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INFLUENCE OF SERVICE QUALITY AND ETHICAL INTEGRATION ON BRANDING OUTCOMES IN LOGISTICS SERVICES OUTSOURCING

A thesis submitted in fulfilment
of the requirement for the degree of
DOCTOR OF PHILOSOPHY

by

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ABSTRACT

Outsourcing is increasingly being utilised by organisations to improve efficiency and minimise costs in order to effectively compete in the global environment. One of the most commonly outsourced activities is logistics, which typically consists of the transportation and warehousing functions. When logistics activities are outsourced third party logistics service providers (3PLs) undertake part or all logistics activities on behalf of the outsourcing organisation. As outsourcing is often motivated by cost minimisation, past research has mostly focused on assessing how the outsourcing organisation's financial performance is affected by outsourcing logistics to 3PLs. However, other organisational performance dimensions such as brand equity and corporate reputation have received limited attention.

Thus, this study investigates how outsourcing logistics activities to 3PLs affects outsourcing organisations' brand equity, corporate reputation and financial performance. To determine the effect the 3PL has on outsourcing a multi-research design was used. First, an exploratory study was undertaken. This involved semi-structured in-depth interviews with 15 executives in supply chain, logistics and operations management areas. The results of the in-depth interviews pointed to the need for specific capabilities in both 3PLs and outsourcing organisations in outsourcing relationships. Logistics service quality emerged as the mechanism through which 3PLs and the outsourcing organisations capabilities were assessed. In addition, ensuring ethical behaviour emerged as another important issue in outsourcing partnerships as some organisations viewed ethical integration and alignment of ethical thinking as crucial in outsourcing relationships.

In the second stage of the research a quantitative research design utilising a self-administered survey questionnaire was used to test the proposed relationships. Multiple regression and structural equation modeling (SEM) were used to test the direct and mediated relationships, as well as moderated mediated relationships. The results indicate that 3PL capabilities and the outsourcing organisation's relational capabilities had significant effects on at least one dimension of the outsourcing organisation's performance. While some of these effects were direct, others were mediated through the 3PLs' logistics service quality. Ethical integration emerged as a moderator of the mediated relationship through logistics service quality for some dimensions of capabilities. In particular, high ethical integration emerged as a crucial issue in financial performance and corporate reputation gains from the 3PL capabilities

dimension of information sharing and the outsourcing organisation's long-term relationship orientation and communication with the 3PL.

This study contributes to resource based view, transaction cost and outsourcing theory and has important implications for managers involved in outsourcing relationships. Specifically, the study fills gaps in existing knowledge on how 3PLs that act as agents of an outsourcing organisation can significantly affect the end customer's perception of the outsourcing organisation. For managers to maximise the positive outcomes of outsourcing on the outsourcing organisation's brand, reputation and financial performance, the current study points to the need to take a proactive approach in selecting 3PLs with the right capabilities, as well as developing relational capabilities within the outsourcing organisation to enhance 3PLs' logistics service quality and maximise performance gains. Additionally, cultivating ethical integration between the outsourcing partners is critical for the success of outsourcing relationships.

PUBLICATIONS ARISING FROM THIS STUDY

Lazarevic, V. and Matanda, M. (2012) The mediating role of outsourced organisation's logistics service quality on the link between the relational capabilities of small and medium sized outsourcing organisations, branding outcomes and the organisation's reputation. In *Global Conference on SME, Entrepreneurship and Service Innovation*, Gold Coast.

Lazarevic, V. (2011) What is Ethical Behaviour and how can it be assured in Outsourcing of Logistics Activities? In *Australia and New Zealand Marketing Academy Conference*, Perth, Paper 179.

Lazarevic, V. (2011) The Impact of Complementary Capabilities on the success of Logistics Outsourcing in Australia in Kuwant S. Pawar and Helen Rogers (eds) *Proceedings of the 16th International Symposium on Logistics: Rebuilding Supply Chains for a Globalised World*, Berlin, 531-539.

Lazarevic, V. and Matanda, M. (2010) Mediating Effect of Service Provider Ethical Behaviour on the link between Service Provider Capabilities and Brand Equity in Outsourcing, in Amanda Broderick (ed.) *Proceedings of the Academy of Marketing Conference 2010: Transformation Marketing*, Coventry, 15-24 Ethical Issues in Marketing.

Lazarevic, V. and Matanda, M. (2010) Service provider ethical behaviour: the role of focal organisations' relationship management skills and the impact on brand equity, in Amanda Broderick and Harkit Sekhon (eds) *Academy of Marketing Conference 2010 Doctoral Colloquium Proceedings*, Coventry, 213-220.

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DEDICATION

To my loving parents Sonja and Mile
who loved and supported me throughout my PhD journey,
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LIST OF ABBREVIATIONS

3PL = Third Party Logistics Provider

4PL = Fourth Party Logistics Provider

Adj. R^2 = Adjusted R Squared

AVE = Average Variance Extracted

b2b = Business to Business

b2c = Business to Customer

CFA = Confirmatory Factor Analysis

CMV = Common Method Variance

df = degrees of freedom

DV = Dependent Variable

EFA = Exploratory Factor Analysis

GDP = Gross Domestic Product

GOF = Goodness of Fit

IT = Information Technology

IV = Independent Variable

LSQ = Logistics Service Quality

ns = Not Significant

PhD = Doctor of Philosophy

R^2 = R squared

RBV = Resource Based View

ROA = Return on Assets

ROI = Return on Investment

SEM = Structural Equation Modeling

SFL = Standardised Factor Loadings

TCT = Transaction Cost Theory

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Standardised Residual

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This chapter provides an overview of the research by presenting the research background, research questions and objectives of the study. Further, the chapter delineates the significance and justification of the research and the contributions the study makes by addressing the gaps in the existing knowledge. Finally, the organisation of the remainder of the thesis is outlined.

1.2 BACKGROUND

Globalisation has led to increased competitive intensity resulting in growth of outsourcing and collaborative business-to-business (b2b) relationships (Agndal & Nordin, 2009; Hätönen & Eriksson, 2009; McIvor, 2009; Tian, Lai & Daniel, 2008). In this globalised environment, outsourcing is viewed as one of the ways to enhance efficiency as well as economies of scale and scope (Jiang & Qureshi, 2006; Marshall, McIvor & Lamming, 2007). Organisations often resort to outsourcing to minimise cost and boost performance (Hahn, Bunyaratavej & Doh, 2011; Harland, Knight, Lamming & Walker, 2005). In particular, logistics activities are often outsourced to increase speed to market and improve competitive positioning (Lai, 2004). When logistics functions are outsourced, a third party service provider (3PL), sometimes referred to as the outsourced, carries out some or all of the logistics activities for the outsourcing organisation (Sink & Langley, 1997). This means that 3PLs are progressively becoming vital for outsourcing organisations to attain competitive advantage (Hsiao, Kemp, van der Vorst & Omta, 2010).

Literature suggests that in highly competitive environments it is unlikely that an organisation can possess all the resources and capabilities needed to compete effectively (Matanda & Freeman, 2009; Narasimhan, Narayanan & Srinivasan, 2010). Organisations are increasingly realising their lack of internal logistics capabilities (Davis, Golicic & Marquardt, 2008). As a result, organisations are entering into cooperative relationships with 3PLs that have the prerequisite resources and skills needed to create superior market offerings (Espino-

Rodriguez & Rodriguez-Diaz, 2008; Ireland, Hitt, Camp & Sexton, 2001). The development of these relationships is driven by outsourcing that offers a faster and less costly solution than developing logistics capabilities in-house (Zutshi, Creed, Sohal & Wood, 2012). Therefore, organisations are no longer operating in isolation but rather as supply chains where performance depends on an organisation's ability to work with other organisations (Seth, Deshmukh & Vrat, 2006).

Given that outsourcing of logistics activities is widespread in the marketplace (Cho, Ozment & Sink, 2008; Hätönen & Eriksson, 2009), it is concerning that the overall effect of outsourcing on organisational outcomes is not fully understood (Jiang, Belohlav & Young, 2007; Kroes & Ghosh, 2010). When an organisation outsources its activities, it becomes vulnerable to the negative behaviour of its outsourcing partners that may adversely impact on the outsourcing organisation's brand and reputation (Das, 2005). As a result of conflicting needs or differences in organisational goals between the outsourcing organisation and the 3PL, 3PLs may act opportunistically and deviate from expected ethical behaviour (Keep & Schneider, 2010). Given that 3PLs are seen as representatives of the outsourcing organisation, their behaviour and performance can be used by customers and other stakeholders to assess the outsourcing organisation's brand, reputation and performance (Berry, 2000; Burmann & Zeplin, 2005). Thus, if and when the 3PL behaves unethically, this can have negative repercussions on the outsourcing organisation's brand equity and image (Eltantawy, Foz & Giunipero, 2009; Morgan, Deeter-Schmelz & Moberg, 2007).

Brands are a fundamental aspect of organisations' competitive advantage (O'Cass, 2002) and should therefore be managed as key organisational assets (Goodchild & Callow, 2001). Customers' perceptions of brands are informed by their experiences with the brand representatives or the organisation (Davis, 2000; Morgan *et al.*, 2007). Consequently, providing a consistent brand experience to customers at all touch points across the supply chain reinforces the brand message and brand promise and is crucial in enhancing the outsourcing organisation's competitive advantage and brand equity (Hemmington & King, 2000). However, ensuring brand consistency is harder when there are two or more organisations involved in the service delivery, as is the case in outsourcing arrangements (Berry, 2000). To enhance brand consistency, all behaviours and communications directed towards the customer have to be consistent throughout the supply chain and in every customer interaction (Davis, 2000; de Chernatony & Dall'Olmo Riley, 1999). This requires

3PLs, as one of the brands' representatives, to cooperate with the outsourcing organisation (Larsson, Brousseau, Driver, Holmqvist & Tarnovskaya, 2003), in providing consistent customer experience that meets established brand expectations and fulfils the brand promise. Perceived incongruence between expectations and experience in brand management has a negative effect on brand value (O'Loughlin & Szmigin, 2005). Therefore, making sure that a logistics service provider is able to meet brand expectations is vital for maintaining and enhancing the outsourcing organisation's brand equity (Bucklin & Sengupta, 1993; Sharma & Loh, 2009).

Customers believe that reputable firms will uphold quality (Roggeveen, Bharadwaj & Hoyer, 2007) and the brand promise across all customer experiences with the organisation. These expectations need to be met by the 3PL who may at times be seen as part of the outsourcing organisation (Sabate & Puente, 2003). Maintaining a good reputation has a number of positive implications for an organisation including credibility in the market (Goldberg & Hartwick, 1990), increase in sales (Shapiro, 1982), and influencing purchase intentions of business customers (Caruana, Cohen & Krentler, 2006). Customers derive reputational opinions based on cues from their experience with the organisation and its products (Gatti, Caruana & Snehota, 2012). Therefore, when the customer interacts with a representative of the outsourcing organisation, such as the 3PL, the 3PL needs to provide the same reputational cues that maintain or enhance the outsourcing organisation's reputation. This indicates that the outsourcing organisation needs to be cognisant of the effect the 3PL has on its brand and reputation.

One of the most important outcomes for any organisational action or decision is organisational performance (Jiang & Qureshi, 2006). Since organisational performance considerations often drive outsourcing (Wilding & Juriado, 2004), it seems critical that the outsourcing organisation be able to determine the effect of the 3PL on its performance. To date, the literature has provided conflicting reports on what happens to organisational performance when outsourcing occurs (Gadde & Hulthen, 2009). This may be due to previous studies having overlooked some important aspects of the outsourcing relationship that influence the outsourcing organisation's performance outcomes. One of these factors could be the role of the 3PL's capabilities.

The capabilities of a logistics service provider or 3PL determines whether or not brand and customer's expectations are met (Gottfredson, Puryear & Phillips, 2005; Hitt, Dacin, Levitas,

Arregle & Borza, 2000; Sarkar, Echambadi, Cavusgil & Aulakh, 2001). Thus, organisations looking to outsource logistics activities are motivated to search for outsourcing partners with superior capabilities (Göl & Çatay, 2007; Tracey, Lim & Vonderembse, 2005), as leveraging those capabilities may enhance the performance of the outsourcing organisation (Day, 1994; Stank, Goldsby, Vickery & Savitskie, 2003). When services are outsourced, it is the capabilities of the 3PL that a customer is exposed to and these can therefore, influence the outsourcing organisation's brand and reputation.

The literature indicates that the management of outsourcing relationships is vital to the success of the outsourcing arrangement (Kale, Dyer & Singh, 2002). If the outsourcing organisation wants to maximise the outcomes stemming from the outsourcing relationship, it needs to develop effective relational capabilities (Kishore, Rao, Nam, Rajagopalan & Chaudhury, 2003). The outsourcing organisation's relational capabilities have been found to significantly influence the outcomes of outsourcing as they help to inform the 3PL of the outsourcing organisation's expectations (Heide & John, 1992) and are more likely to elicit the right behaviour from the 3PL (Makadok, 2001). In addition, the way the outsourcing organisation manages the outsourcing relationship may affect how the 3PL behaves towards the outsourcing organisation's end customer.

The outsourcing organisation's end business customer's interaction with the 3PL is captured by the concept of logistics service quality (O'Loughlin & Szmigin, 2005). Logistics service quality refers to how end customers perceive the logistics service obtained from the 3PL compared to the expectations of service they have from previous interactions or promises made by the outsourcing organisation (Parasuraman, Zeithaml & Berry, 1985). Getting the right level of logistics service quality from the 3PL could be the mechanism through which the outsourcing organisation ensures positive performance outcomes.

There may be other factors in the outsourcing relationship that affect how well the outsourcing partner's capabilities translate to better performance for the outsourcing organisation. For instance, unethical behaviour from 3PLs can erode brand equity and corporate reputation as it portrays an inconsistent image of the brand and organisational values (de Chernatony & Dall'Olmo Riley, 1999). Additionally, if end customers experience unethical treatment from the 3PL, this could diminish their perceived value of the outsourcing organisation's brand and products (Nasution, Mavondo, Matanda & Ndubisi, 2011). Unethical behaviour is more likely to occur if the outsourcing partners do not have similar

ethical cultures (Sims, 1992), or a shared understanding of ethics. Ethical culture is critical in outsourcing as it influences individual organisations' ethical decision-making in the outsourcing relationship (Nguyen & Biderman, 2008), thereby, leading to ethical or unethical behaviour. Hendry (1995) argues that the outsourcing organisation and the logistics service provider are likely to have a different understanding of ethics. However, organisations can overcome this by attempting to find partners with similar values and ethical cultures (Sharma, Apoorva, Madireddy & Jain, 2008), or by attempting to integrate the 3PL partner into the ethical understanding of the outsourcing organisation. Ethical integration in the outsourcing relationship facilitates the development of common values, ethical culture and codes of ethics between partnering organisations (Buller & McEvoy, 1999). Thus, unethical behaviour from 3PLs can be deterred through ethical integration between the outsourcing organisation and the 3PL (Lai, 2009).

Ethical integration, or a shared understanding of ethics, can influence the success of inter-organisational partnerships (Sarkar *et al.*, 2001), and decrease misunderstandings that can lead to unethical behaviour or ethical conflict between partners (Boyd & Webb, 2008; Park & Ungson, 1997). Further, ethical integration encourages a consistent portrayal of brand values, as well as ethical behaviour, that may increase the positive effect of the 3PLs capabilities on the outsourcing organisation's performance outcomes (Lynch & De Chernatony, 2004). Therefore, outsourcing organisations need to take responsibility for ensuring ethical behaviour of the 3PL through ethical integration (Miller & Anderson, 2004), so as to minimise the negative effects of unethical behaviour on their performance and to maintain brand values (Lynch & De Chernatony, 2004) and corporate reputation.

1.3 RESEARCH QUESTIONS

Despite the increased use of outsourcing for logistics activities (Göl & Çatay, 2007), there is limited research on how the outsourcing organisation's brand is affected when an activity is outsourced (Jiang & Qureshi, 2006). Given the importance of branding (Gregory & Sexton, 2007), there is need for more research on the impact of outsourcing the logistics function on the outsourcing organisation's brand and reputation. This leads to the main research question guiding this research:

How do outsourcing arrangements influence the outsourcing organisation's outcomes such as brand, reputation and performance?

Literature suggests that branding outcomes, such as brand equity and image, may be affected by outsourcing arrangements, as these are usually maintained by 3PLs during interactions with the customer (Hemmington & King, 2000). Specifically, brand equity indicates the overall value of the brand that is affected by the 3PL (Louro & Cunha, 2001) during the service delivery. Additionally, the outsourcing organisation's corporate reputation is also vulnerable to the actions of the 3PL and the 3PL needs to uphold the outsourcing organisation's values and meet customer expectations (Simonin & Ruth, 1998). The outsourcing organisation's financial performance will be affected by whether or not the 3PL carries out the logistics task correctly (Elmuti, 2003). The correct undertaking of the task will determine the costs incurred by the outsourcing organisation with respect to the task and whether the end business customer is satisfied with the logistics tasks and re-purchases.

To address the overall research question, factors relevant to the 3PL and the outsourcing organisation need to be considered. Literature suggests that the selection of the outsourced organisation can have a major impact on the outsourcing organisation's performance (Pangarkar & Choo, 2001). In particular, the 3PLs' capabilities may influence the outsourcing organisation's brand and reputation as customers are usually directly exposed to these capabilities (Tracey *et al.*, 2005). However, there seems to be limited empirical research on the relationship between the 3PL's behaviour and capability and the outsourcing organisation's performance and brand. This leads to the following sub-question:

1. Do capabilities of the outsourced organisation influence the outsourcing organisation's performance?

The way the relationship is managed in outsourcing has also been identified as an important predictor of relational outcomes (Brown, Lusch & Nicholson, 1995). As the outsourcing organisation is more vulnerable in the outsourcing relationship due to the 3PL's direct dealing with its customers, there is need for the outsourcing organisation to have capabilities that can maximise benefits accruing from the outsourcing relationship. The outsourcing organisation's capabilities in terms of relationship management will influence how well the relationship produces the desired outcomes (Golicic & Mentzer, 2005). This leads to the following sub-question:

2. *Do the relational capabilities of the outsourcing organisation affect its own performance stemming from the outsourcing relationship?*

The impact of the 3PL on the outsourcing organisation appears to occur during the delivery of the logistics service (Mentzer, Gomes & Krapfel, 1989b). This indicates the importance of the logistics service quality the 3PL provides (Bienstock, Mentzer & Bird, 1997). This leads to the subsequent sub-question:

3. *Does logistics service quality delivered by the 3PL influence the effect of capabilities of outsourcing partners on the outsourcing organisation's performance?*

Although capabilities seem to play an important role in outsourcing, ethical behaviour of outsourcing partners is also increasingly gaining attention (Brunk, 2010), as unethical behaviour by partners in outsourcing can negatively impact on the performance of the outsourcing organisation (Harland *et al.*, 2005). Further, it seems that outsourcing organisations can influence ethical behaviour of the 3PL by developing a shared understanding of ethics, or facilitating ethical integration (Buller & McEvoy, 1999). However, there is limited research on the role of ethical integration in outsourcing (Eltantawy *et al.*, 2009). This leads to the final sub-question:

4. *What effect does ethical integration (between the outsourced and outsourcing organisation) have on the relationship between the partner's capabilities and the outsourcing organisation's performance?*

1.4 RESEARCH OBJECTIVES

To address the research questions identified above, the objectives of the current research are to:

- Determine the influence of the outsourced organisation's capabilities on the outsourcing organisation's performance
- Examine the effect of the outsourcing organisation's relational capabilities on its own performance

- Investigate whether logistics service quality provided by the 3PL mediates the relationship between 3PL capabilities, the outsourcing organisation's relational capabilities and outsourcing organisation's performance
- Identify how ethical integration between outsourced and outsourcing organisations influences performance of the outsourcing organisation and,
- Determine whether ethical integration moderates the relationship between outsourcing partner's capabilities and the outsourcing organisation's performance.

1.5 JUSTIFICATION FOR THE RESEARCH

While outsourcing has been researched for over 30 years (Hätönen & Eriksson, 2009), there has been a lack of focus on the impact of outsourcing on the outsourcing organisation (Harland *et al.*, 2005), and dimensions of its performance. The growing reliance on third party service providers has prompted research on outsourcing (Ahearne & Kothandaraman, 2009), particularly in the logistics services area (Göl & Çatay, 2007). The motivation for and process of outsourcing have been extensively examined (Jiang & Qureshi, 2006), but there has been limited focus on how outsourcing impacts on the relationship between end business customers and the outsourcing organisation (Dean & Kiu, 2002). These relationships may change as a result of the 3PL often being the principal point of contact for the outsourcing organisation's end customer (Gordon, Calantone & di Benedetto, 1993).

Logistics activities are considered critical for organisational performance (Tan, 2001; Tracey *et al.*, 2005), and an important part of supply chain performance (Qureshi, Kumar & Kumar, 2008). Only a few studies have examined the effect of outsourcing of logistics functions on organisational performance (Jiang *et al.*, 2007). These studies have mostly concentrated on analysing accounting performance measures or cost and have produced contradictory findings (Knemeyer & Murphy, 2004; Razzaque & Shang, 1998; Stank *et al.*, 2003). For example, Gilley and Rasheed (2000) found no relationship between outsourcing and organisational performance, while Barrar, Wood and Jones (2002) found that organisational performance is increased as a result of improved efficiency from outsourcing logistics activities.

Other researchers have suggested the need to investigate the impact of outsourcing logistics activities on organisational performance as this is an under-researched area (Cho *et al.*, 2008;

Deepen, Goldsby, Knemeyer & Wallenburg, 2008b). In particular, research on the effect of outsourcing on non-financial dimensions of organisational performance, such as branding outcomes, is lacking (Agndal & Nordin, 2009). According to Jiang and Qureshi (2006), examining the influence of outsourcing logistics activities on branding outcomes may provide more insight into how organisations are affected by outsourcing. In addition, this study addresses calls for research on how business customers determine brand value (Leone *et al.*, 2006) and how the brand is co-created with suppliers (Merz, He & Vargo, 2009). Therefore, there is need for more research on how supply chain members, such as 3PLs, affect an outsourcing organisation's brand and brand equity (Kim & Cavusgil, 2009; Tran & Cox, 2009). Supply chain members can significantly affect both the organisational brand and its equity (Kim & Cavusgil, 2009; Seggie, Kim & Cavusgil, 2006). According to Davis and Mentzer (2008), the influence of outsourcing and supply chain partners in brand management is often overlooked. Hence, more attention needs to be given to analysing how brand equity and branding are affected by inter-organisational partnerships such as outsourcing (Mudambi, 2002).

Within the b2b context, branding outcomes, in particular brand equity, have also received limited attention (Gordon *et al.*, 1993; Kim, Reid, Plank & Dahlstrom, 1999; Mudambi, 2002; Tran & Cox, 2009). Branding was initially thought to apply only to business-to-customer (b2c) contexts (Brodie, Glynn & van Durme, 2002). However, Jensen and Klastrup (2008) argue that branding considerations are essential in both contexts. For most organisations, the brand is critical for long-term survival (Lee, Park, Baek & Lee, 2008), as it is a significant source of competitive advantage (Davis *et al.*, 2008). Brand equity also affects sales because it plays a critical role in both industrial and consumer purchasing decisions (Kim *et al.*, 1999; Wang, Wei & Yu, 2008). Therefore, organisations need to ensure brand equity is effectively managed as it has implications for organisational performance (Tran & Cox, 2009). As a result, there have been calls for more research on how organisations can maintain their brand equity when they outsource an activity (Davis *et al.*, 2008).

Organisational reputation has typically been considered as an aggregate of public judgement stemming from direct actions of the focal organisation (Abimbola & Kocak, 2007). Limited attention has been paid to how outside parties can affect an organisation's reputation (Lange, Lee & Dai, 2011). A good reputation is based on past actions and determines expectations regarding future behaviour (Shimp & Bearden, 1982). Thus, more research is needed to

determine the effects on reputation by affiliated organisations who, in the minds of consumers, are not removed from the outsourcing organisation (Lange *et al.*, 2011).

Frequently, outsourcing is driven by the assumption that performance will increase and costs will decrease as a result of a specialised third party undertaking the task (Razzaque & Shang, 1998). However, conflicting results have been reported in the literature regarding the effect of outsourcing on financial performance (Gadde & Hulthen, 2009; Lieb & Bentz, 2005b) and there is some indication that ineffective third party organisations may actually increase cost (Fisher, Hirschheim & Jacobs, 2008). These contradictory views may be due to the fact that the capabilities of each party may not have been considered in previous research.

The impact of outsourcing logistics activities on the outsourcing organisation's performance may be influenced by partner selection (Homburg, Schneider & Fassnacht, 2002). Chung, Singh and Lee (2000) state that there has been a lack of research on why a particular outsourcing partner is chosen, but there also seems to be a need to understand what makes outsourcing relationships successful (Ellram, Tate & Billington, 2008; Espino-Rodríguez & Padrón-Robaina, 2005). This is a matter of interest because of the increasing reliance on 3PLs (Bendixen & Abratt, 2007).

