because CEOs are asked to comment on resources which are intangible in nature. Thirdly, investigating only the effects of *intangible resources* on the performance of the Job Network industry in Australia, and excluding *tangible resources* such as *physical* and *financial assets*, can affect generalisability. However, this study is not claiming generalisability. Another limitation is related to the number of responses obtained (69 data items were used in the analysis) may have led to non-response bias. Therefore, the results obtained in this study should be interpreted accordingly. Moreover, the use of a quantitative over a qualitative methodology may create some sort of methodology bias (Fahy, 2002; Galbreath and Galvin, 2006). Therefore, a qualitative or a mixed qualitative and quantitative methodology should be considered to investigate the Job Network industry and to address the question raised by this present study. The last limitation is related to the narrow demographic scope of this research. This study is limited to Australia which has a small population, is isolated and is unlikely to represent the broader populations of other countries around the world.

Directions for Future Research Areas

Although there are many potential directions for future research, three major areas are presented for further study within the Job Network industry in Australia.

Even though various constructs utilised in this present study have scored above the normally prescribed *Cronbach's alpha* level of 0.6 for research purposes, future studies must focus on refining and testing the scales used, in order to optimize the various *intangible resource* constructs tested in this study. In addition, the validation of the study question and hypothesis across other countries may be necessary. This could be achieved by testing the study hypothesis (or developing new or similar ones) across other countries which adopt the same approach to unemployment (Job Network providers). Fahy (2002) tested his resource-base framework across four countries. The *intangible resources* classifications framework in this study needs be replicated across other countries for generalisability. The findings of this study suggest that empirical replication is important and necessary to improve the psychometric characteristics of the resource variables.

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LIST OF ACRONYMS

APM	Active Participation Model
CAP	Capabilities
CAP1	Managers Know-How
CAP2	Providers' Relationships
CAP3	Employees Know-How
CEO	Chief Executive Officer
CES	Commonwealth Employment Services
CI	Confidence Interval
DEEWR	Department of Education, Employment and Workplace Relations
DV	Dependent Variable
FP	Financial Performance
HRM	Human Resource Management
HRMPP	Human Resource Management Practices and Policies
IPA	Intellectual Property Assets
IPA1	Proprietary
IPA2	Trademarks
IPA3	Copyrights
IV	Independent Variables
JSA	Job Service Australia
KMO	Kaiser-Meyer-Olkin
MP	Market Performance
NEIS	New Enterprise Incentive Scheme
OA	Organisational Assets
OA1	Organisational Structure
OA2	Organisational Culture
OA3	Human Resource Management Practices and Policies
OECD	Organisation for Economic Co-operation and Development
PC	Personal Computer
R	Regression Equation
r	Correlation Coefficient
RA	Reputation Assets
RBV	Resource-Based View
SPSS	Statistical Package for the Social Science
SWOT	Strengths, Weaknesses, Opportunities and Threats
TDM	Total Design Method
VRIN	Valuable, Rare, Inimitable and Non-Substitutable