As mentioned earlier, outsourcing is often undertaken to gain access to superior and/or new capabilities through 3PLs (Bengtsson & Berggren, 2008; Carson, 2007; Espino-Rodríguez & Padrón-Robaina, 2005). Capabilities in logistics can be a source of competitive advantage (Arnold, 2000; Zhao, Droge & Stank, 2001), and are crucial for organisational performance (Cho *et al.*, 2008; Lai, 2004). Past studies have looked at some supply chain capabilities individually (Kim & Cavusgil, 2009; Sinkovics & Roath, 2004), but there is a lack of a holistic approach to examining capabilities (Zhao *et al.*, 2001), especially within the logistics area (Lai, 2004). Thus, there is need for more research on the role that the outsourced organisation's capabilities play in determining outsourcing outcomes (Sarkar *et al.*, 2001).

The literature indicates that not all outsourcing relationships are successful (Gadde & Hulthen, 2009; Lieb & Bentz, 2005b). As a result, Daugherty (2011) and Wallenburg (2009) have called for more research on relationships in supply chain management and logistics to determine what makes such relationships successful. There is a lack of comprehensive research on the role that both outsourcing parties play in outsourcing arrangements (Hofer, Knemeyer & Dresner, 2009). This study addresses these issues by examining both the

capabilities the 3PL partner needs to have, and the relational capabilities the outsourcing organisation requires. This extends the work of Hartmann and de Grahl (2012) by determining who is responsible for which actions and capabilities within an outsourcing relationship and how these contribute to specific dimensions of performance for the outsourcing organisation. In this study, the capabilities required from the 3PL are also investigated, thereby, answering the call for further research in this area made by Hartmann and de Grahl (2012).

It is expected that the effect of the capabilities of both the 3PL and the outsourcing organisation on the performance of the outsourcing relationship, will occur through the logistics service quality. This is due to logistics service quality representing the interaction between the 3PL and the end business customer during the logistics activity fulfilment stage (Lievans, van Hoyer & Anseel, 2007). This study responds to calls for more research on logistics service quality and how it is related to management of the outsourcing relationship (Chu & Wang, 2012). In addition, little existing research has been undertaken to investigate the effect of the service experience on the brand in the b2b context (Moorthi, 2002; van Riel, Lemmick & Ouwersloot, 2001).

A partner with the right capabilities can still jeopardise the outsourcing organisation's brand or performance by acting opportunistically or behaving unethically. Opportunistic unethical behaviour is recognised by both outsourcing organisations and logistics service providers as a problem in outsourcing of logistics activities (Knemeyer & Murphy, 2005). Thus, unethical opportunistic behaviour needs to be researched more extensively (Wathne & Heide, 2000). Evidence, particularly in Australia (Wood, 2002), suggests that customers' choices are influenced by an organisation's ethical behaviour (Simmons, 2009; Singhapakdi, Karande, Pao & Vitell, 2001). Therefore, if the 3PL creates perceptions that the outsourcing organisation has behaved unethically, this could affect the outsourcing organisation's sales and performance.

Ethical behaviour in supply chains is attracting interest from both buyer and supplier organisations (Bendixen & Abratt, 2007; Eltantawy *et al.*, 2009). However, research on ethics in the supply chain context is lacking (Bendixen & Abratt, 2007; Robertson, Olson, Gilley & Bao, 2008). The supply chain context is regarded as vital for ethics research because supply chain managers are highly exposed to external pressures that may motivate them to deviate from accepted ethical behaviour (Eltantawy *et al.*, 2009). For example, there is always

pressure to keep costs down and improve delivery times and this may motivate supply chain managers to cut corners such as demanding that truck drivers drive at speeds above the speed limit. Given that logistics activities are an essential part of supply chain functions (Qureshi *et al.*, 2008), research into the role of ethics in the outsourcing of logistics activities is needed. There is also limited research on the effect of ethics on branding and reputation (Verbos, Gerard, Forshey, Harding & Miller, 2007). Hemmington & King (2000) suggest there is need to investigate the extent to which an organisational partner's ethical behaviour can influence the outsourcing organisation's brand integrity and reputation.

Managing ethical behaviour of both the outsourcing organisation and the 3PL is challenging (Stead, Worrell & Stead, 1990). As unethical behaviour has been found to affect organisational performance, some organisations are taking steps to manage it (du Plessis, 2008). Organisational factors that have been identified in prior research as crucial in shaping ethical behaviour include shared values between partners (Fraedrich, 1992; Svensson & Wood, 2008), organisational ethical culture fit (Fedor & Werther Jr, 1995; Hemmington & King, 2000; Vardi, 2001), and congruence in codes of ethics (Zineldin & Bredenlow, 2003). A greater match between outsourcing partners increases an insider effect which can improve the ethical behaviour of partners (Ellman & Pezanis-Christou, 2010) and create congruence between 3PLs and outsourcing organisations on ethical understanding which is referred to as ethical integration. Based on the literature, it seems that ethical integration has received limited attention, indicating a gap in knowledge. Whilst factors such as shared values, ethical culture and codes of ethics have been examined separately in various studies, they have not been empirically applied together to the outsourcing context.

This study addresses the gaps identified above and responds to calls for more research into the organisational effects of outsourcing. There is limited existing research on the relationship between 3PL capabilities, outsourcing organisation's relational capabilities, logistics service quality, ethical integration, and branding and reputational outcomes. Although some studies have researched these factors, they have pursued different research objectives and examined the relationship from different perspectives. For example, Morgan *et al.*, (2007) investigated the service provider's impact on branding implications in the context of a service network where the presence of a separate organisation is clear to the customer. In the outsourcing context of this study, the customer often cannot differentiate between the outsourcing organisation and the 3PL. Kim and Cavusgil (2009) looked at how supply chain

integration influences brand equity. However, their study examined only one potential 3PL capability. Thus, there is need to focus on a more comprehensive set of supply chain/logistics capabilities to fully understand the impact of the 3PLs' capabilities in terms of the outsourcing organisation's brand and organisational performance. Finally, cultural fit and ethical elements in outsourcing identified in prior works by Svensson and Wood (2008), Wood (2005) and Zineldin and Brendenlow (2003), have not been empirically examined. It seems there is need for a more holistic empirical approach to studying ethical integration between inter-organisational partners in outsourcing. Hence, the current study attempts to fill these gaps in literature, thereby, potentially contributing to knowledge as discussed in the next section.

Table 1.1: Definitions of Key Terms

Key Construct	Definition
Outsourcing	When logistics functions are outsourced, a third party service provider (3PL), sometimes referred to as the outsourced, carries out some or all of the logistics activities for the outsourcing organisation (Sink & Langley, 1997)
Logistics Activities	Logistics activities refer to the transfer of goods, products and information from production to consumption (Sheen & Tai, 2006)
3PL	The external service provider that is carrying out the outsourced task (Hertz & Alfredsson, 2003; McGinnis, Boltic & Kochunny, 1994; Menon, McGinnis & Ackerman, 1998)
Brand	"...a name, term, sign, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and differentiate them from those of competitors" (Fan, 2005 p. 342)
Corporate Brand Equity	The increase in worth and benefit that a brand, through its name and symbol, adds to the product or service to which it is attached (Aaker, 1991)
Corporate Reputation	Reflection of the stakeholders' experience with the organisation and their evaluation of any unethical behaviour of the organisation (van Riel & Fombrun, 2007)
Financial Performance	Return on assets (ROA) and return on investment (ROI) (Sheng and Marlow, 2005)

Table 1.1 Continued...

Key Construct	Definition
Capabilities	“...complex bundles of skills and accumulated knowledge, exercised through organisational processes” (Day, 1994 p.38)
Customer Focus 3PL Capabilities	The ability of 3PLs to work with the outsourcing partner (Wilson & Nielson, 2001)
Responsiveness 3PL Capabilities	3PL’s ability to respond to any unanticipated or unusual requests (Göl & Çatay, 2007)
Flexibility 3PL Capabilities	The ability to adjust to customers’ unplanned operational situations (Bowersox, Closs & Stank, 1999)
Connectivity between IT systems 3PL Capabilities	Ability to quickly and effectively trade information through systems (Global Logistics Research Team, 1995)
Information Sharing 3PL Capabilities	Critical technical, financial, operational and strategic information that is willingly shared between outsourcing partners (Global Logistics Research Team, 1995; Hartmann & de Grahl, 2012)
Operational 3PL Capabilities	Technical and economic capabilities of 3PLs, and are mostly concerned with transportation and delivery functions (Croom, 2001; Croom & Batchelor, 1997)
Outsourcing Organisation’s Communication with the 3PL Capabilities	Communication to enable 3PLs to acquire a better understanding of customer needs (Krasnikov & Jayachandran, 2008)
Outsourcing Organisation’s Long-Term Relationship Orientation Capabilities	A commitment (Dwyer & Oh, 1987) and desire to preserve the relationship (Moorman, Zaltman & Deshpande, 1992).
Logistics Service Quality	“the ability to deliver the right amount of the right product at the right place at the right time in the right condition at the right price with the right information” (Mentzer, Flint & Hult, 2001 p.83)
Ethical Integration	Promoting ethical behaviour in 3PLs through shared values, ethical culture fit, and congruence between codes of ethics.

1.6 CONTRIBUTIONS OF THE RESEARCH

This study makes a number of contributions to theory and has important implications for managers. In addition, the study also makes some methodological contributions. These are discussed in Sections, 1.6.1, 1.6.2 and 1.6.3 below.

1.6.1 THEORETICAL CONTRIBUTIONS

This study addresses gaps in the literature pertaining to outsourcing and b2b relationships; in particular on how the outsourcing organisation's financial performance as well as its brand and reputation are affected by outsourcing arrangements and the 3PL partner. Thus, the study will enhance the understanding of the outcomes of outsourcing, an area that has been under-researched (Harland *et al.*, 2005). This study also contributes to branding literature by empirically focusing on brand equity in the b2b context, which has received limited attention in existing research (Kim *et al.*, 1999; Tran & Cox, 2009). It provides a comprehensive examination of how the dimensions of the outsourcing organisation's performance are affected, thereby providing a different view from the majority of existing research that focuses on a single dimension or only on financial performance affected by logistics outsourcing.

This research also contributes to logistics and supply chain management literature by exploring the role of 3PLs in outsourcing. In addition, by integrating the literature on b2b relationships, logistics and supply chain capabilities, the study can provide new insights into the role of capabilities in the outsourcing of logistics activities. This can help to explain why some outsourcing relationships are more successful than others. The literature review points out that extant research has not considered the linkages between capabilities, service quality and dimensions of performance that may be important in understanding how to achieve specific outcomes in outsourcing arrangements.

Another potentially significant contribution of this research is that it bridges the gap between outsourcing and ethics research. Although ethics has been identified as potentially important in outsourcing (Bendixen & Abratt, 2007), there is limited research focusing on ethical issues in outsourcing of the logistics function. In addition, the idea of ethical integration between the 3PL and the outsourcing organisation to enhance ethical behaviour has not been empirically examined previously. To capture this combined effort of achieving ethical behaviour, a new

construct of ethical integration is proposed. This construct is anticipated to encourage positive ethical behaviour from both outsourcing partners and can also be used to screen potential partners who do not have an ethical fit. Further, this concept may help to explain why some outsourcing arrangements have experienced negative outcomes and may provide insight into the means whereby the positive outcomes of outsourcing relationships can be maximised.

1.6.2 MANAGERIAL IMPLICATIONS

Managers need to be aware of the effects that the outsourcing partner could have on their brand, reputation and performance when they decide to outsource logistics activities (Qureshi *et al.*, 2008). This study provides some guidelines to managers on how outsourcing organisations can assess the impact of outsourcing on their brand, their reputation and financial performance. It also provides suggestions on what organisations can do to minimise the negative effects of outsourcing on the organisation's performance. Testing the effect of a more holistic set of 3PL capabilities on the logistics service quality that the 3PL provides can guide managers in deciding the capabilities that they require and can manage in outsourcing partners in order to enhance logistics service quality.

Whilst the importance of the right outsourcing partner is well-documented (Arroyo, Gaytan & de Boer, 2006), the interplay between capabilities of the 3PL and the capabilities of the outsourcing organisation has been previously under-explored. This study provides some insights to outsourcing organisations about what capabilities are necessary for them to cultivate in their own organisations to manage outsourcing relationships and the effects that their 3PL partners' different types of capabilities can have.

Since the role of ethical behaviour in outsourcing logistics activities is not well-understood (Carter, 2000), this study assists managers to recognise the organisational factors that need to be managed to enhance positive ethical behaviour in both their own organisations and in partnering organisations. Further, the findings may help managers to gain a better understanding of how to assess and promote ethical integration between themselves and 3PLs. It also presents managers with some possible consequences for their organisational performance of not managing their 3PLs' ethical behaviour. Whilst this study focuses on outsourcing logistics activities, it may also provide managers with additional factors that need to be considered when outsourcing other functions.

1.6.3 METHODOLOGICAL CONTRIBUTIONS

This study contributes to methodology by expanding the scope of previously empirically examined constructs in the b2b context, developing new measurements and modifying existing measurements to suit the logistics outsourcing context.

- The construct, ethical integration, has not been previously measured in literature. In this study, the measurement scale for ethical integration was developed and this construct can help organisations to determine the ethical fit between themselves and their outsourcing partners in terms of ethical understanding and behaviour.
- This also addresses the lack of empirical work on the outsourcing of the logistics function in Australia, as only three such studies have focused on this issue (Maloni & Carter, 2006). Given the size of the logistics industry and the vast distances that need to be covered to distribute products in Australia, the logistics function is important (Beaumont & Sohal, 2004). Therefore, Australia provides an interesting study context for the examination of the outsourcing of logistics activities.
- Measurements of holistic 3PL capabilities are also lacking in the literature. This research seeks to integrate a number of measures to capture and comprehensively assess 3PL capabilities and determine which capabilities are more important in influencing the outsourcing organisation's performance.
- Maloni and Carter (2006) report a lack of empirical work and more advanced examination of the relationships in logistics outsourcing. They found that no previous studies had examined moderating effects and that only five studies had tested mediating effects (Maloni & Carter, 2006). The proposed study will address this by examining both mediating and moderating effects on the relationship between 3PL capabilities and outsourcing organisation's performance.
- This study tests a moderated mediation effect of ethical integration which, it seems, has not been previously examined in this context.

1.7 ORGANISATION OF THE THESIS

This thesis is organised as follows. Chapter 2 explains the theoretical foundation for the research and presents a review of the literature on the constructs of interest. Chapter 3 outlines the research context for the study. Chapter 4 delineates the research methodology used in this study. Chapter 5 outlines the results obtained from the qualitative exploratory study and how they were used to inform the quantitative study. Chapters 6 and 7 present the quantitative results with Chapter 6 explaining the structural equation modelling results and Chapter 7 focusing on moderated mediation testing. Finally, Chapter 8 discusses the implications, contributions and limitations of this study, and considers future research directions.

CHAPTER 2

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 INTRODUCTION

In this chapter, the theoretical frameworks that underpin the relationships proposed in this study are outlined. Specifically, both transaction cost theory and resource-based views are used to explain logistics outsourcing and the relationships between variables. The literature on branding, corporate reputation, financial performance, capabilities, service quality and ethical integration is reviewed and then propositions regarding the expected relationships are presented. The chapter concludes with a delineation of a conceptual model.

2.2 THEORETICAL FRAMEWORK

Prior outsourcing research has utilised a number of theories to underpin the proposed relationships between outsourcing, financial performance and other organisational outcomes. Transaction cost theory (TCT) emerges as the main theoretical support in most outsourcing research (Busi & McIvor, 2008; Harland *et al.*, 2005; Merino & Rodríguez, 2007). TCT addresses efficiency and cost motivations for outsourcing (Hui & Tsang, 2006), arguing that outsourcing is utilised as a cheaper and more efficient way to carry out tasks not essential to the focal organisation. This theory is most applicable to arms-length transactions. Consequently, TCT highlights the potential existence of opportunistic behaviour in outsourcing partnerships (Leiblein, 2003). However, outsourcing literature and practice has begun to focus more on strategic functions and closer relationships between partners (Hätönen & Eriksson, 2009), making the sole reliance on TCT as a theoretical foundation less appropriate.

Outsourcing organisations are increasingly seeking service providers with more advanced capabilities (Sharma & Loh, 2009) that can be leveraged to improve organisational performance and competitive advantage (Lai, 2004). As a result of this focus on capabilities,

the Resource-Based View (RBV) can be used to explain partner choice or b2b relationships as a strategy to acquire prerequisite capabilities (Lin, Yang & Arya, 2009). Whilst the RBV has traditionally focused on internal resources and capabilities (Barney, 1991), it is increasingly being extended to capabilities either owned or controlled by other organisations (Amit & Schoemaker, 1993). Therefore, a combination of TCT and RBV can be used to explain outsourcing based on cost, superior capabilities, and performance enhancement (Arnold, 2000; Chu & Wang, 2012; Marshall *et al.*, 2007). The RBV complements TCT as it explains how activities of importance for organisational performance, such as logistics activities, are outsourced to access better capabilities in the market (Holcomb & Hitt, 2007). Hatonen and Eriksson (2009) argue that a single theoretical framework would not adequately capture the complexities of outsourcing relationships. Similarly, Barringer and Harrison (2000) contend that a combination of theories is often necessary to fully explain why a phenomenon such as outsourcing is occurring. For example, the RBV highlights the importance of capabilities without considering costs, while the TCT emphasises cost but tends to neglect other criteria for outsourcing. Therefore, a triangulation approach combining the TCT and RBV theoretical foundations may facilitate a better understanding of the real effects of outsourcing (McIvor, 2009). The following two sections will discuss TCT and RBV in detail.

2.2.1 TRANSACTION COST THEORY (TCT)

TCT was originally founded by Coase (1937) and then further developed by Williamson (1975, 1979, 1985, 1991, 1996). The theory states that organisational functions should only be kept in-house when the transaction costs are lower than sourcing that activity from the market (Coase, 1937). Williamson (1979) argues that TCT helps to explain why some organisational activities are outsourced and others kept inside the organisation. This has been supported by other researchers, who have relied on TCT as a rationale for outsourcing (De Toni & Nassimbeni, 1995; Ellram *et al.*, 2008; Madhok, 2002; Murray, Kotabe & Wildt, 1995).

The underlying assumption of the TCT is that organisations seek the least costly approach to derive their inputs (Williamson, 1985). Thus, the theory highlights the cost and efficiency gains associated with outsourcing and in-sourcing (Tate, Ellram, Bals & Hartmann, 2009). When dealing with other organisations, outsourcing organisations encounter transaction costs

(Williamson, 1975), that consist of ex-ante (before negotiations of the contract are completed) and ex-post (after the contract is agreed upon) costs associated with the transaction (Williamson, 1979). Therefore, organisations need to evaluate these transaction costs to decide whether to outsource and to what extent to outsource the activity (Jiang *et al.*, 2007). Transaction costs in outsourcing include identifying a trustworthy partner (Williamson, 1996), managing the relationship, opportunity costs of the governance mechanism employed in the relationship (Buvik, 2002), and friction costs such as negotiating, drafting and monitoring contracts (Coase, 1937). Managing the relationship is costly for an organisation, as there are costs associated with bargaining when formulating an outsourcing contract and costs around monitoring to ensure that the outsourcing activity is being carried out correctly (Buvik, 2002). TCT explains that logistics is outsourced because of the high set-up costs associated with developing internal logistics capabilities (Ellram *et al.*, 2008). Increasingly, organisations are being encouraged not only to consider the costs of the activity being performed, but also the possible costs incurred from poor performance from the service provider that may jeopardise organisational survival and customer relationships (Kotabe & Murray, 2001; Razaque & Sheng, 2002). TCT addresses these issues by focusing on uncertainty and opportunistic behaviour.

According to the TCT, when outsourcing, three key factors should guide the type of governance mechanism adopted in the exchange, and these are the degree of uncertainty, asset specificity and frequency of transactions (Williamson, 1975). Ryu (2006) supports this view and identifies TCT as a strong predictive theory of the dangers of outsourcing and how these may be managed through governance. Uncertainty is the inability to predict everything that might occur during the relationship, and is the first consideration when determining relational governance (Williamson, 1985). Uncertainty represents risk and determines the level of instability and unpredictability in the market in terms of resource availability, technology, price and key players (Vidal & Goetschalckx, 2000). TCT argues that if the external market is characterised by high uncertainty, then the organisation should either not outsource (Kaufmann & Carter, 2006), or outsource using strong governance mechanisms to control the outsourcing relationship (Ryu, 2006). Outsourcing organisations face the risk of uncertainty with regard to the performance of the activity and fulfilment of contracts, particularly when the execution of the contract and the performance is difficult to determine (Williamson, 1975, 1985). TCT suggests that suppliers will act opportunistically when the

buying firm has difficulty in determining a supplier's performance (Ellram *et al.*, 2008). In such instances, the organisation may end up paying for something it has not received.

Opportunistic behaviour is a key source of uncertainty in outsourcing relationships (Busi & McIvor, 2008), and other business relationships (Hawkins, Wittmann & Beyerlein, 2007). Williamson (1975 p.6), who introduced the concept through TCT, defined opportunism as "self-seeking interest with guile". Wathne and Heide (2000) extended this definition by proposing that opportunism consists of a wide variety of diverse behaviours that could be considered unethical, such as decreasing quality to increase profit and information asymmetry. Keep and Schneider (2010) agreed with both these definitions but went on further to indicate how opportunism leads to violated contracts and norms and impedes trust and communication in relationships. They provided examples of opportunistic behaviour including covering up performance failure, favouring some customers over others, and failure to deliver a product or service when required. Chung and Jin (2011) emphasised that opportunistic behaviour breaches the promises concerning behaviour that are made between outsourcing partners. TCT highlights opportunism as a major risk in outsourcing (Hui & Tsang, 2006), that could represent a significant transaction cost (Marshall *et al.*, 2007).. Opportunism is detrimental for outsourcing organisations as it may damage their brand (Maloni & Carter, 2006). Though TCT does not provide much guidance on how opportunism can be minimised without the use of lengthy contracts, it does point to the value of developing long-term market relationships (Fynes, Burca & Mangan, 2008), and cooperating with organisational partners (Leiblein, 2003). Opportunistic behaviour is commonly manifested as unethical behaviour in b2b relationships and may lead to uncertainty. Therefore, the TCT framework suggests that unethical behaviour may be a risk in outsourcing relationships and needs further investigation. The theory also suggests that if the risk of unethical behaviour is high, then outsourcing may not be the most favourable option for an organisation.

Asset specificity is the second factor relevant in TCT, and refers to how many assets are required for the relationship that will not have value outside the current arrangement (Williamson, 1975). Asset specificity focuses on the usefulness or application of an asset outside the specific relationship (Adler, Scherer, Barton & Katerberg, 1998). This indicates that if more specific assets are required for a relationship or for a potentially outsourced activity, then outsourcing is less likely to occur (Dyer, 1997; Masten, Meehan & Snyder,

1991). For example, if to outsource a logistics task the organisation has to purchase costly IT equipment to integrate their systems with the 3PL and this asset has limited use outside the outsourcing relationship, then the organisation would be less likely to outsource the task. However, in most logistics outsourcing arrangements, outsourcing does not require assets specific to the outsourcing relationships; thus, the outsourcing of logistics tasks is common.

The third factor, frequency of transactions, is determined by how often the two organisations deal with each other, or how often the activity needs to be carried out (Maltz, 1994a; Williamson, 1985). This frequency is important, as more transactions produce higher costs (Maltz, 1994a). According to the TCT, when asset specificity and uncertainty are low and transactions occur often, then the organisation should source the activity from the market and enter into a contractual outsourcing relationship (Nordin, 2008). When asset specificity and uncertainty are high, the organisation should opt to keep the activity “in-house” (Williamson, 1991). This indicates that if the outsourcing organisation can minimise the risk of unethical opportunistic behaviour, and does not require specific assets for the relationship but requires the logistics activity often, then the organisation is more likely to outsource the logistics task.

Even though it highlights some key outsourcing considerations, TCT has some limitations as it does not make allowances for different situational circumstances that may cause organisations to act contrary to what the theory recommends (Leiblein & Miller, 2003). For example, organisations sometimes have to outsource because they do not have the required expertise in-house (Sheen & Tai, 2006). In addition, third party logistics providers (3PLs) may have more advanced capabilities that can significantly improve the performance of the outsourcing organisation (Sharma & Loh, 2009). Such capability considerations are better explained by using the RBV to supplement the TCT as a theoretical foundation (Gibbons, 2005; Pfohl & Buse, 2000). The following section examines RBV in more detail.

2.2.2 RESOURCE-BASED VIEW (RBV)

The RBV complements the TCT in outsourcing research as it provides additional explanation of the outsourcing decision (Holcomb & Hitt, 2007; Kraaijenbrink, Spender & Groen, 2010). As outsourcing has increasingly become a resource-seeking and capability-seeking decision, the RBV becomes more relevant in outsourcing research (Hätönen & Eriksson, 2009). According to the RBV, outsourcing can be motivated by the need for superior capabilities (Afuah, 2001; Petersen, Handfield & Ragatz, 2005) or the need to obtain capabilities the

organisation does not possess (Bolumole, Frankel & Nasland, 2007; Sanchez, Heene & Thomas, 1996). Gainey and Klass (2003) state that the RBV supports the acquisition of superior capabilities through contracts with other organisations. This was supported by Espino-Rodriguez and Padron-Robaina (2006) who argued that RBV also considers resources and capabilities acquired through market arrangements. There is significant empirical support for the relevance of RBV in outsourcing research (Hoetker, 2005; Jacobides & Winter, 2005; Leiblein & Miller, 2003). Consequently, RBV is well accepted as a theoretical foundation for logistics outsourcing research (Lai, 2004; Maloni & Carter, 2006; Sinkovics & Roath, 2004; Zacharia, Nix & Lusch, 2009).

RBV argues that it is not just environmental conditions that drive organisational success, but also the ability of organisations to obtain, cultivate and utilise resources (Penrose, 1959; Wernerfelt, 1984), and capabilities (Barney, 1991; Peteraf, 1993). Competitive advantage is achieved through the control of resources or capabilities (Holcomb & Hitt, 2007; Nordin, 2008; Tate *et al.*, 2009) such as physical assets, human capital and intra- or inter-organisational routines and procedures (Sinkovics & Roath, 2004). Resources include all assets an organisation possesses (Song, Droge, Hanvanich & Calantone, 2005), and these can be used by an organisation to attain a competitive edge in the market place (Hafeez, Zhang & Malak, 2002). These resources are considered valuable if they are rare, hard to copy, immobile and non-substitutable (Barney, 1991). The organisation needs resources that its competitors cannot easily obtain or replicate.

The RBV proposes that organisations develop capabilities from the resources they possess or to which they have access (Barney, 1991; Wernerfelt, 1984). These capabilities are then utilised to increase performance so that the organisation thrives in the market (Day, 1994). For example, an organisation outsourcing logistics can gain access to physical assets such as trucks and warehouses, the 3PL's skilled workforce and capabilities of the 3PL around the logistics task. All of these resources and capabilities are important for the outsourcing organisation's end customer to receive good quality logistics service (Wright, McMahan & McWilliams, 1994).

If the organisation can source superior capabilities from outsourcing, then there will be an increase in outsourcing (Tate *et al.*, 2009). The outsourcing of logistics is increasing because some 3PLs possess more advanced capabilities around the logistics task and can carry out these tasks more efficiently than the outsourcing organisation. Argyes (1996) cautions

organisations to consider the cost of developing capabilities internally versus sourcing them from the market. Most organisations have found that obtaining logistics capabilities from the market is much cheaper than developing these capabilities internally (Quelin & Duhamel, 2003). The RBV suggests that when capabilities are acquired through a partnership with another organisation, this increases an organisation's competitive advantage because it is something valuable and unique (Barney, 1991; Sinkovics & Roath, 2004; Wernerfelt, 1984). A partnership between the outsourcing organisation and a 3PL can be difficult for competitors to replicate as they cannot adequately witness what makes the relationship successful or what capabilities the 3PL possesses if 3PL organisations possess heterogeneous capabilities (Wong & Karia, 2009).

Despite its usefulness, the RBV has been criticised as inadequate in explaining outsourcing arrangements as it focuses only on internal resources and capabilities (Grant, 1996; Hooley, Broderick & Moller, 1998) that may lead to superior market performance (Day, 1994) and it does not cover how an organisation utilises a partner's capabilities. However, at times partnerships with other organisations may also help in obtaining prerequisite resources or capabilities (Das & Bing-Sheng, 2000; Miller, 2004; Teng, Cheon & Grover, 1995). In Argyres' (1996) and Amit and Schoemaker's (1993) opinions, as long as an organisation has access to resources and capabilities outside the organisation's boundaries and can control them, these resources can be leveraged to derive advantage for the organisation. Song *et al.*, (2005) argue that RBV should not be limited to internal resources. Some researchers propose that the RBV supports the acquisition of capabilities by leveraging of partnerships so as to create a unique and valuable competitive position (Sinkovics & Roath, 2004). Bustinza, Arias-Aranda and Gutierrez-Gutierrez (2010) contend that outsourcing promotes the obtaining of capabilities that will enable sustainable competitive advantage which is in line with the aim of RBV. This sustainable competitive advantage is derived from the acquisition and use of required resources (Mahoney & Pandian, 1992). Thus, it can be argued that the RBV can provide a theoretical framework to explain how outsourcing relationships can be leveraged to obtain resources and capabilities from 3PLs (Lin *et al.*, 2009).

RBV also seems to indicate that the capabilities between partnering organisations should fit together to obtain the maximum competitive advantage (Lin *et al.*, 2009). Jacobides and Winter (2005) specifically highlight the importance of assessing how well the 3PLs' capabilities match the outsourcing organisation's needs. Outsourcing organisations often seek

a partner with resources and capabilities that the outsourcing organisation does not already own (Gulati, Nohria & Zaheer, 2000); these are referred to as complementary capabilities. Complementary capabilities that fit well together are considered important in both alliances and cooperative arrangements (Pfohl & Buse, 2000; Rabino, Simoni & Zanni, 2008). These matching capabilities create reciprocal strengths (Sarkar *et al.*, 2001) that help the outsourcing organisation to reduce organisational weaknesses (Chung *et al.*, 2000) and achieve a better competitive position together than one organisation can on its own (Matanda & Freeman, 2009). Therefore, according to the RBV, an outsourcing organisation can be more successful at creating a sustainable competitive advantage if it can enter into a partnership with a 3PL whose capabilities match its own, producing an overall better logistics service.

2.3 OUTSOURCING

Organisations are usually involved in outsourcing arrangements when the market has an advantage in providing activities based on the availability of better skills or technology (Allen & Chandrashekar, 2000; Argyres, 1996). Outsourcing enables organisations to access a number of experts that would otherwise be too expensive to employ. Through outsourcing, expertise can be effectively accessed when needed and incurs no cost when it is not needed (Jiang & Qureshi, 2006). This allows the outsourcing organisation to use superior and less costly capabilities through on-going transactions or relationships with a service provider (Ellram *et al.*, 2008). Current outsourcing literature focuses mainly on supplier selection (Bozarth, Handfield & Das, 1998; Wilding & Juriado, 2004), b2b relationship management (Boyson, Corsi, Dresner & Rabinovich, 1999; Holcomb & Hitt, 2007), reasons for outsourcing (Boyson *et al.*, 1999; Metters & Verma, 2008; Wilding & Juriado, 2004), procurement strategies (Bozarth *et al.*, 1998) and the risks and benefits of outsourcing (Jiang, Frazier & Prater, 2006).

For effective outsourcing arrangements, the outsourcing organisation needs to be able to monitor the output of the service provider (Lynch, Imada & Bookbinder, 1994). Output or efficiency indicators are often used to indicate the level of service quality supplied by the service provider (Dommerger, Hensher & Wedde, 1993). However, these indicators may not fully capture the effect of outsourcing on the outsourcing organisation and its brand. If a

service provider does not deliver the promised level of quality, it may cause monetary loss and reputational damage to the outsourcing organisation (Jiang & Qureshi, 2006). Outsourcing organisations have become aware of the need to protect their brand (Sharma, Mathur & Dhawan, 2009), since the behaviour of outsourcing partners can influence the outsourcing organisation's brand and its value (Contractor, 2000; Kim *et al.*, 1999). This is particularly pertinent when the service provider has direct contact with the outsourcing organisation's customers, such as when logistics activities are outsourced.

2.3.1 OUTSOURCING OF LOGISTICS ACTIVITIES

The outsourcing of logistics activities has increased over the last several years around 5 to 8 percent annually and will continue to do so in the future (Ashenbaum, Maltz & Rabinovich, 2005). Logistics activities refer to the transfer of goods, products and information from production to consumption (Sheen & Tai, 2006). These activities are considered critical for supply chain performance (Arroyo *et al.*, 2006), and therefore, are central to the success of an organisation (Fawcett, Calantone & Smith, 1996; Yeung, Zhou, Yeung & Cheng, 2012). During logistics outsourcing, an external organisation is used to carry out those activities (Millen, Sohal, Dapiran, Lieb & Van Wassenhove, 1997).

The literature reveals a lack of consensus regarding the terms used in logistics activities outsourcing (Knemeyer & Murphy, 2005; Skjoett-Larsen, 2000). The common terms that appear in logistics outsourcing literature are 3PL, contract logistics, logistics service providers and make or buy (Cho *et al.*, 2008; Lieb, Millen & Van Wassenhove, 1993). At times, the term 3PL is used to refer to logistics tasks that are outsourced (Millen *et al.*, 1997; Sink & Langley, 1997); at other times, it refers to the external service provider that is carrying out the outsourced task (Hertz & Alfredsson, 2003; McGinnis *et al.*, 1994; Menon *et al.*, 1998). In this study, 3PLs are the external service providers and the act of outsourcing will be referred to as outsourcing of logistics activities.

Here the 3PL is defined as a service provider employed to manage, control and deliver logistics activities (Hertz & Alfredsson, 2003). The 3PL can be hired by either the buyer or the seller (McGinnis *et al.*, 1994) as depicted in Figure 2.1. 3PLs usually deal with two businesses (Wong, Maher, Nicholson & Gurney, 2000), and are referred to as the third party because they are in the middle of the first and second party, namely, the buyer and supplier (Bask, 2001) (see Figure 2.1). As a result of this exposure to both manufacturer and customer

(Li, Ragu-Nathan, Ragu-Nathan & Subba Rao, 2006), the 3PL can influence customers' perceptions of the manufacturer or the outsourcing organisation. As illustrated in Figure 2.1, the 3PL is in a unique position as it interacts with both the outsourcing organisation which is the seller of a particular product and its end business customer who is the buyer. Thus, 3PLs develop relationships with both of these organisations and determine the relationship quality that exists between the buyer and seller.

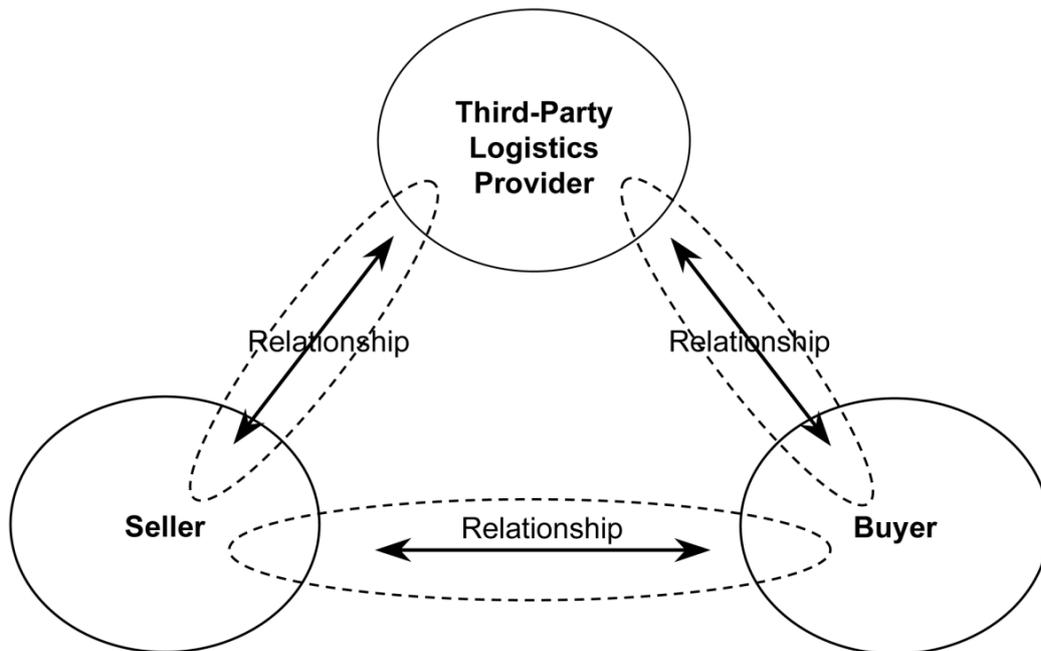


Figure 2.1: The Relationships in a Logistics Outsourcing Relationship (Source: Bask, 2001).

According to Chu and Wang (2012), there are three main streams of logistics outsourcing research in the literature. The first stream deals with the reasons why organisations outsource (Bolumole, 2001; Lau & Zhang, 2006; Rabinovich, Windle, Dresner & T., 1999; Razzaque & Shang, 1998; Wilding & Juriado, 2004). The second stream looks at the specific logistics functions that are being outsourced (Boyson *et al.*, 1999; Rabinovich *et al.*, 1999; Wilding & Juriado, 2004). The third stream examines how the outsourcing relationship is managed (Boyson *et al.*, 1999; Hofer *et al.*, 2009; Knemeyer, Corsi & Murphy, 2003; Logan, 2000; Moore & Cunningham, 1999).

2.3.1.1 REASONS FOR OUTSOURCING OF LOGISTICS ACTIVITIES

Cho *et al.*, (2008) report an increasing trend in the outsourcing of logistics activities by manufacturers, distributors and retailers. It is estimated that about 40 per cent of the global

logistic market is outsourced (Wong *et al.*, 2000). Logistics is usually outsourced because of an organisation's belief that it will gain some advantage (Razzaque & Shang, 1998). In addition, market pressures are pushing organisations to focus on core competencies and outsource non-core activities (Gottfredson *et al.*, 2005; Zacharia *et al.*, 2009).

The motivation most often cited for outsourcing logistics activities is that it decreases costs (Wilding & Juriado, 2004; Zineldin & Bredenlow, 2003). As logistics activities become more sophisticated, developing logistics expertise in-house has become more time-consuming and expensive (Razzaque & Shang, 1998). Costs are reduced when logistics activities are outsourced because of asset reduction (Sink, Langley & Gibson, 1996), decreased costs of labour (Daugherty, Stank & Rogers, 1996), operational efficiency improvement (Berglund, van Laarhoven, Sharman & Wandel, 1999), and increased flexibility (Sheen & Tai, 2006; Van Laarhoven, Berglund & Peters, 2000). Further, the other major argument for outsourcing is that 3PLs are in a better position to keep abreast of technological advancements, thereby minimising costs and investments for the outsourcing organisation (Novak & Stern, 2008; Rao & Young, 1994).

Menon *et al.*, (1998) argue that the quest for service and capability improvement has surpassed cost as the primary driver of logistics function outsourcing. Wong *et al.*, (2000) contend that through the 3PL, outsourcing organisations can access superior capabilities without major financial outlay. In addition, the advanced capabilities of the 3PL can enhance performance and improve customer service (Göl & Çatay, 2007; Sheen & Tai, 2006).

Because of their potential to produce substantial benefits for outsourcing organisations, 3PLs' capabilities are crucial for the successful outsourcing of logistics activities (Arroyo *et al.*, 2006; Pfohl & Buse, 2000). However, 3PL capabilities are also an area of concern due to the difficulties faced in determining whether the 3PL has the necessary capabilities prior to entering the relationship (Holcomb & Hitt, 2007; Millen *et al.*, 1997). In addition, because of the considerable contact 3PLs have with final customers (Sinkovics & Roath, 2004), the impact the 3PLs' capabilities have on the success of outsourcing organisations needs more research attention.

2.3.1.2 RISKS OF OUTSOURCING LOGISTICS ACTIVITIES

Since the logistics function has traditionally been one of the core operations of an organisation (Hendry, 1995), it is important that performance in this area be maintained once it is outsourced. These days, outsourcing organisations are becoming increasingly dependent on 3PLs as they outsource more and more functions (Boyson *et al.*, 1999), and thus, are fostering greater integration between themselves and 3PL partners (Fabbe-Costes, Jahre & Roussat, 2009). As a result, this can lead to risks, which in addition to capability considerations, are identified in the outsourcing of logistics activities.

The risks to outsourcing organisations include loss of control of the activity (Bardi & Tracey, 1991), ambiguity regarding the ethical behaviour of the 3PL (Brouthers & Brouthers, 2003), and negative outcomes (Yeung *et al.*, 2012). Further, if customers perceive the 3PL as an agent of the outsourcing organisation, the 3PL's behaviour can influence customer satisfaction (Lieb & Bentz, 2005b), and performance of the outsourcing organisation (Maloni & Carter, 2006). Thus, poor or inadequate customer service and unethical behaviour can have negative repercussions on the outsourcing organisation (Lee & Billington, 1992). Consequently, this may indirectly increase costs for the outsourcing organisation (Fisher *et al.*, 2008; Zutshi *et al.*, 2012), through attempts at service recovery or because of damage to the brand. Furthermore, if ethical behaviour is not positively managed, 3PLs who are often privy to important or confidential information, may leak this to the outsourcing organisation's competitors (Tan, 2001). To minimise the risks identified above, logistics outsourcing is moving away from arms-length transactions (Gentry & Vellenga, 1996) to close partnerships and relationships (Hertz & Alfredsson, 2003) between outsourcing partners. These partnerships often include agreements around responsibility allocation and sharing of resources necessary to manage possible risk (Harland, Brenchley & Walker, 2003). However, this may not be enough to prevent possible damage to the outsourcing organisation's reputation and brand. Accordingly, ensuring positive 3PL behaviour through ethical integration may be needed and this is explored later in Section 2.7.

The move towards closer relationships between outsourcing partners has also resulted from an increasing awareness that third party organisations can impact on the outsourcing organisation's performance. A number of dimensions of performance derived from outsourcing have been investigated in previous studies as discussed in the next section.

Table 2.1: Logistics Outsourcing Literature Findings

Outsourcing Decision Variables	
Reference	Key Findings
Rao and Young (1994)	Centrality of the logistics function, risk and control, cost/service trade-offs, information technologies and relationships with LSPs
Van Damme and Ploos van Amstel (1996)	Four categories of considerations related to economic viability, market issues (demand variability and customer service), personnel/equipment availability and extent of supplier dependence.
Hong <i>et al.</i> (2004)	Shipper firm's characteristics (e.g. firm size)
Daugherty and Droge (1997)	Shipper's organisational structure; organisations that have decentralised "line activities" at the business unit level are expected to outsource more in comparison to shippers that organise theirs centrally
La Londe and Maltz (1992); McGinnis, Kochunny and Ackerman (1995); Sarel and Zinn (1992)	Logistics service issues
Maltz (1994b)	Organisations reluctant to use third-party warehousing due to customer service considerations
Aertsen (1993)	High asset specificity coupled with difficulties in performance measurement should lead to in-house distribution
Maltz (1994a)	High asset specificity is associated with in-house warehousing, whereas high transaction frequency leads to outsourcing
Skjoett-Larsen (2000)	3PL providers must be used in the case of medium-specific assets or in cases of high asset specificity, but low uncertainty
Bolumole (2001)	Resource and capability considerations
Persson and Virum (2001); Stank and Maltz (1996)	Achieving the required service without investing heavily in assets and new capabilities
Bagchi and Virum (1996); van Laarhoven and Sharman (1994)	Increased competition, pressure for cost reduction
Fernie (1999)	Corporate and logistics strategy
Benefits and Costs	
Reference	Key Findings
Sink and Langley (1997)	Focus on core competence and exploiting external logistical expertise

Table 2.1 Continued...

Benefits and Costs	
Reference	Key Findings
Bask (2001)	Improved customer satisfaction and providing access to international distribution networks
Ellram and Cooper (1990)	Loss of control over the logistics function and loss of in-house capability and customer contact
Wilding and Juriado (2004)	Retain important logistics activities (e.g. order management) in-house
Van Damme and Ploos van Amstel (1996)	Enhance flexibility with regard to market (investments) and demand (volume flexibility) changes, 3PLs serve multiple customers and are able to utilize capacity better and spread logistics costs, thus achieving economies of scale, lack of responsiveness to customer needs
Bardi and Tracey (1991)	Reduction in asset investment (turning fixed cost into variable), labour and equipment maintenance costs
Ackerman (1996)	Unrealistic fee structures proposed by service providers
van Laarhoven, Berglund and Peters (2000)	Indication of in-house costs and serve as an external benchmark for logistics efficiency dissatisfied with service provider's IT capabilities
Bhatnagar and Viswanathan (2000); Daugherty <i>et al.</i> (1996); Wong, Maher, Nicholson and Gurney (2000)	Reduction in inventory levels, order cycle times, lead times and improvement in customer service
Ellram and Cooper (1990); Gibson and Cook (2001); Sink and Langley (1997); Svensson (2001); van Laarhoven <i>et al.</i> (2000)	Problems with respect to service performance, disruption to inbound flows, inadequate provider expertise, inadequate employee quality, sustained time and effort spent on logistics, loss of customer feedback and inability of 3PL providers to deal with special product needs and emergency circumstances
Rao, Young and Novick (1993)	Gaining access to logistics information systems
Service offerings and usage	
Reference	Key Findings
Murphy and Poist (2000)	Mismatch between supply and demand for logistics services
Lieb and Bentz (2005a); Lieb and Kendrick (2003); Lieb and Randall (1999)	3PLs expand their offerings to include information systems, consulting, contract manufacturing and even purchasing and financial services, there is a low uptake of such services and buyers in general prefer to outsource transport- and warehouse-related functions

Table 2.1 Continued...

Service offerings and usage	
Reference	Key Findings
Lieb (1992); Lieb and Bentz (2004), (2005b); Lieb <i>et al.</i> (1993); Lieb and Miller (2002); Lieb and Randall (1996)	3PL usage across the USA prominence of transport, warehouse and administration-related (e.g. freight payment) services and confirm the continuing growth of logistics outsourcing
Dapiran, Lieb, Millen and Sohal (1996); Sohal, Millen and Moss (2002)	3PL usage in Australia
Hong, Chin and Lin (2004)	3PL usage in China
Sohail and Sohal (2003)	3PL usage in Malaysia
Sankaran, Mun and Charman (2002)	3PL usage in New Zealand
Bhatnagar, Sohal and Millen (1999)	3PL usage in Singapore
Fernie (1999)	Low uptake of 3PL service in the UK retail sector
Wilding and Juriado (2004)	Firms within the European consumer goods industry use both in-house and contract logistics, with transportation and overflow storage to be the most-often outsourced services
van Hoek (2000a, 2000b) van Hoek and Dierdonck (2000)	Weak demand for value-added solutions such as information systems, 4PL and manufacturing-related services
3PL purchasing frameworks	
Reference	Key Findings
Andersson and Norman (2002)	Criteria for 3PL selection extends far beyond price considerations and contracts are much more detailed when buying advanced logistics solutions
Sink and Langley (1997)	Process issues such as need identification, top management commitment, formation of cross-functional buying team, development of selection criteria and service implementation
Bagchi and Virum (1998)	Dealing with post-contracting issues such as performance measurement and goal redefinition
Selection criteria for 3PLs	
Reference	Key Findings
Bagchi and Virum (1996)	Some criteria are developed with specific client needs in mind, while others are common for all circumstances
van Laarhoven and Sharman (1994)	Price is top criterion

Table 2.1 Continued...

Selection criteria for 3PLs	
Reference	Key Findings
Crum and Allen(1997); La Londe and Maltz (1992); Menon <i>et al.</i> (1998)	Service performance and quality requirements precede discussions about rates
Sink and Langley (1997)	Qualitative factors such as supplier reputation, references from clients and response to information requests are used for the initial screening of candidate service providers
Aghazadeh (2003); Sink <i>et al.</i> (1996); van Damme and Ploos van Amstel (1996)	Prior experience of the client’s industry, its regulations and products types are perceived as important selection factors by buyers
Performance measurement for 3PLs	
Reference	Key Findings
van Hoek (2001); Wilding and Juriado (2004)	Systems in place to determine 3PL success and corrective action, mostly KPIs (Key performance indicators)
Stank, Rogers and Daugherty (1994); Sum and Teo (1999)	Performance metrics for benchmarking
Boyson <i>et al.</i> (1999)	Customer Satisfaction Surveys
Bourlakis and Bourlakis (2005)	Integrating IT systems

2.4 PERFORMANCE OUTCOMES IN OUTSOURCING RELATIONSHIPS

Outsourcing usually occurs when the outsourcing organisation believes that its performance can be improved by outsourcing an activity (Razzaque & Shang, 1998). Thus motivated, outsourcing organisations are often keen to investigate whether their performance gains have been realised (Zacharia *et al.*, 2009). Consequently, a number of studies have been conducted on the relationship between outsourcing logistics and the performance of the outsourcing organisation. However, these studies have produced mixed results (Boyson *et al.*, 1999; Gadde & Hulthen, 2009; Lieb & Bentz, 2005b). Some have reported that outsourcing improves financial performance (Chu & Wang, 2012; Deepen, Goldsby, Knemeyer & Wallenburg, 2008a; McKone & Lee, 2009), whereas others have found that outsourcing has a negative relationship with performance (Kotabe, Mol, Murray & Parente, 2012). This

indicates that perhaps more research is needed to understand what specific factors within the outsourcing relationship affect the resulting outsourcing organisation's financial performance.

Typical aspects of performance examined in past studies as outcomes of outsourcing logistics include customer satisfaction with the outsourcing organisation (Millen *et al.*, 1997; Murphy & Poist, 2000; Van Laarhoven *et al.*, 2000), financial performance (Boyson *et al.*, 1999; Chu & Wang, 2012; Deepen *et al.*, 2008b; Gadde & Hulthen, 2009; Kotabe *et al.*, 2012; Lieb & Bentz, 2005b; McKone & Lee, 2009), and customer retention and service recovery (Knemeyer *et al.*, 2003; Knemeyer & Murphy, 2005). Millen *et al.*, (1997) in their study of Australian organisations found that outsourcing logistics increased customer satisfaction. Murphy and Poist (2000) in their meta-analysis of empirical studies also found that customer satisfaction was positively influenced by the outsourcing of logistics. These results are supported by a survey of shippers in European countries by Van Laarhoven *et al.*, (2000) who found that the outsourcing of logistics positively affected customer satisfaction. However, these studies looked at customer satisfaction only and did not determine how this might affect the outsourcing organisation's reputation or brand.

Boyson *et al.*, (1999) found that outsourcing of logistics helped organisations in the US to achieve competitive advantage and minimise costs related to the logistics activity. Similarly, other researchers discovered that outsourcing partnerships in logistics led to cost savings and better service quality (Gadde & Hulthen, 2009). Chu and Wang (2012) found that well managed logistics outsourcing relationships in China improved the financial performance, in terms of profit, sales and return on assets, of the outsourcing organisation. The results of Lieb and Bentz's (2005b) large-scale survey of US manufacturers' outsourcing logistics indicated that the majority of respondents experienced lower costs and better service levels as a result of outsourcing. Likewise, McKone and Lee (2009) found a positive relationship between outsourcing to a competent 3PL and minimisation of cost and increase in quality. Deepen *et al.*'s (2008b) US study discovered that successful outsourcing relationships increased joint goal achievement between the two outsourcing partners. However, Kotabe *et al.*, (2012) reported a negative relationship between outsourcing and the market share of the outsourcing organisation.

Knemeyer *et al.*, (2003) found that closer logistics outsourcing partnerships increased the likelihood that the outsourcing organisation would stay with the 3PL. Then, Knemeyer and Murphy (2005) discovered that similar perceptions of the relationship from the 3PL's and outsourcing organisation's perspective increased satisfaction and retention in outsourcing relationships. However, like the studies on customer satisfaction, these studies did not investigate how these relational outcomes may affect the outsourcing organisation's dimensions of performance.

The above literature suggests that it is still unclear what effect the outsourcing of logistics has on the outsourcing organisation and its performance. Most studies have examined customer-related outcomes without considering how these affect organisational performance Hamm (2004). The studies looking at financial performance aspects have produced mixed results and also used different measures of performance. Nonetheless, these studies often fail to indicate what is actually driving performance changes and how the different performance levels of outsourcing relationships can be explained. In addition, there is limited empirical research on the effects of outsourcing on the outsourcing organisation's brand equity and reputation which are also important dimensions of performance. The next section contains a review of the literature that focuses on outsourcing outcomes such as brand equity, reputation and financial performance.

2.4.1 THE IMPORTANCE OF BRANDING OUTCOMES IN OUTSOURCING

Brands and brand management have become significant priorities for managers in all types of organisations (Keller & Lehmann, 2006). This is due to the profound effect that brands have on the organisation's customers (Fan, 2005), and the considerable benefits that the organisation can derive from the brand (Ind, 1997). The American Marketing Association defines a brand as "...a name, term, sign, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and differentiate them from those of competitors" (Fan, 2005 p. 342). Brands are among the most valuable assets of organisations (Abimbola & Kocak, 2007; Madden, Fehle & Fournier, 2006). Since outsourcing can influence the outsourcing organisation's brand (Morgan *et al.*, 2007), the effect of outsourcing on branding outcomes needs to be empirically examined.

Most of the extant research on branding focuses on consumers. However, brands are also important in industrial markets or b2b settings as organisations are increasingly using brands to distinguish their products and services (Shipley & Howard, 1993). Brands play a significant role in the purchasing decisions of industrial buyers in b2b markets (Mudambi, 2002; Sweeney, 2002), and also represent large financial value for most organisations (Gregory & Sexton, 2007). Further, successful brands can be a central source of competitive advantage in b2b markets (van Riel, Pahud de Mortanges & Streukens, 2005). This highlights the importance of brands in outsourcing as one type of b2b relationship where one organisation deals with another (Wong *et al.*, 2000).

When logistics services are outsourced, the 3PL has direct contact with the end business customer and the consistency of service delivery is important for successful logistics systems (Razzaque & Shang, 1998), as well as for the outsourcing organisation's brand (Nandan, 2005). When brands are linked to a service, service delivery becomes the main source of value creation (Berry, 2000; O'Loughlin & Szmigin, 2005). In the b2b context, the key drivers of a b2b brand are the personal experiences of the end business customer in communication and interaction with the brand's representatives (Baumgarth, 2010). During outsourcing, service delivery is usually provided by 3PLs (Gordon *et al.*, 1993), and the end customer often perceives the 3PL as part of the outsourcing organisation (Agndal & Nordin, 2009). As a result, brand judgements are mostly influenced by the behaviour of the 3PL (Burmam & Zeplin, 2005). The human brand representative becomes the brand personified and the source of information about the brand (Da Silva & Alwi, 2008; Gupta, Melewar & Bourlakis, 2010). Thus, brand representatives such as the 3PL need to create a positive brand image that positively influences the end business customer's judgements and feelings about the brand (Gupta *et al.*, 2010).

Previous literature exhibits some support for a third party influencing the organisation's brand. Morgan (2004) pointed out how a customer evaluated an insurance company's brand as a result of their interactions with the car repair company contracted by the insurance company when the customer's car needed to be repaired after an accident. Morgan found that the perceived strength of the relationship between the two companies significantly affected how the customer evaluated the insurance company's brand. Gittell (2002) empirically supports the proposition that the relationship between an outsourcing organisation and its service provider affects the relationship between the outsourcing organisation and their customer as

well as customer outcomes of satisfaction and intent to recommend. Singh (1991) argues that boundary-spanning roles represent the organisation's brand and image and as these roles interact with the customer during the service delivery. This logic can be extended to 3PL's, which interact with the outsourcing organisation's customer on behalf of the outsourcing organisation.

Customers develop expectations regarding the level of performance or service they expect from the brand from marketing communications (Berry, 2000). These brand expectations and brand judgements of a service experience are then used in the customers' evaluation of the brand (Gupta & Stewart, 1996). The 3PL's behaviour needs to be consistent with these brand expectations to achieve consistency and positive brand outcomes (de Chernatony & Segal-Horn, 2001), such as brand equity. According to Melewar and Jenkins (2002), the way the 3PL behaves is perceived by the outsourcing organisation's end customers as a communication coming from the outsourcing organisation. Consequently, the ability to provide service delivery consistent with brand expectations and the brand promise depends on the capabilities of 3PLs (Razzaque & Shang, 1998). The outsourcing organisation's brand may be negatively affected if the 3PL behaviour is inconsistent with the end business customer's brand expectations.

The outsourcing organisation's branding outcomes such as brand equity are particularly vulnerable to 3PL behaviour. Brand equity captures the overall value of the brand (Keller, 1998), and can be affected by customers' evaluations of the brand from their experience with the 3PL. The brand acts as a symbol of the organisation's promises and obligations (Ballantyne & Aitken, 2007). These promises and obligations need to be upheld during every experience the customer has with the brand (O'Loughlin & Szmigin, 2005), including those with brand representatives outside the organisation such as 3PLs (Davis, Golicic & Marquardt, 2009). Brand equity and how it is affected by outsourcing logistics will be discussed further in the following section.

2.4.1.1 CORPORATE BRAND EQUITY

Brand equity is defined as the increase in worth and benefit that a brand, through its name and symbol, adds to the product or service to which it is attached (Aaker, 1991). This is the most widely accepted definition for customer-based brand equity (Tran & Cox, 2009), and is also considered as applicable to company-based brand equity (van Riel *et al.*, 2005) which is

relevant to the b2b setting. Brand equity is considered imperative for organisations (Keller & Lehmann, 2006) as it creates differential responses in customers (Keller, 1998), and can lead to differentiation and competitive advantage (Davis *et al.*, 2009). Within the outsourcing context, brand equity can attract more business customers and lead to increased profitability for the outsourcing organisation (Davis & Mentzer, 2008). The outsourcing organisation can enjoy these benefits if the 3PL behaves in a way that enhances the outsourcing organisation's brand equity. Hence the need to monitor and assess brand equity and take steps to maintain brand equity within outsourcing arrangements.

Brand equity is often examined as an outcome affected by organisational activities such as promotion and advertising (Yoo, Donthu & Lee, 2000), and corporate social responsibility (Sen & Bhattacharya, 2001). Changes in brand equity can result from organisational activities affecting the value of the brand in the eyes of the customer (Keller & Lehmann, 2006). Further, shifts in brand equity can indicate whether organisational activities are positively perceived by customers (Fan, 2005). Brand equity is critical in the b2b context as business customers make purchase decisions based on the past behaviour of the outsourcing organisation in terms of the availability of their brand and reliability in the delivery of the brand which are captured by brand equity (Gupta *et al.*, 2010). It is essential to examine the effect of the 3PL on the outsourcing organisation's brand equity as it captures how the end business customer perceives the 3PL and therefore, the outsourcing organisation, and whether they will repurchase from the outsourcing organisation (Gupta *et al.*, 2010). Therefore, examining brand equity outcomes in outsourcing can indicate whether the 3PL has a positive or negative effect on the outsourcing organisation's brand.

In prior literature, brand equity is conceptualised as a multi-dimensional construct, comprised of a number of elements (Aaker, 1991; Aaker, 1996). However, there is some disagreement over the relevant dimensions of brand equity in the b2b context (Kim *et al.*, 1999). For example, van Riel *et al.*, (2005) suggest that the dimensions of perceived quality and distribution are most relevant for brand equity in b2b. Whereas, Yoo *et al.*, (2000) and Mudambi (2002) suggest that brand equity contains the same dimensions in b2b as in business to customer (b2c) but the emphasis that should be placed on these may differ. Kim *et al.*, (1999) contend that brand image and brand awareness are the more prominent dimensions of brand equity in b2b. Yet, Bendixen, Bukasa and Abratt (2004) maintain that perceived quality and brand image are the more important dimensions in b2b. On the other

hand, Davis *et al.*, (2009; 2008) claim that brand awareness and brand image are the main dimensions of brand equity in b2b. Whilst brand image seems to be viewed by most researchers as the most essential dimension of brand equity in b2b markets (see Davis *et al.*, 2009; Kim *et al.*, 1999; Mudambi, 2002), this study examines all four dimensions of brand equity identified in b2c research to determine the most relevant in the logistics outsourcing context. These dimensions include: brand awareness, brand image, perceived quality, and brand loyalty (Aaker, 1991). These dimensions of brand equity have previously been advanced by Keller (1998) and Keller and Lehmann (2006) in the b2c context.

Brand Awareness

Brand awareness is a central part of brand equity indicating that if customers are not aware of the brand, then the brand will not be included in their consideration set (Farquahar, 1989). This is also the case for business customers, especially when they are involved in a new task purchase where they are looking for new supplier brands. In such situations, the consideration set will consist of all brands the customer considers when purchasing a specific product (Aaker, 1991). If the brand is not in the consideration set, then the brand will never be purchased and the customer will not have the opportunity to develop any of the other elements of brand equity (Keller, 1998). Awareness of the outsourcing organisation's brand in the market place can be influenced by the 3PL and whether it promotes the outsourcing organisation's brand to existing customers and to new customers.

Brand Image

Brand image is formed through strong, favourable and unique associations (Keller, 1998). Brand associations are "...anything linked in memory to a brand" (Aaker, 1991 p.109), and have to be meaningful to the customer in order to influence brand image (Yoo *et al.*, 2000). These associations can consist of any 3PL behaviour that customers attach to the brand of the outsourcing organisation (Gordon *et al.*, 1993). Brand associations can also be inferred at all points of contact with the brand through, for example, commercials, service experience, and consumption. Additionally, a number of similar experiences create stronger brand associations (Aaker, 1991). Therefore, if the customer begins to associate the brand with high service levels, as a result of the 3PL's behaviour, then brand equity can be enhanced (Hemmington & King, 2000). Brand associations contribute to high brand awareness that can lead to brand equity as a result of the favourable brand views and brand selection at the time

of purchase (Yoo *et al.*, 2000). Though there is some disagreement regarding the importance of brand associations in b2b, the literature cited above suggests that more tangible associations such as level of quality and experience offered by an organisation to the end business customer are central in b2b (Davis *et al.*, 2008).

Perceived Quality

Perceived quality is “... consumers’ judgement about a product’s overall excellence or superiority” (Zeithaml, 1988 p.3). Customers may judge quality on the basis of their experience compared to their needs (Yoo *et al.*, 2000). For example, the outsourcing organisation’s end customer will judge the quality of the logistics service experience in relation to their needs and expectations to determine if the brand has fulfilled its brand promise. When perceived quality is high, the brand is seen as more valuable (Bendixen *et al.*, 2004). Therefore, perceived quality is a critical dimension of a b2b brand (Zhu, Zhang & Tsung, 2007). Perceived quality is particularly vital in b2b markets as business customers want to receive and be associated with higher quality brands that increase their own standing in the eyes of final consumers (van Riel *et al.*, 2005). The end customer who purchases the outsourcing organisation’s brand wants to be associated with and do business with a higher quality brand. Therefore, the end business customer is more likely to re-purchase and have a better overall perception of the outsourcing organisation’s brand if its perceived quality is high. Consistent perceived quality from a brand may lead to increased overall brand equity (Keller, 1998).

Brand Loyalty

Brand loyalty is the “...deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing” (Oliver, 1999 p.34). Loyalty towards brands is highly sought after as it has a range of advantages for firms, such as increased profitability and flow-on effects to other customers through word-of-mouth (Liu, 2007; Ndubisi, 2004). This loyalty to the brand is particularly important in b2b contexts where there are many potential suppliers (Tran & Cox, 2009). Brand loyalty is an outcome of the b2b partners’ satisfaction with the brand (Rundle-Thiele & Bennett, 2001), which can be diminished by negatively perceived 3PL behaviour. This element of brand equity has received the least attention in b2b research (Mudambi, 2002), perhaps because it is considered to be non-rational and therefore,

inappropriate for business buyers. According to Jensen and Klastrup (2008), organisational buying decisions are made by individuals who are both rational and non-rational; therefore, these individuals may still be influenced by brand loyalty. This suggests that brand loyalty is still an important dimension of brand equity in b2b.

Various elements of brand equity can be affected by 3PLs in outsourcing relationships, as the 3PL is perceived as an agent of the outsourcing organisation (Kim *et al.*, 1999; Sheth, 1973). To maintain brand equity, the branding cues received from the 3PL's behaviour should be consistent with brand expectations (Simmons, 2009). Since brand equity is derived from organisational actions (Seggie *et al.*, 2006), and 3PLs are seen as part of the outsourcing organisation, brand equity can also be derived from the actions of the 3PL (Gordon *et al.*, 1993). A positive experience with the 3PL can lead to positive brand evaluations (Kim *et al.*, 1999), thereby increasing brand equity (Farquahar, 1989). Thus, to enhance brand equity, consistent positive experiences need to be provided by 3PLs (Davis *et al.*, 2008). Since customers use every touch point with the brand to create brand perceptions and evaluations (Webster & Keller, 2004), the outsourcing organisation needs to seek outsourcing partners that can provide consistent positive experiences to their customers (Hemmington & King, 2000). The ability to provide this consistency is dependent on the capabilities of the 3PL, which will be discussed in Section 2.5.

2.4.2 CORPORATE REPUTATION

Corporate reputation is an important outcome for organisations as it is a reflection of the stakeholders' experience with the organisation and their evaluation of any unethical behaviour of the organisation (van Riel & Fombrun, 2007). It is also an indication of stakeholders' judgement of the worth of an organisation based on its values, dependability and trustworthiness over time (Abimbola & Kocak, 2007; Fombrun & van Riel, 2004). Corporate reputation has been identified as one of the most important intangible resources that an organisation possesses (Abimbola & Kocak, 2007)

An organisation with a good reputation can enjoy many benefits including lower costs of operation (Deepphouse, 2000), charging premium prices (Rindova, Williamson, Petkova & Sever, 2005), appealing to better employees (Turban & Greening, 1997), attracting investors and customers (2010) and increasing competitive advantage (Roberts & Dowling, 2002). Corporate reputation can also contribute to decision making when other organisations are

looking to engage a firm to work for them or with them (Rhee & Haunschild, 2006). Therefore, corporate reputation needs to be approached as a long-term investment by organisations that will lead to more positive long-term consequences from stakeholders (Fang, 2005).

Whilst an organisation's reputation is based on its historical actions, it can be suddenly eroded if some new information about the organisation surfaces or if the organisation's most recent behaviours are not congruent with its existing reputation (Lange *et al.*, 2011). Thus, corporate reputation needs to be maintained as it is critical for the development of new service relationships (Murphy, Laczniak & Wood, 2007), and the continuation of existing ones.

The literature offers a number of definitions of reputation (Barnett, Jermier & Lafferty, 2006; Rindova *et al.*, 2005). Lange *et al.*, (2011) indicate that there are three main definitions of reputation in the literature that can be described as *being known* (awareness, visibility and prominence), *being known for something* (behaving predictably related to a specific stakeholder group's interests) and *generalised favourability* (being judged as overall good, attractive and appropriate). The *being known* definition of reputation does not include the judgement or evaluation of stakeholders (Lange *et al.*, 2011). This definition encapsulates the brand name (Saxton & Diollinger, 2004), the knowledge related to the organisation (Fombrun, 2001), and what is fundamental to the organisation in terms of what it values (Whetten & Mackay, 2002). The *being known for something* definition of reputation is about a particular characteristic of the organisation which is being judged by the stakeholder (Fischer & Reuber, 2007). For example, this could be the organisation's philanthropy or product quality. The evaluation of this characteristic is a specific part of this definition and required for the organisation to be known for something (Lange *et al.*, 2011). It also relates to whether the organisation's behaviour meets existing stakeholder expectations (Deutsch & Ross, 2003) about the perceived quality of the organisation's output (Rhee & Haunschild, 2006). *Generalised favourability* is similar to *being known for something* but is also about stakeholder judgement of the organisation. However, the stakeholder's judgement has a broader scope and is based on multiple organisational characteristics (Fischer & Reuber, 2007). Given that this definition is more comprehensive, this meaning of corporate reputation has been adopted in this study.

Corporate reputation results from an organisation's past performance and past demonstrations of quality (Washington & Zajac, 2005). Even though the reputation is an asset of the outsourcing organisation, it is influenced and created by the end customer's interaction with the 3PL. Additionally, corporate reputation depends on whether the expectations created by the existing reputation are met (Lange *et al.*, 2011): for example, does the logistics service delivery meet the expectations that the end customer has regarding what the service should be like?

It seems that corporate reputation has received limited attention as an outcome of logistics outsourcing (Lange *et al.*, 2011). Since, by interacting with the outsourcing organisation's end customer, the 3PL influences the judgement about, and therefore the evaluation of the outsourcing organisation, it is important to evaluate the effect of outsourcing on the corporate reputation of the outsourcing organisation.

2.4.3 FINANCIAL PERFORMANCE

Organisations are very concerned about how organisational decisions such as outsourcing affect their performance (Gunasekaran & Kobu, 2007). However, few studies have examined the extent to which specific variables, such as logistics service quality and capabilities in an outsourcing relationship, impact on the financial performance of the outsourcing organisation (Cho *et al.*, 2008). As mentioned earlier in this chapter, previous studies have reported mixed results regarding the effect of logistics outsourcing on performance (Boyson *et al.*, 1999; Gadde & Hulthen, 2009; Lieb & Bentz, 2005b). This is a particularly important outcome variable in logistics outsourcing as decreasing cost and increasing profitability are often the main drivers of outsourcing (Wilding & Juriado, 2004).

By measuring the effect of an organisational action on financial performance, decision makers can better determine the success of the action, identify problems, and determine whether customer needs are met (Parker, 2000). The outsourcing organisation's financial performance is expected to be affected by the actions of the 3PL. These actions may lead to increased costs in fulfilling the logistics activity, and the loss of sales or customers if the end customer's needs are not being met during the logistics service delivery (Lieb & Bentz, 2005b). Additionally, the outsourcing organisation's financial performance is anticipated to be influenced by its own effectiveness in managing the outsourcing relationship (Fisher *et al.*, 2008).

3PLs have been found to positively influence the outsourcing organisation's financial performance in the past. Berglund *et al.*, (1999) found 3PL providers can improve operational efficiency and share useful resources and information. Selnes and Sallis (2003) discovered that 3PLs can help reduce inventory and stockout costs because of a better knowledge of customer demand. Sahay and Mohan (2006) uncovered that outsourcing to 3PL can reduce costs in terms of time and effort put into navigating customs clearance. Yeung *et al.*, (2012) found that 3PLs with better capabilities could increase the outsourcing organisation's market share and sales.

In this study, the effect of the 3PL on the outsourcing organisation's financial performance is captured by assessing profitability, return on assets (ROA) and return on investment (ROI). This is because profitability is a key measure of organisational performance and a key consideration in outsourcing research (Jiang & Qureshi, 2006). ROI is also an important consideration when assessing the returns to the organisation's shareholders (Smith, Mitra & Narasimhan, 1998). Lastly, ROA is crucial in determining changes in profitability and indicates whether assets are being effectively utilised (Shang & Marlow, 2005).

2.5 EFFECT OF OUTSOURCING PARTNER'S CAPABILITIES ON OUTSOURCING ORGANISATION'S PERFORMANCE

Organisations are often attracted to supply chain partners because of the partners' capabilities (Matanda & Freeman, 2009), which an outsourcing organisation may seek to leverage or develop (Parness, 2009) to improve its performance (Day, 1994; Hunt & Morgan, 1995). Organisations outsource in order to gain access to 3PLs' capabilities (Wittmann, 2007) that can contribute to their own competitive advantage (Zhao *et al.*, 2001). Therefore, capabilities are a critical consideration in the selection of an outsourcing partner or 3PL (Bucklin & Sengupta, 1993; Sharma *et al.*, 2009). Capabilities are defined as "...complex bundles of skills and accumulated knowledge, exercised through organisational processes" (Day, 1994 p.38).

In the outsourcing context, the 3PL's capabilities determine how well the 3PL performs the outsourcing task. Additionally, the 3PL often has contact with the end business customer and its behaviour towards the customer will also be determined by the capabilities it possesses (Gottfredson *et al.*, 2005). Therefore, the 3PL's behaviour can influence the outsourcing

organisation's brand and reputation; thus, outsourcing organisations need to evaluate 3PLs' capabilities prior to entering an outsourcing arrangement (Contractor, 2000).

3PL capabilities are especially important in the outsourcing of logistics activities (Pfohl & Buse, 2000), as access to superior capabilities from 3PLs is one of the main reasons for outsourcing logistics functions (Razzaque & Shang, 1998). However, research on the influence of 3PL capabilities on the outsourcing organisation's performance has produced inconsistent findings. For example, Zhao *et al.*, (2001) found 3PL capabilities to positively influence the performance of the outsourcing organisation, whilst Cho *et al.*, (2008) found a negative relationship between the two. These findings may have been caused by different operationalisations of 3PL capabilities. Therefore, more empirical research on 3PL capabilities is needed to determine which capabilities are the most crucial for the outsourcing organisation and its branding outcomes.

There is some disagreement in the literature on the definition of logistics capabilities (Zhao *et al.*, 2001). Cho *et al.*, (2008) state that a singular logistics capability includes assets, competencies, organisational processes, firm attributes, information, and knowledge relating to devising strategies, since these strategies allow logistics to increase organisational efficiency and effectiveness. Conversely, others argue that there are many different types of logistics capabilities (Bowersox *et al.*, 1999; Göl & Çatay, 2007; Sinkovics & Roath, 2004). Thus, it seems that in order to fully comprehend what to look for from a 3PL, there is need to clearly articulate what logistics and 3PL capabilities are prerequisite.

Some 3PL capabilities seem to be common to all inter-organisational partnerships (Medcof, 1997). These include skills related to understanding the partnering organisation and its customers (Day, 1994; Zhao *et al.*, 2001), and in managing the business relationship (Lages, Silva & Styles, 2009). Besides these capabilities, there are other capabilities that are required in the logistics context, such as information-focused and operational capabilities, as logistics has specific information and operational requirements (Rogers & Daugherty, 1995). Various organisational capabilities, such as market-driven capabilities, human resource capabilities, inside-out, outside-in capabilities and business process capabilities have been identified in prior research (Day, 1994; Levina & Ross, 2003; Roth & Jackson, 1995; Zhao *et al.*, 2001). This study focuses on three categories of 3PL capabilities that capture the diverse skills needed by 3PLs to carry out the logistics activity and to positively influence the outsourcing organisation's performance. These include customer-focused, information-focused, and

operational capabilities. In addition, relational capabilities of the outsourcing organisation are also considered as these affect the outsourcing relationship and its outcomes. Each of these capabilities is explored in more depth in the next sub-sections.

2.5.1 3PL'S CUSTOMER-FOCUSED CAPABILITIES

When logistics functions are outsourced, 3PLs become the primary point of contact with the end business customer. Thus, 3PLs and outsourcing organisations need to jointly address problems. Customer-focused capabilities capture the ability of 3PLs to work with the outsourcing partner (Wilson & Nielson, 2001), as well as to provide adequate service to the outsourcing organisation's end business customer (Zhao *et al.*, 2001). These capabilities are considered important as customer service is a critical component of logistics (Göl & Çatay, 2007; Menon *et al.*, 1998; Morash, Droge & Vickery, 1996). Customer-focus capabilities are crucial in ensuring that the logistics task is carried out specific to the customer, thus contributing to competitive advantage (Pfohl & Buse, 2000). Previous studies examining these capabilities have found that they lead to increased organisational performance (Bowersox *et al.*, 1999; Stank & Lackey, 1997; Zhao *et al.*, 2001). Prior research has also identified a positive relationship between performance and customer-focused capability dimensions such as flexibility, responsiveness and customer expectations (Emerson & Grimm, 1998; Morash *et al.*, 1996; Sinkovics & Roath, 2004).

Customer-focused capabilities are also known as market orientation capabilities since they require the same skills as market orientation in identifying and responding to customer needs (Day, 1994). These capabilities have been previously linked to organisational performance in the marketing literature and are also relevant to logistics (Innis & La Londe, 1994; Stank & Lackey, 1997). As Zhao *et al.*, (2001) state, organisations with customer-focused capabilities are better at sensing marketing changes, developing channel relationships and connecting with customers.

The other term used for customer-focused capabilities is customer integration (Bowersox *et al.*, 1999; Zhao *et al.*, 2001). Bowersox *et al.*, (1999 p.42) define customer integration as "...the competency of building lasting distinctiveness with customers of choice". This entails recognising the needs of existing and prospective customers and markets in order to create value for the customer. According to Bowersox *et al.*, (1999) the four types of customer integration capabilities are segmental focus, relevancy, responsiveness, and flexibility. This

view is also supported by Zhao *et al.*, (2001) and Göl and Catay (2007). Segmental focus requires organisations to ascertain the most appropriate customers for their business, identifying their needs and expectations, and satisfying these through value-added services (Bowersox *et al.*, 1999). These capabilities allow 3PLs to prioritise customer needs and determine which are the most important for them to satisfy at any one time. Relevancy refers to the ability to identify not only current needs but also future and emerging customer needs (Zhao *et al.*, 2001). This is based on the 3PL's knowledge of the outsourcing organisation's industry and business which leads to a greater understanding of what the customer is likely to require. Responsiveness requires organisations to be able to respond to any unanticipated or unusual requests (Göl & Çatay, 2007). This may include changing distribution methods or capital equipment and also capture the 3PL's willingness to make changes to accommodate the outsourcing organisation. Flexibility however, is the ability to adjust to customers' unplanned operational situations (Bowersox *et al.*, 1999). These capabilities enable the 3PL to develop processes that allow efficient change (Ndubisi, Jantan, Loo & Ayub, 2005) according to the outsourcing organisation's changing circumstances.

This set of customer-focused capabilities (segmental focus, relevancy, responsiveness and flexibility) is proposed to influence the outsourcing organisation's performance because if 3PLs have a better understanding of the needs of both the outsourcing organisation and their end business customer (Zhao *et al.*, 2001), they are more likely to provide a consistent service experience in line with the brand promise and customers' expectations (Hemmington & King, 2000). Further, 3PLs that possess customer-focused capabilities are more informed about the brand associations, brand image, and perceived quality that positively influence brand equity (Yoo *et al.*, 2000); the values and promises that need to be upheld to preserve corporate reputation (Aaker & Joachimsthaler, 2000); and the service elements necessary to improve organisational performance. This leads to the following proposition:

Proposition 1: Customer-focused capabilities possessed by the 3PL are associated with the outsourcing organisation's performance.

This proposition is depicted in Figure 2.2 as relationship 1.

2.5.2 3PL'S INFORMATION-FOCUSED CAPABILITIES

Information technology (IT) and information-focused capabilities are critical to performance in logistics activities (Zhao *et al.*, 2001). This view is supported by Fawcett, Calatone and

Smith (1996) who argue that information gained through IT systems and information sharing is critical for decision-making. Other researchers (Noordeweir, John & Nevin, 1990; Rindfleisch, 1997; Williams, Nibbs, Irby & Finley, 1997) also support this by stating that IT can increase efficiency and minimise costs in logistics activities, thereby enhancing competitive advantage through the logistics function. The informational exchange within the outsourcing relationship is enhanced by the 3PL's IT management and skills (Zhao *et al.*, 2001). Specific programs, such as electronic data interchange, have been found to increase logistics efficiency and service (O'Callaghan, Kaufmann & Konsynski, 1992), reduce cycle times (Sutton, 1997), improve shipment quality (Walton & Maruchek, 1997), increase perceived customer value (Williams, Magee & Suzuki, 1998) and minimise logistics costs (Dearing, 1990; Sutton, 1997).

Zhao *et al.*, (2001) identified three information-focused capabilities that were originally developed by the Global Logistics Research Team (1995) as IT, information sharing and connectivity. IT is "...the hardware, software, network investment and design facilitating processing and exchange" (Zhao *et al.*, 2001 p.137). According to Yeung *et al.*, (2012), 3PLs need to have IT capabilities to facilitate inter-organisational integration. Further, Langley *et al.*, (2009) suggest that outsourcing organisations often find the IT capabilities of their 3PL partners insufficient for the level of inter-organisational integration required in outsourcing. Information sharing refers to critical technical, financial, operational and strategic information that is willingly shared between outsourcing partners (Global Logistics Research Team, 1995; Hartmann & de Grahl, 2012). Outsourcing organisations need to have capabilities that allow 3PLs to effectively communicate their needs and expectations (Carr & Pearson, 1999; Jayaram & Tan, 2010). Similarly, Hartmann and de Grahl (2012) found that information sharing influences the achievement of goals in outsourcing partnerships. Therefore, sharing information is necessary for effective outsourcing relationships (Chu & Wang, 2012).

Connectivity indicates whether the organisation is able to quickly and effectively trade this information in a format that is useful (Global Logistics Research Team, 1995). Pfohl and Buse (2000) argue that 3PLs need to have capabilities to quickly gather and interpret information from the outsourcing organisation in order to tailor their service delivery. To enable the sharing or exchanging of information between outsourcing partners, information technology systems are required (Gardner, Cooper & Noordewier, 1994). IT systems

capabilities are defined by Göl and Catay (2007) and Menon *et al.*, (1998) as computer systems used to track, trace and confirm timely delivery. The above discussion indicates the increasing importance of both IT systems and information in logistics outsourcing. When organisations possess a range of information-focused capabilities, these are difficult to copy and provide a competitive advantage (Zhao *et al.*, 2001). Hence, 3PL capabilities that affect the outsourcing organisation's performance should include information-focused capabilities.

Past research has found that information sharing positively effects outsourcing relationships (Athanasopoulou, 2006; Hsu, Kannan, Tan & Leong, 2008; Sezen, 2008; Williams & Moore, 2007), and cross-organisational relationships (Knemeyer & Murphy, 2004; Knemeyer & Murphy, 2005). Consequently, information-focused capabilities are expected to influence the outsourcing organisation's brand through the use of IT systems in customer service in logistics, such as in the tracking of orders (Göl & Çatay, 2007). This can be important for business customers who need a shipment by a specified date and derive value from tracking their shipment. Information-focused capabilities add to the perceived quality dimension of brand equity (Bendixen *et al.*, 2004). In addition, these capabilities support reputational promises made by the outsourcing organisation about service levels and delivery guarantees (Balmer, 2001). The ability of information-focused capabilities to reduce costs (Noordewier, John & Nevin, 1990) can enhance the outsourcing organisation's financial performance as well. This leads to the subsequent proposition:

Proposition 2: 3PL's information-focused capabilities are related to the performance of the outsourcing organisation.

Proposition 2 is illustrated in Figure 2.2 as relationship 1.

2.5.3 3PL'S OPERATIONAL CAPABILITIES

Operational capabilities refer to the technical and economic capabilities of 3PLs, and are mostly concerned with transportation and delivery functions (Croom, 2001; Croom & Batchelor, 1997). These include technical competence, skills and resources required for service provision (Jarvenpaa & Mao, 2008). These capabilities capture the ability to fulfill the logistics task (Buyukozkan, Feyzioglu & Nebol, 2008), and can be described as efficiency, effectiveness and cost minimisation.

Operational capabilities reflect a focus on efficiency aimed at decreasing resource waste and increasing responsiveness to market changes (Krasnikov & Jayachandran, 2008; Tan,

Kannan, Jayaram & Narasimhan, 2004). Efficiency is a key operational skill in the outsourcing of logistics (Sinkovics & Roath, 2004). To achieve efficiency the optimization of resources is critical for a logistics provider. Göl and Catay (2007) view optimization as important for planning of routes, loads, vehicles/containers and returnable containers. If the 3PL is able to optimize their operations, then they will be more efficient at carrying out the logistics task.

Operational capabilities also capture the 3PL's ability to effectively carry out the logistics task. For transportation logistics, this includes the timeliness of delivery, ensuring speedy transportation and minimising the overall delivery and transportation time (Göl & Çatay, 2007). It also includes meeting the delivery requirements regarding the quantity and quality of the delivery (Morash *et al.*, 1996; Tan *et al.*, 2004). For warehousing logistics, effectiveness involves intact storage of goods, picking orders accurately, accurate invoicing and labelling and notifying customers of shortages in the warehouse (Lai, Ngai & Cheng, 2002; Zhang, Vonderembse & Lim, 2005).

Cost minimisation is also essential for supply chain and logistics management (Matanda & Schroder, 2002). The ability to undertake the logistics process at a minimal total cost is considered valuable as it decreases waste and reinforces the skills of 3PLs (Morash *et al.*, 1996). For the 3PLs, keeping down the costs related to the fulfilment of the logistics tasks is important for maximising their own profit margins (Wong & Karia, 2009).

Operational capabilities of 3PLs can influence the outsourcing organisation's brand as they reflect the quality of service delivery which impacts on the perceived quality dimension of brand equity (van Riel *et al.*, 2005). Further, the lack of prerequisite operational capabilities can result in negative brand associations, thereby decreasing brand equity and negatively affecting organisational performance. Service quality also contributes to the reputation of an organisation (Ghodeswar, 2008), which may be eroded through poor quality. Thus, based on the above discussion, the following proposition is put forward:

Proposition 3: Operational capabilities of the 3PL influence the performance of the outsourcing organisation.

This proposition is graphically represented in Figure 2.2 as relationship 1.

2.5.4 OUTSOURCING ORGANISATION'S RELATIONAL CAPABILITIES

The need for relationship development between outsourcing organisations and 3PLs has become increasingly important in outsourcing arrangements (Stefansson & Russell, 2008). Given the shift in outsourcing from adversarial transactions to relationships, the development of capabilities around managing b2b relationships has become imperative (Kishore *et al.*, 2003; Stank, Keller & Daugherty, 2001). Even when an outsourcing activity is transferred to providers outside the organisation, collaboration between outsourcing partners still needs to be effectively managed (Hätönen & Eriksson, 2009), and is facilitated by relational capabilities. As the outsourcing organisation is the more vulnerable partner in outsourcing relationships, it needs to take a proactive and leading role in managing the relationship (Yeung *et al.*, 2012). In outsourcing, relational capabilities represent intangible assets that enable good relationships (Croom, 2001; Lages *et al.*, 2009), and integration between organisations (Pfohl & Buse, 2000). Relational capabilities are critical in logistics outsourcing (Chu & Wang, 2012; Hofer *et al.*, 2009); moreover, a well-managed relationship minimises any uncertainty surrounding the 3PL's behaviour in outsourcing relationships (Chu & Wang, 2012).

Successful relationships between outsourcing partners are considered vital (Dyer & Singh, 1998) for communication, information sharing and collaboration (Sinkovics & Roath, 2004). The ability to create and sustain relationships is considered crucial for competitive advantage (Lages, Lages & Lages, 2005; Ling-yee, 2007; Phan, Styles & Patterson, 2005). Relational capabilities allow organisations to correspond, disclose information and work together to achieve common goals (Espino-Rodriguez & Rodriguez-Diaz, 2008; Möller & Törrönen, 2003). Kale, Dyer and Singh (2002) found that organisations which possessed capabilities in managing relationships had a higher market value than those that did not.

Relationship capabilities that are important for outsourcing organisations managing a 3PL include communication and a long-term relationship orientation (Hartmann & de Grahl, 2012). Communication with the 3PL enables 3PLs to acquire a better understanding of customer needs (Krasnikov & Jayachandran, 2008) in order to fully meet those needs (Lai, 2004). Better fulfilment of customer needs increases brand equity and reputation as customer expectations are more likely to be met (Morgan, Kaleka & Katsikeas, 2004) with a more consistent brand experience. Furthermore, communication with the 3PL leads to an increased awareness of the outsourcing organisation's expectations and enhances the likelihood of the

3PL meeting those expectations (Ethiraj, Kale, Krishnan & Singh, 2005; Levina & Ross, 2003). When expectations are met, the outsourcing organisation's brand, reputation and performance are enhanced. A long-term relationship orientation encourages commitment to a relationship (Dwyer & Oh, 1987) and a desire to preserve the relationship (Moorman *et al.*, 1992). A 3PL committed to preserving the outsourcing relationship is more likely to work towards the long-term survival of the relationship and the realisation of common goals (Brown *et al.*, 1995; Lambert, Emmelhainz & Gardner, 1996; Langley *et al.*, 2009). Prior research suggests that long-term orientation results in commitment that enhances the performance of the relationship (Kwon & Suh, 2004; Mohr & Spekman, 1994). Thus, relational capabilities are expected to positively influence the outsourcing organisation's performance because when the outsourcing relationship is effectively managed, the 3PL is more likely to put more effort into the relationship to fulfil the outsourced task and meet expectations. This leads to the next proposition.

Proposition 4: The outsourcing organisation's relational capabilities influence its own performance.

Proposition 4 is illustrated in Figure 2.2 as relationship 2.

2.6 MEDIATING ROLE OF LOGISTICS SERVICE QUALITY ON THE RELATIONSHIP BETWEEN OUTSOURCING PARTNER'S CAPABILITIES AND OUTSOURCING ORGANISATION'S PERFORMANCE

Service quality can be a point of differentiation for an organisation and is related to customers' expectations (Golder, Mitra & Moorman, 2012). Although the literature indicates that no universal definition of quality exists (Reeves & Bednar, 1994), most researchers view quality to be the performance of a product or service relative to an expected standard (Parasuraman *et al.*, 1985). In other words, service quality captures how well the customer (consumer or business) perceives the service was performed compared to their expectations (Parasuraman *et al.*, 1985). Pre-existing expectations are usually influenced by media advertising and other marketing communications from the outsourcing organisation. When services such as logistics are outsourced, this can create problems as the expectations are being set by the outsourcing organisation but the service is delivered by a third party service provider. If the third party service provider delivers a good service experience, the customer

develops positive associations with the outsourcing organisation's brand and is more likely to purchase from the organisation again (Berry, 1995).

Service quality is essential in logistics as the fulfilment of the logistics service is very visible to the outsourcing organisation's end customers (Bienstock *et al.*, 1997). In logistics services, the quality of the service is a key driver of customer satisfaction (Mentzer *et al.*, 1989b). The literature has identified the seven Rs that define good logistics service quality as "the ability to deliver the right amount of the right product at the right place at the right time in the right condition at the right price with the right information" (Mentzer *et al.*, 2001 p.83).

Within the logistics literature, the original service quality dimensions offered by Parasuraman *et al.*, (1985) have been modified to make the dimensions more applicable to the logistics service context. This study adopts Mentzer *et al.*'s (2001) six dimensions of logistics service quality that include personnel contact quality, information quality, order accuracy, order condition, order discrepancy handling and timeliness. Personnel contact quality refers to the extent to which the 3PL's contact employees are customer-orientated (Mentzer *et al.*, 2001). This captures whether the personnel who are dealing with the outsourcing organisation's end customer, have enough knowledge about the outsourcing organisation's products, and their willingness to accommodate the end customer's requirements (Bitner, Booms & Mohr, 1994). Information quality represents how the end customer views the information that the 3PL collects from them and passes on to the outsourcing organisation (Mentzer, Flint & Kent, 1999). Order accuracy reflects whether the order contains the right items, right number of items and no substitute items (Mentzer, Gomes & Krapfel, 1989a). Order condition refers to whether the order is damaged and therefore cannot be used by the end customer (Bienstock *et al.*, 1997). Order discrepancy handling refers to how well requests for order correction are handled (Novack, Rinehart & Langley, 1994). Timeliness indicates whether the orders arrive as promised and on time (Hult, 1998).

The service quality that customers receive affects the customers' overall experiences with the brand (Lievans *et al.*, 2007; O'Loughlin & Szmigin, 2005) and their brand judgements (Dahlstrom & Dato-on, 2004). In a supply chain, all partnering organisations contribute to the quality perceived by the end business customer (Zhu *et al.*, 2007). However, at times it is difficult for the outsourcing organisation to determine the service quality that the 3PL provides to their customer (Crosby, Evans & Cowles, 1990).

The level of logistics service quality that the 3PL can offer depends on the logistics capabilities the 3PL can utilise to deliver the required service and meet expectations (Roth & Jackson, 1995). Customer-focused 3PL capabilities help the 3PL to better understand the service requirements from the perspective of the outsourcing organisation (Bowersox *et al.*, 1999). Information-focused 3PL capabilities facilitate information sharing between the 3PL and the outsourcing organisation regarding the end customers' needs and expectation, so that the 3PL is better prepared to meet these during service delivery (Zhao *et al.*, 2001). Operational 3PL capabilities represent the 3PL's ability to carry out the transportation or logistics function (Göl & Çatay, 2007). These capabilities are critical in allowing 3PLs to undertake the required logistics services and influence the level of quality the 3PL is able to provide.

The logistics service quality provided by the 3PL will in turn affect the market performance of the outsourcing organisation (Kumar, 1999). Prior research on the purchase intentions of business customers found that the service quality the customer received strongly influenced re-purchase intention (Gatti *et al.*, 2012; Rauyruen & Miller, 2007). The ability of an organisation to effectively deliver the service to customers is a key determinant of whether the value proposition of the brand is fulfilled and lived up to (Ballantyne & Aitken, 2007). Since the value proposition points to the brand promises made to customers, it is vital that these propositions are satisfied by the service quality. Service quality has also been shown to determine corporate reputation (Brammer & Pavelin, 2006). This is because the level of service quality provided acts as a cue that signals the reputation of the organisation (Fombrun & Shanley, 1990; Rindova *et al.*, 2005). This leads to the following proposition:

Proposition 5: The logistics service quality provided by the 3PL mediates the relationship between outsourcing partner's capabilities and the outsourcing organisation's performance.

This proposition is depicted in Figure 2.2 as relationships 3.

2.7 ETHICAL INTEGRATION IN OUTSOURCING

Ethical behaviour has become one of the most crucial considerations in the selection of 3PLs (Brown, 2008). When collaborating with each other, organisations cannot assume similarity in perception or expectations with respect to ethical behaviour (Czinkota & Ronkainen,

1998). Well-publicised corporate ethical scandals have highlighted the significant negative consequences of unethical behaviour (Nguyen & Biderman, 2008). For example, Nike and Conoco experienced negative publicity due to the unethical behaviour of overseas outsourcing partners (Carter & Jennings, 2004) which negatively impacted on organisational profits and reputation. Such incidents have highlighted the need to focus on ethics and unethical behaviour of outsourced parties (De Maria, 2010; Kolk & Pinkse, 2010; Windsor, 2009).

The positive impact of a capable outsourcing partner can be mitigated by the lack of ethical integration between the 3PL and the outsourcing organisation, thereby leading to unethical behaviour of the 3PL. As mentioned in Section 2.2.1, opportunistic behaviour occurs at times in outsourcing arrangements (Gneezy, 2005). Unethical behaviour can be a result of the conflicting needs of partners in outsourcing relationships that lead to one partner acting in ways that are detrimental to the other partner (Keep & Schneider, 2010). Such situations often occur as a result of self-interest or self-seeking behaviour when a business partner behaves opportunistically to profit at the expense of the other partner (Das, 2005). Examples of such behaviour include refusing to share information or falsifying information (Gassenheimer, Baucus & Baucus, 1996), overstating capabilities (Boedecker, Morgan & Stoltman, 1991; Deeds & Hill, 1999), supplying inferior quality products (Provan & Skinner, 1989) and neglecting promises or obligations (Das, 2005; John, 1984). Such behaviour can be costly for an outsourcing organisation because it can negatively influence the outsourcing organisation's performance (Carroll, 1991).

A key debate in ethics literature surrounds the question of what is ethical (Brunk, 2010). Most business ethics researchers such as Bendixen and Abratt (2007) and Carroll (1999), draw on Wilson's (1975) definition that ethics is concerned with what is the right or the good thing to do in a given situation. However, such an understanding of ethics does not provide guidelines on how ethical behaviour should be determined. This study uses Bartels' (1967) definition of ethics as setting a standard about the evaluation of what is right and wrong in light of the person who has been effected by the behaviour. This approach to ethics highlights the importance of the customers' perception regarding ethical behaviour. Literature suggests that customer judgements about brands and corporate reputation are increasingly based on the ethical practices and behaviour of the organisation (Schiebel & Pochtrager, 2003; Singhapakdi, 1999). Thus, an organisation that does not manage ethical behaviour in its own

organisation and that of its outsourcing partners may not survive in the long-term (Weisband, 2009).

In logistics and supply chain management, there has been an increased focus on ethics (Fukukawa & Moon, 2004), as most supply chain managers encounter ethical issues on a daily basis (Eltantawy *et al.*, 2009). Supply chain/logistics managers are also exposed to the pressures of the external environment which may cause deviation from ethical norms (Carter, 2000). In outsourcing, cost savings are often a motivator of unethical behaviour (Carroll, 1991), that may lead to decreased quality (Brunk, 2010), or shortcuts in processes (Eltantawy *et al.*, 2009). These issues have negative repercussions for the outsourcing organisation's brand. Therefore, customers have higher expectations that organisations ensure the ethical behaviour of their supply chain partners as well as themselves (Jenkins & Yakovleva, 2006). However, it is becoming harder for outsourcing organisation's to make sure that supply chain partners act in accordance with their corporate social responsibility or ethical initiatives (Faisal, 2010).

To promote ethical behaviour in 3PLs, outsourcing organisations need to outline what is ethical and how ethical behaviour can be achieved in the outsourcing relationship (Buller & McEvoy, 1999) and this can be realised through increased ethical integration between the two organisations. Ethical integration consists of organisational factors (Hunt & Vitell, 2006) such as shared values, ethical culture fit, and congruence between codes of ethics. These aspects of ethical integration are discussed below.

2.7.1 SHARED VALUES

Shared values encourage the development of a shared understanding between organisations (Homburg *et al.*, 2002; Morgan & Hunt, 1994), particularly in terms of ethics. These values act as a guide for both the 3PL and the outsourcing organisation as to what is acceptable behaviour (Schien, 1985). When two partnering organisations have similar organisational values, this promotes coordinated behaviour and reduces uncertainty regarding the behaviour of the partnering organisation (Das & Teng, 1998; Nielsen, 2007). Shared values have been defined as values that represent a collective idea or belief about what is required for organisational success (Gagliardi, 1986). Rokeach (1973) deviates from this definition, stating that values are lasting convictions regarding social acceptability of some behaviours over others. His definition has been supported by Krishnan (2002) who highlights the

important link between behaviour and the enduring effect of values. Therefore, this study will adopt Rokeach's (1973) definition as shared values are considered a dimension of ethical integration.

In outsourcing, values need to be shared so as to influence the behaviour of both parties (Espino-Rodriguez & Rodriguez-Diaz, 2008; Wiener, 1988), and ensure that parties are aware of behavioural expectations within the partnership (Trunick, 1989). In addition, if outsourcing partners embrace shared values, they are less likely to act unethically (Svensson & Wood, 2008), which may lead to a more beneficial relationship (Chatman, 1991). Shared values also increase cooperation and information sharing in b2b relationships (Dyer, 1997), and can enhance the effectiveness of outsourcing relationships (Kale *et al.*, 2002).

Shared values strongly influence ethical behaviour (Fraedrich, 1992; Saffold III, 1988), as they inform individual decision-making and behaviour (Posner & Schmidt, 1992). Shared values provide employees with a framework for acceptable behaviour and the tools needed to make independent ethical decisions (Schiebel & Pochtrager, 2003). As such, shared values contribute to a shared understanding of ethics, thereby leading to a reduced likelihood of unethical behaviour from 3PLs. Further, shared values influence ethical behaviour in outsourcing relationships in conjunction with the other dimensions of ethical integration such as ethical cultural fit and formal system of ethics (Kennedy & Lawton, 1996) which are described below.

2.7.2 ETHICAL CULTURE FIT

An ethical organisational culture is considered pertinent in ensuring ethical behaviour in organisations (Sims, 1991; Sinclair, 1993). Ethical culture, like other forms of organisational culture, drives behaviour (Wood, 2005). An ethical culture requires that ethical considerations are incorporated into every aspect of the business (Robin & Reidenbach, 1987), and also involves ensuring a match between ethical cultures of outsourcing partners (Svensson, Wood, Singh, Carasco & Callaghan, 2009; Wood, 2002). Thus, a fit between outsourcing partners influences the ethical behaviour of the 3PL (Verbos *et al.*, 2007). Congruence in ethical cultures between organisational partners is also viewed as crucial in outsourcing relationships by Wood (2005). Similar cultures in outsourcing are more likely to promote ethical behaviour from the 3PL (Svensson & Wood, 2008). The greater the ethical

integration between the two organisations, the more they share understanding and beliefs regarding ethical behaviour (Kennedy & Lawton, 1996).

A number of extant studies have highlighted the importance of cultural fit in logistics outsourcing (Arroyo *et al.*, 2006; Boyson *et al.*, 1999; Göl & Çatay, 2007; Laarhoven *et al.*, 2000), leading to relationship success (Hemmington & King, 2000; Kale *et al.*, 2002). In organisational partnerships, if two organisations possess congruent organisational cultures, they are more likely to create synergies and work well together (Madhok & Tallman, 1998; Nielsen, 2007). Thus, ethical cultural fit needs to be promoted in inter-organisational relationships (Hendry, 1995) to ensure that the same culture influences the behaviour of the 3PL and the outsourcing organisation (Fedor & Werther Jr, 1995).

The literature offers many different interpretations of organisational culture (Gregory, Harris, Armenakis & Shook, 2009). According to most definitions, organisational culture consists of values and beliefs (Gregory *et al.*, 2009; Kiriakidou & Millward, 2000; Medcof, 1997). Other definitions state that organisational culture influences and drives behaviour in organisations (Fraedrich, 1992; Kiriakidou & Millward, 2000; Serpa, 1985). In this study, we adopt this view and use Fraedrich's (1992 p.14) definition of organisational culture as "...the patterns and rules, the shared values and beliefs, and the traditions that govern behaviour of the organisation and its employees". This definition captures the elements of organisational culture as comprising a collective of values and beliefs guiding individual behaviour.

2.7.3 FORMAL SYSTEM OF ETHICS

Bendixen and Abratt (2007) and Peterson (2002b) found that ethical codes and standards significantly impact on ethical behaviour in outsourcing relationships. Codes of ethics communicate to outsourcing partners the acceptable ethical behaviour (Stead *et al.*, 1990) as well as shared values and their importance in terms of ethical behaviour (Pater & Van Gils, 2003). Schwartz (2002 p.28) defines a business code of ethics as "a written, distinct, formal document which consists of moral standards which help guide employees or corporate behaviour". According to this definition, it seems that business codes of ethics exist as a means by which organisations regulate themselves (Kaptein, 2008a). Trevino and Weaver (2003) suggest that business codes need to describe to organizational members what is considered unethical in a particular context. Codes of ethics also act as a public face for the

corporation (Wood, 2002), indicating the level of commitment that the organisation has towards ethical behaviour (Laczniak & Murphy, 1991; Serpa, 1985; Sims, 1992).

A number of researchers have been critical of the effectiveness of business codes in ensuring ethical behaviour (Cowton & Thompson, 2000; Sims & Brinkmann, 2003; Somers, 2001). Nonetheless, many researchers agree that business codes in general are important as they outline the most pertinent ethical norms for an organisation (Carasco & Singh, 2003; Kaptein, 2008a; Kolk, Van Tulder & Welters, 1999). Empirical studies examining the effectiveness of codes of ethics have produced mixed results. Some reported a significant positive relationship between codes of ethics and ethical behaviour (Embse, von der & Desai, 2004; Valentine & Barnett, 2004), some a weak positive relationship (Peppas, 2003; Stevens, Steensma, Harrison & Cochran, 2005), some found no relationship (Sims & Brinkmann, 2003; Stevens, 2004), and some obtained mixed results (Rodriguez-Garavito, 2005; Singh, 2006). In order to effectively change behaviour, the codes of ethics need to be widely disseminated throughout the organisation or the partnership (Weaver, Trevino & Cochran, 1999).

Creating congruent ethical codes between outsourcing partners increases a shared understanding of what constitutes ethical behaviour and establishes a standard against which the behaviour of the 3PL can be evaluated (Zineldin & Bredenlow, 2003). This indicates the importance of having congruent ethical codes in outsourcing relationships (Bendixen & Abratt, 2007; Roberts, 2001). To preserve ethical standards in b2b partnerships, any acts of unethical behaviour need to be penalised or sanctioned (Fraedrich, 1992). In Australia, corporate codes indicate what is right and wrong as well as the consequences of unethical behaviour (Wood, 2002).

Codes of ethics play a crucial role in ensuring ethical integration between outsourcing partners (Fraedrich, 1992; Stajkovic & Luthans, 1997) by regulating ethical behaviour and creating a more ethical environment (Berenbeim, 2000; Eltantawy *et al.*, 2009). However, the code of ethics alone is not sufficient to guarantee ethical behaviour from an outsourcing partner (Buller & McEvoy, 1999; Lagace, Dahlstrom & Gassenheimer, 1991; Nijhof, Cludts, Fisscher & Laan, 2003). Thus, it is only one dimension of ethical integration and needs to be present together with the other dimensions (Murray, 2003; Svensson *et al.*, 2009) of ethical integration described in this chapter.

2.7.4 THE MODERATING EFFECT OF ETHICAL INTEGRATION

Ethical integration influences the ethical behaviour of 3PLs (Boyd & Webb, 2008). Low ethical integration between outsourcing partners is likely to lead to unethical behaviour from the 3PL (Wood, 2005). This unethical behaviour is perceived by the end customer as stemming from the outsourcing organisation and may affect brand evaluations (Morgan *et al.*, 2007). Customer interface/contact employees, such as 3PLs, are perceived to be important communication channels signalling whether the organisation is ethical (Simmons, 2009). These brand ambassadors can affect the brand's reputation by their behaviour which is perceived as ethical or unethical by the end customer (Gotsi & Wilson, 2001).

Unethical behaviour can be considered as brand misconduct (Huber, Vollhardt, Matthes & Vogel, 2010); it can erode brand image and reputation (Klein, Smith & Andrew, 2004) and negatively impact on brand equity (Dawar & Pillutla, 2000; Schiebel & Pochtrager, 2003). Corporate reputation may also be compromised as unethical behaviour violates the brand promise and the values that the customer associates with the organisation (de Chernatony & Dall'Olmo Riley, 1999; Hemmington & King, 2000). For example, the corporate ethical scandals of Nike and Shell led to the erosion of their corporate reputations (Brunk & Blumelhuber, 2011). Thus, when an organisation behaves unethically, this has repercussions not only on its reputation (van Riel & Fombrun, 2007), but also on its financial performance (Orlitzky, Schmidt & Rynes, 2003; Schiebel & Pochtrager, 2003) and its survival as a business (Grant & Visconti, 2006).

On the other hand, ethical behaviour can improve commitment and customer loyalty (Schiebel & Pochtrager, 2003), attract more investors, boost sales and create better collaboration with suppliers (Lantos, 2001; Parisi & Hockerts, 2008; Pirsch, Gupta & Grau, 2007). If ethical integration is strong, the 3PL is more likely to act ethically (du Plessis, 2008). Ethical behaviour maintains the end customers' relationship with the brand (Simmons, 2009), positively influencing brand outcomes. An organisation displaying more ethically-oriented behaviour develops a more positive brand image in the market (Buchholtz, Amason & Rutherford, 1999; Mares, 2010). Brand equity is sustained or increased because perceived quality and brand associations are maintained. In addition, customers are more likely to remain loyal if their brand expectations are consistently met (Rundle-Thiele & Bennett, 2001).

Ethical integration is expected to moderate the relationship between outsourcing partner's capabilities and the 3PL's logistics service quality as well as the relationship between a 3PL's logistics service quality and the outsourcing organisation's performance. This moderation which occurs at two points is referred to as moderated mediation (Preacher, Rucker & Hayes, 2007). Moderated mediation indicates that the presence or strength of a mediated relationship is conditional upon a moderator being present; for example, if the moderator is high, then the mediated relationship may be stronger. Ethical integration is anticipated to influence the relationship between the 3PL's capabilities and the logistics service quality the 3PL delivers. If ethical integration is low, the 3PL might be motivated to act opportunistically to reduce its own operating costs and not deliver the high service quality according to its real capabilities. Therefore, the lack of ethical integration between the two outsourcing partners is more likely to deter the 3PL from fully utilising its capabilities to produce the best logistics service quality possible as the 3PL can minimise cost by not doing this. If the two organisations have high ethical integration, the 3PL is more likely to act in an ethical manner which means that its capabilities should translate to the service quality because the 3PL knows that this is the right thing to do for the outsourcing relationship. The relationship between the outsourcing organisation's relational capabilities and the 3PL's logistics service quality is also expected to be moderated by ethical integration. If the ethical integration between the two organisations is high, the 3PL is more likely to internalise relationship efforts from the outsourcing organisation and produce higher logistics service quality. The 3PL is also going to be more motivated to preserve the relationship by acting in an ethical manner. Ethical integration is also predicted to moderate the relationship between logistics service quality and the dimensions of the outsourcing organisation's performance (corporate reputation, financial performance and corporate brand equity). This relationship can be moderated by ethical integration because when the end customer judges the logistics service quality they receive from the 3PL, they compare it with the ethical values espoused by the outsourcing organisation. If ethical integration is high and the 3PL's logistics service quality fulfils the brand promise and reputational expectations related to ethics, then the 3PL's logistics service quality will positively influence the outsourcing organisation's performance. If however, ethical integration is low and the logistics service quality the 3PL delivers does not fulfil the brand promise or uphold its reputation, then the 3PL's logistics service quality may have a negative or no effect on the outsourcing organisation's performance. This supports the subsequent proposition:

Proposition 6: The level of ethical integration between the two outsourcing partners will moderate the relationship between 3PL capabilities, the outsourcing organisation's relational capabilities and the dimensions of the outsourcing organisation's performance through the 3PL's logistics service quality.

Proposition 6 is graphically illustrated in Figure 2.2 as relationship 4.

Ethical factors have been found to moderate the relationship between governance and the success of strategic alliances only in case studies of Scandinavian technological firms (Sharma, 1998). However, elements of ethical integration have been used as independent variables in a variety of studies. Douglas, Davidson and Schwartz (2001) found that organisational culture influenced ethical judgments, while Posner and Schmidt (1993) found that it affected ethical behaviour. In addition, corporate culture and enforcement of ethical codes have been found to influence the perceived importance of ethics (Vitell & Hidalgo, 2006). Shared relational norms were found to positively increase performance in global supply chain relationships (Griffith & Myers, 2005). Further, codes of ethics have been found to have a negative relationship with unethical behaviour (Peterson, 2002b), but to have no direct effect on individual ethical decision-making as discovered by Pater and van Gils (2003). This suggests that a combination of organisational factors may be needed to produce ethical behaviour, supporting the notion of holistic ethical integration.

2.8 CONCEPTUAL FRAMEWORK

As identified in Chapter 1, the overall aim of this study is to examine the impact of outsourcing of logistics activities on an outsourcing organisation's performance. This is done by examining the relationship between 3PL capabilities, the outsourcing organisation's relational capabilities and the outsourcing organisation's corporate brand equity, corporate reputation and financial performance, and is depicted in the direct effect relationships 1 and 2 in Figure 2.2. However, this relationship may be mediated by logistics service quality provided by the 3PL. The mediating relationship is illustrated with 3 in Figure 2.2. Ethical integration is proposed as causing moderating mediation, since if the 3PL and the outsourcing organisation are not ethically integrated, this may reduce the effect of capabilities on the outsourcing organisation's performance outcomes. The proposed moderating mediation effect of ethical integration is represented by 4 in Figure 2.2.

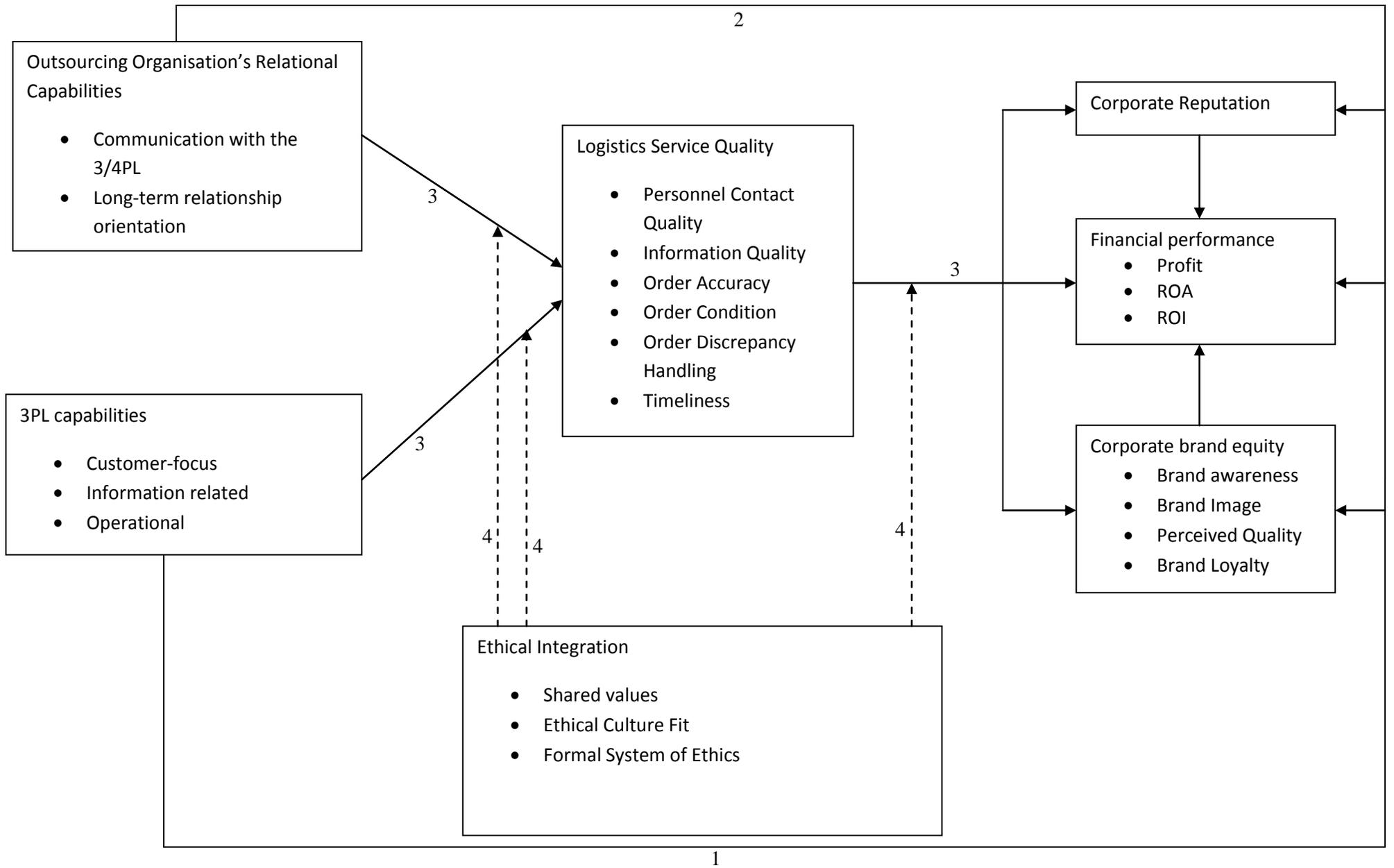


Figure 2.2 Conceptual Framework of the Relationships between Outsourcing Partner's Capabilities, Logistics Service Quality, Ethical Integration and the Outsourcing Organisation's Performance

2.9 CHAPTER SUMMARY

In this chapter, a review of the literature relevant to the main constructs in the current study is presented, together with the supporting theoretical frameworks. The argument behind the proposed relationships has been outlined and the conceptual model depicting these relationships was advanced. In the next chapter, the research context of this study will be discussed.

CHAPTER 3

RESEARCH CONTEXT

3.1 INTRODUCTION

This chapter outlines the research context of logistics services outsourcing in Australia applied in this study. Logistics activities were selected as they represent one of the fastest growing areas in outsourcing (Sanders, Locke, Moore & Autry, 2007). Focusing on a specific outsourcing area provides interesting insights compared to previous studies on multiple outsourcing activities. This is because service providers, capabilities and relationship management are specific to the activity being outsourced. Firstly, logistics activities in Australia and their importance to the economy are discussed. This is followed by an examination of logistics outsourcing in Australia. Finally, different types of logistics activities in Australia are considered. The rest of this dissertation is then focussed on two main logistics activities – warehousing and transportation.

3.2 LOGISTICS ACTIVITIES IN AUSTRALIA

Logistics activities represent the largest sector in the Australian economy, with a GDP contribution of up to 2% more than other sectors in Australia (Australian Freight Councils Network, 2010; Wu, 2006). Logistics is a set of activities or a system rather than an industry in Australia (Bureau of Transport Economics, 2001), as logistics services are utilised by many different industries (Apelbaum, 2007). Whilst there is no universally accepted definition of logistics activities (Freight Transport Logistics Industry Action Agenda, 2002), in the Australian context, for the purpose of this research logistics activities are defined as “the activities required for the movement and handling of goods and materials, from inputs through production to customers and waste disposal” (Bureau of Transport Economics, 2001 p. xi). This definition was adopted as the most appropriate when examining logistics activities in Australia.

The Australian transport and logistics sector is ranked 17th in the world in terms of its economic contribution to GDP (Apelbaum Consulting, 2008). Logistics activities in Australia are both domestic and international and are carried out by both small and large businesses (Bureau of Transport Economics, 2001). According to the IBIS World report (2012), there are 47,185 private organisations undertaking logistics activities in Australia. However, there is no particular industry that accounts for the majority of logistics service needs (Apelbaum, 2007). Many industries require logistics services and use third party or fourth party logistics providers (3/4PLs) (Freight Transport Logistics Industry Action Agenda, 2002). Industries using logistics services range from: “warehousing, utilities, telecommunications, retailing, publishing and printing, professional services, oil and gas, mining and metals, manufacturing, high-tech, healthcare, food service, financial services, consumer goods, chemical, automotive, [to] aerospace and defence” (Computer Sciences Corporation & Supply Chain Management Review, 2004 p. 7). Because of this multi-industry use of both logistics services and 3PLs, this study applied a multi-industry respondent approach and respondents across a number of industries were targeted in order to capture the diversity of industries that outsource logistics activities.

3.3 THE IMPORTANCE OF LOGISTICS ACTIVITIES TO THE AUSTRALIAN ECONOMY

Logistics activities are vital for the Australian market due to the geographic characteristics of the country. There are over 22 million people in Australia (Australian Bureau of Statistics, 2012) widely dispersed across a land mass of 7.70 million square kilometres (Dapiran *et al.*, 1996). Although Australia is the sixth largest country in the world, it has the lowest population density of the developed nations (Fernandez, 2004). A large percentage of the population lives in major metropolitan cities; however, the cities are widely dispersed and there are also a large number of smaller communities spread throughout the country, thereby making distribution and transportation costly but crucial (Dapiran *et al.*, 1996; Transport and Logistics Industry Skills Council, 2009; Victorian Transport Association, 2007).

As a major trading nation, Australia depends on land transport systems to move cargo between major ports and cities (Transport and Logistics Industry Skills Council, 2009), and internationally. Therefore, logistics activities are a crucial determinant of competitive

advantage and revenue for most Australian organisations (Bureau of Transport Economics, 2001). The logistics sector is estimated to represent 14.50 to 14.70% of the GDP (Australian Freight Councils Network, 2010; Australian Logistics Council, 2010; Victorian Freight and Logistics Council, 2010) and contributes around \$130 billion to the Australian economy annually (Australian Freight Councils Network, 2010; Backman, 2010). This sector is also growing at a rate of 6.40% annually (IBISWorld, 2012), pointing to its significant role for future economic development.

The ability to efficiently transport goods nationally and globally is vital for the competitiveness of most Australian organisations (Apelbaum, 2007), as well as for the country's economic progress (Backman, 2010). Logistics activities facilitate the performance of other industries (Bureau of Transport Economics, 2001) by providing greater reach to overseas markets, innovation, and minimisation of cost and waste (Freight Transport Logistics Industry Action Agenda, 2002). Logistics activities increase organisational competitiveness by facilitating timely delivery, and enhancing product and service quality and customer responsiveness, thereby significantly influencing the cost structure and revenues of organisations (Bureau of Transport Economics, 2001). The other important impact of logistics activities in Australia is employment creation, since 1.20 million people work in this sector (Apelbaum Consulting, 2008; Transport and Logistics Industry Skills Council, 2009). These facts indicate that the logistics sector is important to Australia and that any research that leads to making this sector more effective is valuable for the Australian economy.

3.4 OUTSOURCING OF LOGISTICS ACTIVITIES IN AUSTRALIA

Due to low entry barriers and the high bargaining power of customers, there is fierce competition in the logistics sector (Bureau of Transport Economics, 2001). As a result, the number of logistics service providers in Australia is growing, with the number of providers multiplying daily (Lynch, 2010). Environmental drivers (see Section 2.3.1.1) have also led to an increase in the outsourcing of logistics activities (Qureshi *et al.*, 2008). Outsourcing normally involves an external service provider carrying out some or all organisational

logistics activities for an outsourcing organisation (Delfmann & Albers, 2002). The Australian Bureau of Transport Economics (2001) suggests that most organisations that outsource logistics activities utilise a 3PL rather than a 4PL. Thus, outsourcing logistics activities to 3PLs is common in Australia (Freight Transport Logistics Industry Action Agenda, 2002). This establishes the main outsourcing situation that will be examined in this research, that is, the partnership between the 3PL and the outsourcing organisation.

4PLs are also used in the Australian market but less frequently (Freight Transport Logistics Industry Action Agenda, 2002). Prior literature defines 4PLs as facilitators of logistics solutions that find 3PLs for clients without using their own assets and equipment (Victorian Freight and Logistics Council, 2010). Other studies view 4PLs as offering supply chain solutions through both their own organisations and other organisations (Bade & Mueller, 1999; Freight Transport Logistics Industry Action Agenda, 2002; Rushton, Oxley & Croucher, 2000). The current study focuses on 3PL organisations because 4PL organisations often do not actually carry out logistics tasks themselves. Since the aim of this research is to identify how the capabilities of the service provider affect the outsourcing organisation's performance through the logistics service quality they provide, it is necessary to look at 3PLs as they actually undertake the tasks.

There is a lack of industry data regarding the number of 3PL organisations and users of 3PLs that operate in the country (Carlson, 2006; Freight Transport Logistics Industry Action Agenda, 2002; Wu, 2006). The 3PL market is estimated to contribute over \$26 billion to the Australian economy and 4% of the GDP (ALPHA Research Consortium, 2004; Freight Transport Logistics Industry Action Agenda, 2002). In addition, the sector employs around 300,000 people (IBISWorld, 2012). This suggests that 3PLs represents on average 27% of the total logistics activities sector in Australia (Freight Transport Logistics Industry Action Agenda, 2002), with an estimated 12,740 organisations involved in outsourcing relationships (including both outsourcing organisations and 3PLs) (see Figure 3.1).

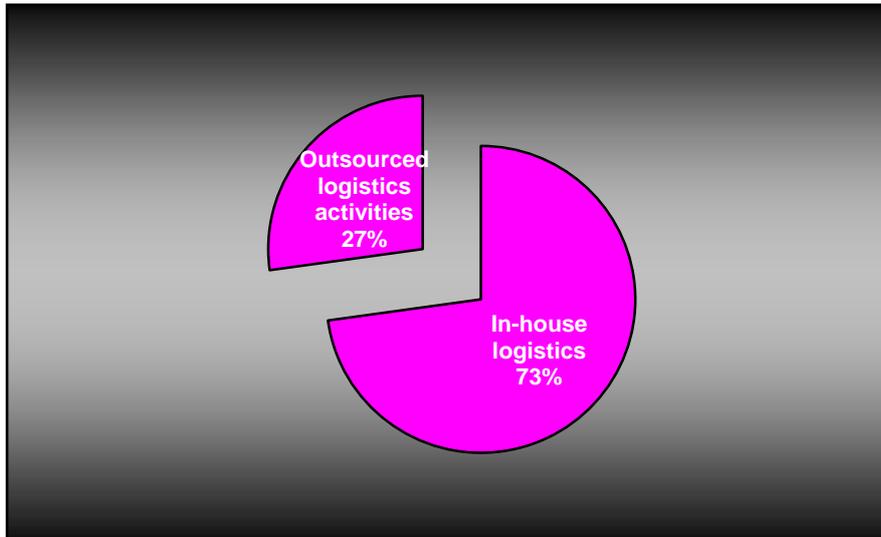


Figure 3.1: Estimated Percentage of Outsourced Logistics Activities in Australia
 (Source: *Freight Transport Industry Agenda (2002)*)

Some of the major 3PL organisations in Australia are Toll Holdings, TNT Australia, and Linfox. These three organisations contribute 25 percent of the logistics sector revenue in Australia (Bureau of Transport Economics, 2001). The market leader of 3PLs Toll Holdings (Fernandez, 2004; IBISWorld, 2012), is a multinational organisation providing a range of specialised logistics services in over 50 countries (Toll Holdings Limited, 2003). TNT Australia is one of the worlds’ largest express freight service companies with 16,100 employees, 17,500 vehicles and 44 aircraft globally (Victorian Freight and Logistics Council, 2009). Linfox is a leader through the Asia-Pacific region (IBISWorld, 2012), with over 14,000 staff, 5,000 vehicles, 260 operating sites and 1.80 million square metres of warehouse space (Victorian Freight and Logistics Council, 2009). Major organisations that outsource logistics include “supermarket groups, other retailers, mining companies, food processors, beverage producers, other manufacturers and suppliers of services” (Bureau of Transport Economics, 2001 p.37).

3.5 DIFFERENT TYPES OF LOGISTICS ACTIVITIES IN AUSTRALIA

Logistics activities can be either broad or limited (O’Conner, 2010). When logistics activities are outsourced, only one or two activities might be involved, or the whole set of logistics activities might be carried out by an external party (Millen *et al.*, 1997; Wong *et al.*, 2000).

The logistics activities in Australia that are mostly outsourced include transportation, distribution, warehousing and storage (Bureau of Transport Economics, 2001; Hertz & Alfredsson, 2003). These activities are also the most important logistics activities for an organisation as they account for the most cost and have a major impact on operations, customer service levels and performance, as indicated in the next two sections. Transportation/distribution and warehousing/storage were combined for the purposes of the research in order to provide a broader perspective of logistics activities outsourcing which could not be achieved if only one of these activities were selected. In addition, as this study is investigating novel concepts, a broader examination of the logistics context allows the development of more generalisations about these relationships in the area of logistics outsourcing.

3.5.1 TRANSPORTATION AND DISTRIBUTION

Transportation facilitates the distribution of goods to business customers once the goods have been completed or have arrived from a supplier. Transportation is considered a key traditional logistics activity (Australian Freight Councils Network, 2010; Freight Transport Logistics Industry Action Agenda, 2002). Transportation often represents the largest component of logistics related costs as it accounts for about 40-45% of logistics costs (Bureau of Transport Economics, 2001). These costs are high because they are influenced by the vast distances traversed in Australia (Dapiran *et al.*, 1996). Transportation also contributes the largest portion (88%) of revenue in the logistics sector of \$48 billion (IBISWorld, 2012).

Effective transportation is essential for the continuity of the supply chain and if transportation fails, then delays and inefficiency occur (Miller-Hooks, Zhang & Faturechi, 2012). Therefore, how well transportation is carried out can affect organisational performance (Hajdul, 2010). Transportation and distribution have become more important as organisations move towards inventory reduction and just-in-time procurement processes (Meixell & Gargeya, 2005), increased online business operations (Crainic, Gendreau & Potvin, 2009), and intensified global operations (Lemoine & Dagnaes, 2003). As a result, the transportation industry has become more competitive (Davies, Mason & Lalwani, 2007). Additionally, increased concern about environmental issues has created pressures in the transportation industry to reduce emissions and environmental impact (Nealer, Weber, Hendrickson & Matthews, 2011).

Transportation connects the buyer and the seller (Coyle, Bardi & Langley, 2002) and is an essential component of good customer service which includes delivering on time, delivery accurate orders and tracking deliveries on route (Miller-Hooks *et al.*, 2012). The role of transportation also includes interaction with end customers who receive the goods being transported/distributed (Stank & Goldsby, 2000). This highlights the importance of the personal interaction between the transport provider and the end customer which is a part of effective transportation services.

The movement of goods, often referred to as freight (Fernandez, 2004), involves transportation both domestically and internationally (Victorian Freight and Logistics Council, 2010). Domestic freight outperforms international freight as can be seen in Figure 3.2 (Apelbaum, 2007). The revenue added to the economy by freight transport was \$9 billion in 2011 (IBISWorld, 2012).



Figure 3.2: Billion Tonnes of Australian Transported Freight between 2004 and 2005
(Source: *Apelbaum (2007)*)

Freight can be transported by air, sea, road or rail (Australian Freight Councils Network, 2010). Road transport is the most common and growing mode used in the country (Freight Transport Logistics Industry Action Agenda, 2002), since most pick-ups and deliveries are either local or regional (Bureau of Transport Economics, 2001). Road transport facilitates the stocking of shelves in the fast-moving consumer goods sector and is also critical for supplying Australian households. However, rail transport is also vital to the logistics sector, particularly for interstate and long-distance travel (Freight Transport Logistics Industry Action Agenda, 2002), but is limited by the location and availability of railway lines in the country (Victorian Freight and Logistics Council, 2010).

Sea freight or shipping is also vital to the Australian logistics sector due to the heavily populated coastal areas and a need for long-distance transport in growing international trade (Freight Transport Logistics Industry Action Agenda, 2002). Though sea freight is primarily central to international trade, domestic shipping is often used between Australian ports (Freight Transport Logistics Industry Action Agenda, 2002). Air freight represents a small part of the Australia transport and logistics sector, but is particularly valuable for goods that are time-sensitive or need to reach the destination quickly (Freight Transport Logistics Industry Action Agenda, 2002).

3.5.2 WAREHOUSING AND STORAGE

Warehousing and storage are also essential logistics activities (IBISWorld, 2012). It is estimated that warehousing costs represent 30 percent of overall logistics costs for most organisations (Pedersen, Zachariassen & Arlbjorn, 2012). These activities are important as they help to lower production and transport costs, and provide flexibility in terms of variation in product demand (Bureau of Transport Economics, 2001). Thus, being able to store goods is important for accommodating demand fluctuations, improving customer service and minimising the time required to deliver goods to the customer (Baker, 2007).

Warehousing and storage, typically referring to a longer storage of goods, relate to inventory management (Apelbaum, 2007) of raw materials, in-process goods, and finished goods (Ackerman & Brewer, 2001). Inventory management critically influences economies of scale by providing an inventory of goods and raw materials for organisations, facilitating longer production runs, and faster response to changes in demand and changes in the goods market (Lambert, Stock & Ellram, 1998). Warehousing reduces risk for organisations and helps to balance supply and demand (McGinnis & Kohn, 1998). Therefore, warehousing and storage decisions have a substantial effect on organisational performance (Frazelle, 2002).

When a 3PL handles inventory management, it may have four broad roles: receiving, storage, order picking and despatch (Ackerman & Brewer, 2001). The 3PL receives the goods from suppliers, which have to be unpacked and stored. In addition, the quality and quantity of these goods often needs to be verified. The actual storage involves the organisation of goods according to lead time to facilitate faster despatch. Order picking involves putting orders together from storage stock, while despatch involves the packaging of the order (Ackerman &

Brewer, 2001). Strategic warehousing facilitates consolidation of goods to put together multi-product orders for the outsourcing organisation (Higginson & Bookbinder, 2005).

Speed is a critical issue in warehousing and storage, as are accuracy and quality control (Ackerman & Brewer, 2001). Some warehouses offer same-day or next-day availability to customers, and this can only be achieved through speed, accuracy and minimal product damage in the warehouse (Baker, 2004). Technological advances allow information to be exchanged faster, facilitating the tracking of orders and inventory, and allowing many activities to be carried out by the warehouse. These advances mean that an inventory can be updated quickly, which decreases costs for the outsourcing organisation (Waters, 2001).

The outsourcing of warehousing operations means that organisations can save on fixed capital investments required to purchase land, build warehouses, purchase equipment and train staff (Gill, 2009). Therefore, when warehousing is outsourced, the outsourcing organisation incurs a variable rather than a fixed cost which is based on its changing warehousing needs. Modern warehousing and storage functions also play a strategic role as they can provide value-added services such as labelling or pricing of goods, cross-docking (where goods are moved from one vehicle to another without being stored), sorting, break-bulk and assembling of goods, allowing the customer to return goods to the warehouse or providing product repairs for customers (Maltz & DeHoratius, 2004), at an additional cost.

3.6 CHAPTER SUMMARY

This chapter presented an overview of the research context for the research project. It gave some insight into the logistics sector in Australia, its importance for the Australian economy, and the outsourcing of logistics activities in Australia. The chapter emphasised the foundation of the environment that the sampling procedures used to collect data within this sector. A number of industry publications were relied on to describe the logistics sector in Australia and the current logistics outsourcing situation. Although publications such as Apelbaum (2007) give some insight into the industry, they do not tackle the focal research problem addressed in this study, that is, of investigating the effect of outsourcing on the outsourcing organisation's performance dimensions such as corporate reputation, financial performance

and corporate brand equity. The next chapter describes the research methodology utilised in this study to address the research problem.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

The aim of this chapter is to outline how the research was carried out and why the chosen methodology was considered as the most appropriate for this study. In particular, the research methodology utilised to examine the research questions and hypotheses presented in Chapters 1 and 2 is discussed. The chapter is comprised of the following parts: the research design, data collection process, sampling procedures, development of measures, development of the questionnaire, data preparation, measurement purification and ethical and confidentiality considerations.

4.2 RESEARCH DESIGN

The research design is a plan of methods and procedures used to collect and analyse data, to address the research problem and guide research (Malhotra, 2010). The research objectives in this study influenced the research design (see Chapter 1 Section 1.4). The researcher also considered the data that would be the most suitable for testing the proposed hypotheses (Slater & Atuahene-Gima, 2004). The research design identified the target population, sampling procedures, data collection methods, data requirements, measurement and questionnaire design, and data analysis (Malhotra, Hall, Shaw & Oppenheim, 2008).

In this study, both exploratory and descriptive research designs were used, as these seemed more appropriate for addressing the research objectives. These designs are discussed in more detail in the following sections.

4.2.1 EXPLORATORY RESEARCH

Exploratory research is aimed at providing insight and understanding into the research problem (Zikmund, Ward, Lowe, Winzar & Babin, 2011), and is considered appropriate for

investigating an area or issue where deeper understanding is needed (Brunk, 2010). Further, exploratory research is useful in identifying the underlying causes of phenomena and discovering previously unknown information (Espino-Rodríguez & Padrón-Robaina, 2005). Often, exploratory research is an important first step that guides subsequent descriptive or causal research (Espino-Rodríguez & Padrón-Robaina, 2005; Hair, Lukas, Miller, Bush & Ortinau, 2008) and facilitates a clearer identification of the problem and selection of an appropriate follow-up method (Malhotra *et al.*, 2008). However, one major limitation of this research design is that it often involves a small and usually, non-representative sample, thereby making it difficult to generalise the findings (Aaker, Kumar, Day & Leone, 2010).

In this study, exploratory research was used to collect data through in-depth interviews with 15 top management executives responsible for logistics functions that were critically placed to answer questions about outsourcing relationships in outsourcing and 3/4PL organisations in Australia. To provide a more comprehensive understanding of the logistics processes, respondents were recruited from multiple industries (Parsons, 2002; Razzaque & Sheng, 2002). A semi-structured interview guide was developed on the basis of the literature review and adapted as new concepts came to light during the interview process (Strauss & Corbin, 2008). The use of a semi-structured format ensured all respondents were asked the same set of questions whilst allowing probing to explore emerging constructs (Wagner & Hoegl, 2006). Interviews were undertaken until no new concepts emerged, indicating theoretical saturation (Geiger & Turley, 2005; Strauss & Corbin, 2008), this was achieved at interview number 15. The duration of in-depth interviews ranged from 75 to 90 minutes and were conducted either face-to-face or over the telephone between November and December, 2010. All interviews were tape-recorded and transcribed verbatim.

The exploratory approach yielded some valuable insights on the applicability of the study to the research context and relevance of the results to managers. The in-depth interviews also informed the development of measures for the quantitative survey. This approach has been used in similar research (see Beugelsdijk, Koen & Noorderhaven, 2009; Davis *et al.*, 2008; Morris & Carter, 2005; Sinkovics & Roath, 2004).

The data collected during this exploratory phase is presented in Chapter 5. These qualitative results served as a useful starting point and guide to the subsequent descriptive research and are presented below.

4.2.2 DESCRIPTIVE RESEARCH

Descriptive research design is commonly used in marketing to draw inferences about relationships between organisations, customers, and other stakeholders (Hair, Black, Babin & Anderson, 2010). It involves the application of formal research procedures to collect data that can be used to determine and describe associations between variables (Lukas, Hair, Bush & Ortinau, 2004). It also makes use of quantitative data collection procedures from large and representative samples (Aaker *et al.*, 2010).

A descriptive research design was deemed appropriate for this study as it facilitated the testing of relationships between the independent variables, such as: 3PL and outsourcing organisation capabilities; the mediating effect of logistics service quality; the moderating effect of ethical integration; and dependent variables, such as corporate reputation, financial performance, and corporate brand equity (Malhotra *et al.*, 2008). The formal and structured design of descriptive research facilitates the testing of hypotheses and yields generalisable results (Aaker *et al.*, 2010). The descriptive design assumed prior knowledge of the research problem, as it utilised the preliminary findings from the exploratory research phase and literature review (Zikmund *et al.*, 2011).

4.2.3 TRIANGULATION

Methodological triangulation was used to help overcome the limitations of different research methods (Mangan, Lalwani & Gardner, 2004). In this study, methodological triangulation was achieved by applying both exploratory and descriptive research designs and collecting both qualitative and quantitative data. This study deals with intermediate theory which, according to Edmondson and McManus (2007), is the most appropriate for methodological triangulation. Intermediate theory usually involves the introduction of new constructs, such as ethical integration, and the testing of relationships between the new construct and established constructs (i.e. capabilities, corporate brand equity, service quality, financial performance) (Edmondson & McManus, 2007). The use of both qualitative and quantitative research approaches provided a deeper understanding of the new construct, thereby assisting in the development of measures for the new construct, and allowing initial testing of proposed relationships within the research context before large scale data collection was undertaken (Yauch & Steudel, 2003).

4.3 SURVEY RESEARCH

A survey methodology was the main method of primary data collection in the current study. This methodology is most frequently applied in descriptive research (Hair *et al.*, 2010) and commonly used in outsourcing research (Arroyo *et al.*, 2006; Beaumont & Costa, 2002; Cho *et al.*, 2008). A survey is defined as distribution of a questionnaire to a defined population (Dillman, 2000). The questionnaire can be self-administered or administered by a researcher. With self-administered questionnaires, the respondent fills out the survey independently (Zikmund *et al.*, 2011). These questionnaires, such as the ones used in this study, consist of structured questions designed to obtain perceptions from samples drawn from a population, which are then statistically analysed (Kenett, 2006). Self-administered questionnaires are the most commonly utilised research tool in organisational research (Dillman, 2009; Kraut, 2006).

Survey research design has a number of benefits. It is easy to implement and economical (Malhotra *et al.*, 2008), allowing a large sample to be reached (Aaker *et al.*, 2010). Surveys can also be standardised so that the same questions, information and possible answers are presented to respondents to obtain reliable answers (Howell, 2009). Survey methodology allows the research to be more objective as it minimizes the imposition of the researcher's values on the survey responses (Aaker, Kumar, Day & Lawley, 2005), and facilitates data analysis as it uses simple coding (Malhotra & Birks, 2007) and accurate measures that can capture concepts under study.

Cross-sectional survey design was selected for this study. Jap and Anderson (2004) define a cross-sectional survey as one that collects all data at a single point in time. Cross-sectional research was more appropriate than longitudinal research for this study as the study aimed to examine outsourcing relationships at a point in time. Also, cross-sectional studies are more cost effective and commonly used in marketing (Beugelsdijk *et al.*, 2009; Jap & Anderson, 2004). Nonetheless, cross-sectional surveys have limitations such as common method variance, which will be discussed in more detail in Section 4.7.4.2.

A combination of mail and electronic surveys was used to collect data. Using the traditional mail survey approach, structured questionnaires were posted to a selected sample of respondents (Aaker *et al.*, 2010), who were requested to complete the questionnaire and mail it back (Malhotra, 2010). This survey format facilitated access to a large number of

respondents and enabled them to complete surveys at their convenience (Aaker *et al.*, 2005). A total of 3000 mail surveys were sent to supply chain, operations, manufacturing and logistics managers whose company contact details were obtained from a mailing list purchased from Dun and Bradstreet. Dun and Bradstreet is an organisation in Australia that collects information and sells mailing lists. The limitations of mail surveys can include: cost, respondent fatigue from long surveys (Greer & Chuchinprakarn, 1999), increase in data collection time (Kolb, 2008), low response rates (Visner, Krosnick & Lavrakis, 2000) and non-sampling error as the researcher has no control over who actually completes the survey (Jobber, Saunders & Mitchell, 2004). To minimise the limitations of traditional mail surveys, electronic surveys were used in combination with traditional mail surveys.

Electronic surveys involve the use of the internet and/or email to survey respondents (Malhotra *et al.*, 2008). In this study, the survey was posted online using Qualtrics, and a URL was provided to respondents (Aaker *et al.*, 2010), who submitted the completed questionnaire directly online. Electronic surveys were used to supplement mail surveys as the internet has become the primary means of data collection in Australia (Reynolds, Sharp & Anderson, 2009), with internet penetration being over 90 per cent in organisations (Australian Bureau of Statistics, 2010). There are a number of benefits of using email surveys. For instance, email surveys are less expensive than traditional mail surveys (Dillman, 2000; Pater & Van Gils, 2003) as they decrease the time needed to collect data (Slater & Atuahene-Gima, 2004). This study used email surveys to increase response rates as the online questionnaire was easier and faster for managers to complete (Pater & Van Gils, 2003). In addition, email surveys facilitated the direct transfer of data from the questionnaire to data analysis software packages such as SPSS, thereby decreasing data entry error (Malhotra & Birks, 2007). As the aforementioned Dun and Bradstreet mailing list did not contain managers' email addresses, these were obtained from company websites. A total of 300 email surveys were sent out. The limitations of email surveys include risk of being disregarded as spam mail (Lukas *et al.*, 2004) and poor quality data as managers at times just rush through the questions (Malhotra *et al.*, 2008). Thus, a combination of mail and email survey approaches was considered appropriate as prior research has found small or insignificant differences in the responses (Saunders, 2011).

To overcome and mitigate the drawbacks of survey research, a number of procedures were carried out. As recommended by prior research (Kim & Cavusgil, 2009; Matanda &

Schroder, 2002; Parmigiani & Mitchell, 2009), in the current study key informants were used to ensure accuracy of responses. This will be discussed in detail in Section 4.3.3. Further, a professional cover letter/email was included with the survey to inform respondents about the purpose of the research, the importance of their participation and what they could gain from the results obtained from the research (Hair *et al.*, 2010). Before the surveys were mailed out, about ten percent of respondents were contacted by phone to inform them of the study and invite them to participate in order to increase the response rate. As suggested by Davis *et al.*, (2008) and Morris and Carter (2005) follow-up letters/emails were sent four weeks after the initial survey mail-out. The reminders have resulted in an increase in response rates in past studies (Greer & Chuchinprakarn, 1999; Knemeyer & Murphy, 2005; Sinkovics & Roath, 2004). In this study, the reminders increased the response rate by 50 percent. The response rate obtained after factoring in the percentage of the organisations in the mailing list likely to outsource logistics activities was 20 percent. To increase the perceived benefits and decrease the perceived costs of filling out the survey, and increase response rates, respondents were also offered a summary of the research results (Beugelsdijk *et al.*, 2009; Goo, Kishore, Rao & Nam, 2009).

4.3.1 STUDY CONTEXT AND INDUSTRY

The context of the study specifies the geographic region where a study is undertaken (Dillman, 2000). This study was carried out in Australia in firms that outsource logistics activities to 3PLs. Since logistics can be outsourced from organisations in multiple industries (see Chapter 3), this study implemented a multi-industry approach, and the sample was drawn from industries such as manufacturing, fast moving consumer goods, etc. A multi-industry approach allowed a more comprehensive understanding to be acquired of the issues pertinent to this research (Parsons, 2002; Razzaque & Sheng, 2002).

4.3.2 UNIT OF ANALYSIS

The unit of analysis refers to the level of aggregation at which the data is collected (Bryman & Bell, 2007). The unit of analysis in this study was at the outsourcing relationship. This unit of analysis was considered appropriate because the research question attempts to understand the relationships between organisations and because the qualitative study results indicate that this was the appropriate level of aggregation.

4.3.3 SURVEY RESPONDENTS – KEY INFORMANTS

This survey was sent to key informants within the respondent organisation. The use of key informants was necessary for this study as the person surveyed needed to be knowledgeable about the outsourcing activities of an organisation (Slater & Atuahene-Gima, 2004). The use of uninformed respondents can lead to confounding and misguided conclusions (Goo *et al.*, 2009). Key informants also represent an abundant source of information about the organisation and its processes due to their specialised skills and their position in the organisation (Kumar, Stern & Anderson, 1993; Li & Atuahene-Gima, 2002); moreover, they can provide information that would otherwise be difficult to acquire and record (Gregory *et al.*, 2009). Additionally, key informants often have regular interactions with key customers and/or key suppliers (Morris & Carter, 2005), and therefore can provide insight into the constructs being studied (Parmigiani & Mitchell, 2009). Key informants are regularly used in organisational research, particularly when specific information is needed regarding culture and branding (Gregory *et al.*, 2009; Gupta, Shaw & Delery, 2000), and are considered appropriate for research on outsourcing, logistics and supply chain management (Jiang & Qureshi, 2006; Kim & Cavusgil, 2009; Seggie *et al.*, 2006). Additionally, the use of key informants has increased response rates in prior research as most respondents are confident of completing the questionnaire and therefore are motivated to do so (Kumar *et al.*, 1993).

Respondents from outsourcing organisations, such as top management executives, and supply chain, operations, marketing, branding and logistics managers, were targeted as key informants. These managers provided perceptual managerial data on the constructs under study. The use of perceptual managerial data in the measurement of branding outcomes and organisational relationships is supported by the literature (Beugelsdijk *et al.*, 2009; Jiang & Qureshi, 2006; Seggie *et al.*, 2006; Tran & Cox, 2009), as organisations often survey their business customers to support decision-making (Hastak, Mazis & Morris, 2001; van Riel & Balmer, 1997). In addition, a number of researchers have found congruency between managers' assessment of organisational performance and archival data (Dess & Robinson, 1984; Keats & Hitt, 1988; Shortell & Zajac, 1990). As a result, perceptual managerial data has been found to be reliable and useful in assessing organisational performance (Beugelsdijk *et al.*, 2009; Van Bruggen, Lilien & Kacker, 2002). Thus, perceptual managerial data was used to capture the outsourcing organisation's performance in this study as this information would not otherwise have been obtainable.

Nonetheless, there are some limitations to using key informants such as informant bias and random error (Kumar *et al.*, 1993). Informant bias can be mitigated by selecting respondents who hold similar positions in the organisation, so as to ensure that informants have similar access to information about organisational activities. To minimise random error, informants were guaranteed confidentiality and anonymity of information (Peterson, 2002a), as confidentiality increases response rates (Greer & Chuchinprakarn, 1999). The assurance of anonymity encouraged respondents to provide more impartial and truthful answers, particularly when discussing sensitive issues such as ethics (Vardi, 2001). In addition, random error was minimised by convincing informants of the importance of the study so as to elicit more accurate responses (Beugelsdijk *et al.*, 2009). To ensure the data was gathered from respondents that possessed the required knowledge, a question was posed at the end of the questionnaire to allow respondents to express their confidence in providing informed answers to the survey as recommended in prior research (Kumar *et al.*, 1993; Van Bruggen *et al.*, 2002). This view is also supported by other researchers (Gebauer, 2007; Matanda & Schroder, 2002; Ryu, 2006), and is thought to improve the validity and reliability of the data collected. The measure utilised a 7-point Likert scale (1 = *not at all confident*; 7 = *extremely confident*), expressed as:

Please indicate your confidence with the answers you have provided.

“I have sufficient knowledge of my organisation’s logistics outsourcing relationships to complete this questionnaire”

Likert scale responses equal to 4 or above were considered to reflect the respondents’ confidence in having the necessary knowledge to complete the survey (Kumar *et al.*, 1993). In this study, none of the respondents gave a response below 4 on the above question, indicating that all study respondents had confidence in their ability to provide the right information to answer the survey.

4.3.4 SAMPLING PROCEDURES

Sampling is the process of selecting a small number of elements from a population of interest so as to deduce something about the whole population (Aaker *et al.*, 2010). Sampling allows the relationships found in the sample to be generalised to the population as the sample is representative of the larger population (Slater & Atuahene-Gima, 2004). In order to derive

this sample from a population, the sample frame, sampling technique and sample size need to be determined (Malhotra *et al.*, 2008).

4.3.4.1 SAMPLING FRAME

To undertake sampling, the researcher needs to explicitly define the target population (Shah & Goldstein, 2006). A sampling frame, or “...a list of population members used to obtain a sample” needs to be determined (Aaker, Kumar & Day, 2007 p. 382) as this improves the validity and reliability of the research (Malhotra, Hall, Shaw & Oppenheim, 2010). In this study, the sampling frame was drawn from two sources: a mailing list of Australian organisations obtained from Dun and Bradstreet containing the contact information of 3000 companies, and a supplementary list found on the internet with publically available information of 300 organisations which outsourced logistics. In the next section, the sampling procedures used in this study are discussed.

4.3.4.2 SAMPLING TECHNIQUE

Researchers have identified a number of ways that sampling can be undertaken (Bryman & Bell, 2007). The most common is to categorise sampling methods into probability and non-probability sampling (Kenett, 2006). This study used probability sampling that ensures all members of the population have an equal chance of being included in the sample (Zikmund *et al.*, 2011). As there was no list available of Australian organisations outsourcing logistics, a random list of 3000 Australian organisations obtained from Dun and Bradstreet as mentioned in Section 4.3 was used. Probability sampling has been identified as the most appropriate sampling technique in survey research (Bryman & Bell, 2007; Dillman, 2000), as it assumes randomness in the selection of the sample to avoid bias that can arise from the use of non-probability sampling procedures (Kolb, 2008), thereby eliminating variance that can be introduced by researcher selection (Aaker *et al.*, 2007). The section below discusses the sample size used in the study.

4.3.4.3. SAMPLING SIZE

Though there is a lack of complete information regarding the number of organisations outsourcing logistics services in Australia, approximately 16,108 organisations are involved in the outsourcing of logistics activities (see Chapter 3). It is estimated that at least a third (approximately 5369) of these organisations outsource some form of logistics functions.

When utilising structural equation modelling (SEM) for data analysis, the sample size should be equal to a minimum of ten times the number of variables in the model (Hair, Andersen, Tatham & Black, 2006; Shah & Goldstein, 2006). The model in this study has 19 manifested variables representing 7 latent constructs; therefore, based on these guidelines, a minimum sample size of 190 was needed. The sample size obtained in this study was 242. This meets the recommended sample size of at least 200 to use SEM for data analysis (Frazier, Tix & Barron, 2004; Hair *et al.*, 2010). In the following section, the development of measurement scales used in the questionnaire is outlined.

4.4 DEVELOPMENT OF MEASURES

This study intended to examine the effect of 3PL and outsourcing organisation's capabilities, logistics service quality and ethical integration on the outsourcing organisation's corporate reputation, financial performance and corporate brand equity. The scales of all of these constructs except ethical integration were adapted from prior literature and tailored to the needs of the study as recommended by Lai (2009) and Matanda and Schroder (2002). As there was no existing measurement scale for ethical integration, a new scale was developed using existing scales for the various dimensions of ethical integration and the results from the exploratory research and then purifying the scale using industry and academic experts, following the procedure recommended by Churchill (1979). In the following sections, the measurement items for each construct are discussed.

4.4.1 LOGISTICS CAPABILITIES MEASURES

A range of logistics capabilities have been measured in previous studies (Carlsson, 2008; Cho *et al.*, 2008; Sinkovics & Roath, 2004). However, there is a lack of holistic measurement in literature of the logistics capabilities of 3PLs. The six dimensions of 3PL capabilities have been identified as: customer-focus (Stank & Lackey, 1997; Zhao *et al.*, 2001), responsiveness (Kim & Cavusgil, 2009; Morris & Carter, 2005), flexibility (Shang & Marlow, 2005; Sinkovics & Roath, 2004), information-sharing (Closs, Goldsby & Clinton, 1997; Zhao *et al.*, 2001), connectivity between information systems (Campo, Rubio & Yague, 2010; Zhao *et*

al., 2001) and operational capabilities (Lai *et al.*, 2002; Zhang *et al.*, 2005). The measurement of these six dimensions of 3PL capabilities are discussed below.

4.4.1.1 CUSTOMER-FOCUS CAPABILITY

A combination of scales from Zhao, Droge and Stank (2001), and Stank and Lackey (1997) were used to capture the 3PL's focus on the customer of the outsourcing organisation and its ability to provide a service that meets the outsourcing organisation's customer needs. These two existing scales were previously utilised in the supply chain context and showed high reliability (see Table 4.1).

4.4.1.2 RESPONSIVENESS CAPABILITY

The measure for responsiveness was adopted from three sources: Kim and Cavusgil (2009), Morris and Carter (2005), and Lai (2004). A combination of these scales best captured the three elements needed for responsiveness capability: the change, willingness to change and changing in a timely manner. All three scales showed high reliability in the supply chain context in their previous use and were concise and easy to understand (Kim & Cavusgil, 2009; Lai, 2004; Morris & Carter, 2005). These previous reliabilities are shown in Table 4.1.

4.4.1.3 FLEXIBILITY CAPABILITY

In the current study, the existing scales from Sinkovics and Roath (2004), and Shang and Marlow (2005) were used to capture flexibility (see Table 4.1). These scales have been developed in the logistics context and seemed to comprehensively capture flexibility in this context when combined. The individual measures did not possess enough of the right items to capture this element of a 3PL's flexibility in terms of the needs of the outsourcing organisation.

4.4.1.4 INFORMATION SHARING CAPABILITY

To capture the information sharing capability of 3PLs, a measure was needed that differentiates between operational and strategic information and the IT database needed to facilitate information sharing. These elements were all captured by the existing measure of information sharing from Zhao *et al.*, (2001). The previous reliability for this measure is provided in Table 4.1. However, information sharing is not just about routine; it may require

some non-routine information sharing at the request of the outsourcing organisation. Thus, one item from Closs, Goldsby and Clinton (1997) was added to the information sharing capability scale to facilitate the measuring of access to information when desired. However, this item has not been empirically assessed in prior research.

4.4.1.5 CONNECTIVITY BETWEEN INFORMATION SYSTEMS CAPABILITY

To facilitate information flow between organisations, there must be a connection between the information systems of outsourcing partners. To capture this ability of the 3PL to provide IT systems that readily connect with those of the outsourcing organisation, an existing scale from Zhao *et al.*, (2001) was used as it comprehensively captured this capability and showed high reliability as indicated in Table 4.1.

4.4.1.6 OPERATIONAL CAPABILITY

There were no specific measures of logistics operational capability identified in existing literature. However, a number of measures used in prior research (see Lai *et al.*, 2002; Morash *et al.*, 1996; Shang & Marlow, 2005; Zhang *et al.*, 2005) were combined in order to measure the relevant skills needed for logistics activities such as transportation, warehousing and storage as identified in Chapter 3. The resulting scale captures the dimensions that interviews with respondents in the exploratory research revealed to be the most crucial for 3PLs to deliver the prerequisite logistics activities. All measurement items adopted from existing scales exhibited high reliability in previous studies (see Table 4.1) and were specific to the logistics context.

4.4.2 OUTSOURCING ORGANISATION'S RELATIONAL CAPABILITIES

Relational capabilities that are relevant to outsourcing relationships consist of communication and long-term relationship orientation. These two variables have been operationalised by Lages, Silva and Styles (2009). This measure was adopted for the current study as it effectively captures the views of respondents in the exploratory study. As Table 4.1 indicates, this scale exhibited high reliability in Lages *et al's.*, (2009) study of relationships in the exporting industry.

4.4.3 LOGISTICS SERVICE QUALITY

To determine whether customers' expectations are met, prior research has measured service quality by examining the characteristics of the service provided (Grant, 2004; Harding, 1998). Literature reflects a number of different operationalisations of service quality. For example, Parasuraman, Zeithaml and Berry (1985) originally suggested that service quality consists of: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding and tangibles. Brady (2001), on the other hand, proposes three service quality dimensions: interaction quality, physical environment, and outcome quality. Interestingly, these and other dimensions of service quality have been criticised as being less valid in a b2b setting (Gounaris, 2005). Consequently, Gounaris (2005) proposed a measure of service quality in the b2b setting comprised of potential quality, soft quality, hard quality, immediate output and final output quality. Whilst this measure seems to adequately capture service quality within the b2b context in general, it may not necessarily capture the required service quality dimensions relevant to logistics services (Mentzer *et al.*, 1989b).

Mentzer, Flint and Kent (1999) developed a measure of logistics service quality to capture both the importance of the physical distribution and an understanding of customers' perceived value. This measure captures the significance of both the physical delivery of products and the contact with the customer during the actual service delivery. As a result, Mentzer, Flint and Hult's (2001) measure was adapted for the current study to capture personnel contact quality, information quality, order accuracy, order condition, order discrepancy handling, and timeliness. These dimensions have been identified as important for logistics service quality in past research (Bienstock *et al.*, 1997; Mentzer *et al.*, 1999), and also reflect the service quality dimensions that emerged from in-depth interviews in the exploratory study discussed in Chapter 5, as it focuses on assessing the service quality provided by the 3PL. For the previous reliability of this scale, see Table 4.1.

However, some researchers have pointed out that the measure of service quality from Mentzer, Flint and Hult (2001) does not accurately capture logistics service quality. Thus, two extra items from Stanley and Wisner (2001) were added to capture order condition and explanation-of-lateness dimensions. However, the measure still did not seem to completely capture logistics service quality, in particular the attitude of service personnel, customer service and the speed of discrepancy handling; hence, three more items from Harding (1998)

were added. Three additional items were taken from Rafele (2004) to depict correct labelling and invoicing as well as deliveries arriving in full. When combined, these scales showed a holistic portrayal of logistics service quality that appeared to effectively capture both transportation and warehousing factors.

4.4.4 CORPORATE REPUTATION

To measure corporate reputation, a combination of existing scales from Caruana (1997) (four measurement items) and Nguyen and Leblanc (2001) (two measurement items) were used to capture the elements of an organisation which include: being well known, the value associated with products/services offered, fulfilment of customer promises, and maintaining standards. These elements appear to measure the overall reputation of the outsourcing organisation. Table 4.1 indicates the previous reliability of the scales adapted for the current study.

4.4.5 FINANCIAL PERFORMANCE

Shang and Marlow's (2005) well accepted measure of financial performance was used in this research to capture the three commonly used dimensions of performance: profit, return on assets (ROA), and return on investment (ROI). For a previous reliability measurement of this scale, see Table 4.1. The use of these performance dimensions as a broad indication of how well the organisation is performing is supported by Venktraman and Ramanujam (1986). Gilley and Rasheed (2000) argued that these performance dimensions are useful in determining the effect that outsourcing relationships have on the overall effectiveness of the outsourcing organisation. However, these measures of performance do have some problems. Ottosson and Weissenreider (1996) argue that these performance measures may be affected by biases in accounting or by asset acquisition and investment decisions. These measures can also be affected by things outside the outsourcing relationship. To overcome these limitations, the respondents were requested to consider changes in these measures resulting from the outsourcing of their logistics activities to their most important 3PL.

4.4.6 CORPORATE BRAND EQUITY

The relevant dimensions of corporate brand equity that needed to be captured include brand awareness, brand image, perceived quality and brand loyalty (see Chapter 2, Section 2.4.1.1).

Though a number of composite measures of brand equity exist in the literature (Davis *et al.*, 2009; Davis *et al.*, 2008; Kim & Cavusgil, 2009; Seggie *et al.*, 2006; Yoo *et al.*, 2000), none appeared to completely capture all the required elements of brand equity. Therefore, in this study, each dimension was considered separately so as to determine the best measure and ensure that each facet of corporate brand equity was captured.

4.4.6.1 BRAND AWARENESS

Two existing scales from Davis *et al.*, (2009) and Gill and Dewra (2010) were combined to measure brand awareness in the current study. Davis *et al.*'s (2009) measure was selected as it exhibited high reliability (see Table 4.1) and was also verified as being relevant by a panel of managers from 3PL organisations, and branding and logistics researchers in their study of logistics. Two additional items were adapted from Gill and Dewra (2010) to make the measure more comprehensive and capture customers' knowledge of what the brand stands for and whether they have a positive opinion of the brand.

4.4.6.2 BRAND IMAGE

In this research, a composite of three existing scales adapted from Davis *et al.*,(2009) Michell, King and Reast (2001) and Nguyen and Leblanc (2001) was used to measure brand image. Together, these scales comprised items that captured respect, impression, and looking after trade partners within the outsourcing relationship. Since Michell *et al.*, (2001) found differentiation to be part of brand image, this rationale was included in this study. However, since Michell *et al.*, (2001) did not empirically test this measure, an indication of the reliability of the measure was unavailable (see Table 4.1).

4.4.6.3 PERCEIVED QUALITY

The existing scale from Kim and Kim (2005) was used as the foundation for measuring perceived quality in this study. This measure has demonstrated high reliability in prior research as illustrated in Table 4.1, and adequately captures the service context in the hospitality industry (Kim & Kim, 2005). Nonetheless, two additional items critical for the b2b setting were added from Juntunen, Juntunen and Juga (2011): the customer's ability to predict performance and being a leading brand.

4.4.6.4 BRAND LOYALTY

Most measures of brand loyalty emerge from the b2c rather than the b2b context. Therefore, a measure of brand loyalty from the b2b setting was utilised (van Riel *et al.*, 2005) and an additional item was added from Juntunen *et al.*, (2011), as suggestions from the respondents during the exploratory study indicated that the willingness to pay a higher price reflected brand loyalty. Table 4.1 indicates the previous reliability of these scales.

4.4.7 ETHICAL INTEGRATION

Ethical integration as a latent variable has not been previously measured in prior research as far as the researcher is aware. However, the proposed dimensions of this construct - shared values, ethical culture fit, and formal system of ethics - have been previously measured in the studies outlined below. Thus, existing scales of these constructs were combined to obtain a composite measure of ethical integration. This resulted in 28 measurement items. The Churchill (1979) approach for measurement development was then utilised to develop the ethical integration measure. This consists of specifying the domain of the construct as outsourcing relationships. The second step is to generate sample items using the existing scales of the dimensions of the construct. Then the measure was refined and purified by collecting data from a panel of experts. Subsequently, the measure was used in data collection, and tests of reliability and validity were undertaken. The outcome of these is discussed in Section 4.7.

To refine the scale and make it more applicable to the current research, a panel comprising three academic experts and seven senior industry executives was formed in order to assess which items were most relevant in capturing the construct to enhance face validity. To measure the shared values dimension of ethical integration, two existing scales were combined. Two items were used from Maxham III and Netemeyer (2003) to capture having similar values as an organisational partner and showing concern for others. Additionally, two measurement items were used from Cheng, Yeh and Tu (2008) to describe the pursuit of common objectives and support for each other's goals. To measure the dimension of ethical culture fit, the final measure represents a shorter version of Kaptain's (2008c) current 58-item measure of ethical culture. This existing measure had to be refined and shortened to make it applicable to this study. Finally, to measure the formal system of ethics dimension, two items were taken from Robertson, Olson, Gilley & Bao (2008), to encapsulate ethics training and

communicating consequences of breaching the code. Additionally, three items were added from Trevino, Brown and Hartman (2003) to denote rules and guidance, communicating the code and not tolerating lapses from organisational partners. Trevino *et al.*'s, (2003) measure has not previously been assessed for reliability; therefore, exploratory factor analysis was required to assess construct reliability. Table 4.1 provides previous reliabilities for these measures.

Table 4.1: Existing Scales Utilised to Develop Measures for this Study

Constructs and Variables	Source of the measure	Measurement Items	Previous Reliability
3PL Capabilities			
Customer-focus Capability	Zhao <i>et al.</i> , (2001)	4	.70
	Stank & Lackey (1997)	5	.83
Responsiveness Capability	Kim and Cavusgil (2009)	3	.87
	Morris & Carter (2005)	5	.82
	Lai <i>et al.</i> , (2002)	4	.75
Flexibility Capability	Sinkovics & Roath (2004)	3	.64
	Shang & Marlow (2005)	3	.86
Information sharing Capability	Zhao <i>et al.</i> , (2001)	4	.71
	Closs <i>et al.</i> , (1997)	1	N/A
Connectivity between IT systems Capability	Zhao <i>et al.</i> , (2001)	4	.64
Operational Capability	Morash <i>et al.</i> , (1996)	8	.70
	Zhang <i>et al.</i> , (2005)	20	.91
	Shang & Marlow (2005)	5	.91
	Lai <i>et al.</i> , (2002)	5	.75
Outsourcing Organisation's Relational Capabilities			
Communication with the 3PL	Lages <i>et al.</i> , (2009)	4	.90
Long-term relationship orientation	Lages <i>et al.</i> , (2009)	4	.83
Logistics Service Quality			
Personnel Contact Quality	Mentzer <i>et al.</i> , (2001)	3	.95
	Harding (1998)	2	N/A
Information Quality	Mentzer <i>et al.</i> ,(2001)	2	.85
	Rafele (2004)	2	N/A
Order Accuracy	Mentzer <i>et al.</i> ,(2001)	3	.89
	Rafele (2004)	1	N/A
Order Condition	Mentzer <i>et al.</i> , (2001)	3	.85
	Stanley & Wisner (2001)	1	N/A
Order Discrepancy Handling	Mentzer <i>et al.</i> , (2001)	3	.89
	Harding (1998)	1	N/A

Table 4.1 Continued...

Constructs and Variables	Source of the measure	Measurement Items	Previous Reliability
Timeliness	Mentzer <i>et al.</i> , (2001)	3	.94
	Stanley & Wisner (2001)	1	N/A
Ethical Integration			
Shared Values	Maxham III & Netemeyer (2003)	3	.89
	Cheng, Yeh & Tu (2008)	3	.90
Ethical Culture Fit	Kaptein (2008c)	58	.94
Formal System of Ethics	Robertson <i>et al.</i> , (2008)	6	.81
	Trevino <i>et al.</i> , (2003)	2	N/A
Corporate Reputation			
Corporate Reputation	Caruana (1997)	14	.92
	Nguyen & Leblanc (2001)	2	N/A
Financial Performance			
Profit, ROA, ROI	Shang & Marlow (2005)	3	.95
Corporate Brand Equity			
Brand Awareness	Davis <i>et al.</i> , (2009)	3	.86
	Gill and Dewra (2010)	3	.75
Brand Image	Davis <i>et al.</i> , (2009)	5	.77
	Nguyen & Leblanc (2001)	3	.76
	Michell <i>et al.</i> , (2001)	1	N/A
Perceived Quality	Kim & Kim (2005)	11	.91
	Juntunen <i>et al.</i> , (2011)	2	N/A
Brand Loyalty	van Riel <i>et al.</i> , (2005)	3	.89
	Juntunen <i>et al.</i> , (2011)	3	.90

N/A = Not available

As shown in Table 4.1, all measures adapted from literature which had previously been tested for reliability have reliability coefficients greater than .70, thereby increasing the reliability of measures in this study (Nunnally, 1979; Peterson, 1994). However, two measures did not reach the .70 cut-off; these were connectivity between information systems and flexibility capability adapted from Zhao *et al.*, (2001) and Sinkovics and Roath (2004). The connectivity between information systems measure was retained as it was the only existing measure found in the literature. The measure for flexibility capability was retained and additional items from Shang and Marlow (2005) were added to improve reliability.

Three of the existing measurement scales utilised in this study consisted of more than 14 measurement items. Cortina's (1993) study indicates that any scale containing 14 items or more will produce a Cronbach Alpha of .70 or greater, even when the correlation among items is small or modest. This may suggest that the Zhang *et al.*, (2005), Kaptein (2008b), and Caruana (1997) scales may have inflated Cronbach Alpha's due to the large number of measurement items included. In addition, this may suggest that some of the measurement items included in these scales are redundant. Therefore, only a few measurement items were adapted from these scales. These measurement items were selected based on their relevance and applicability to the current study.

As suggested in prior research, the modified measures were further purified through in-depth interviews with experts and by pretesting the questionnaire with industry and academic experts (Kolb, 2008; Parmigiani & Mitchell, 2009). Factor analysis was then used to assess unidimensionality and ensure that the right measures were loaded onto specific constructs (Malhotra *et al.*, 2008); the results of the factor analysis are discussed in Section 4.7. In the following section, the development of the questionnaire utilised in this study is discussed.

4.5 DEVELOPMENT AND ADMINISTRATION OF THE QUESTIONNAIRE

Mail and online questionnaires were utilised to collect data for this study. A questionnaire is "...a formalised series of questions used for obtaining information from respondents" (Malhotra *et al.*, 2008 p. 218). Both mail and online questionnaires required the respondents to read and respond to the questionnaire without the researcher's presence and assistance (Hair *et al.*, 2008). For a survey to be effective, it needs to be well designed so that respondents can clearly understand the questions and the questionnaire adequately captures the constructs of interest (Kenett, 2006). The subsequent section addresses the design of the questionnaire for the current study.

4.5.1 QUESTIONNAIRE DESIGN

The content of the questionnaire and the way questions are worded are crucial issues in questionnaire design (Kolb, 2008). English, as the primary language in Australia, was used

and the questions were kept as short as possible to facilitate easy understanding (Lukas *et al.*, 2004), and reduce respondent fatigue. The researcher tried to avoid ambiguity, vagueness, estimation, generalisation, leading, double-barrelled or presumptuous questions as recommended (Kenett, 2006; Zikmund *et al.*, 2011). The wording of the questions was intended to capture the outsourcing relationship with words that were easy for the respondent to understand and had a clear meaning (Hair *et al.*, 2008). (Specific sections of the questionnaire are shown in Appendix 1). The questionnaire format will be explained below.

4.5.1.1 QUESTIONNAIRE FORMAT

The survey was enclosed in an A4-sized booklet. The front, title page of the booklet identified the university, gave the title of the study, named the researchers, and gave their contact details. Inside the booklet, the first page was blank, the second contained a cover letter that introduced the researchers, explained the importance of the study, offered the respondents a summary of results and gave some initial guidelines on how to complete the questionnaire. The following two pages outlined the explanatory statement for the study that had been approved by Monash University's ethics committee. The subsequent six pages contained the survey instrument and the booklet ended with a blank page.

The final survey consisted of a number of sections. The survey instrument was divided into ten parts to break up the questions and reduce respondent fatigue, and boredom. Part A contained background questions such as the respondent's position in the organisation and tenure. In Part B, instructions on which outsourcing partner to focus on and major terms in the questionnaire were defined. Respondents were also requested to identify the logistics activities they had outsourced, whether a 3PL or 4PL was used, and the length of their outsourcing relationships. Part C contained questions about the relevant 3/4PL capabilities. These questions were divided into three sections to make it more manageable for the respondent. As some of the questions in this section were specific to the logistics activity being outsourced, the respondents were instructed to respond to only those statements that were relevant to them. In Part D, questions capturing the relational capabilities of the respondent's organisation were included. Part E enquired about the service quality that respondents received from their outsourcing partner. Since this also depended on the outsourced logistics activities, respondents were requested to respond to only those statements relevant to their outsourcing relationships. Part E was divided into two sub-

sections to minimise respondent fatigue. Part F had questions on how ethical behaviour was ensured within the outsourcing relationship and also consisted of two sub-sections. Part G dealt with branding outcomes and requested respondents to indicate how much their 3/4PL had impacted on different dimensions of their brand. In Part H, respondents were required to rate their organisational performance and corporate reputation and whether it had been affected by outsourcing logistics. The last section, Part I contained questions that determined: the respondent's knowledge confidence; a marker variable to capture common method variance which was a statement about a PhD being a waste of time; and the respondent's demographics and his/her organisation's characteristics.

4.5.1.2 SCALING

Four main types of measurement scales: nominal, ordinal, interval and ratio (Aaker *et al.*, 2007) are appropriate for research in marketing. A number of researchers (Aaker *et al.*, 2010; Burns & Bush, 2000; Hair *et al.*, 2008; Lukas *et al.*, 2004) argue that Likert scales should be regarded as interval scales if a 7-point format is used, meaning that in a 7-point format the distances between values are regarded as equal. The Likert scales used in this study are treated as interval as the 7-point format is assumed to have equal distances that allow the measurement of differences in the responses (Rindfleisch, Malter, Ganesan & Moorman, 2008; Tran & Cox, 2009).

This study used closed-ended questions in the form of Likert scales, since they are familiar to survey respondents (Kenett, 2006). The response to these questions consisted of rating scales representing various levels of agreement on a continuum (Lukas *et al.*, 2004). A 7-point Likert scale, ranging from 1 = '*strongly disagree*' to 7 = '*strongly agree*' was used for measurement items in this study, as it allows perception of greater differences between values than the 5-point Likert scale (Kumar *et al.*, 1993). The use of 7-point scales improves reliability and validity and gives respondents more options to draw on for their responses (Dawes, 2008). Hence, Likert scales can capture more information on both the strength and intensity of a response (Albaum, 1997).

Seven-point Likert scales have been extensively used and tested in marketing and management research similar to the current study (Hui & Tsang, 2006; Peterson, 2002b; Sinkovics & Roath, 2004). They usually exhibit high reliability, enlarge the variance spread of responses (making stronger relationships more likely) (Hair *et al.*, 2008; Lukas *et al.*,

2004), and help to describe the respondent's opinions. Slater and Atuahene-Gima (2004) state that Likert scales are commonly used in management research as they are considered to increase data reliability. Albaum (1997) argues that the use of Likert scales facilitates the construction of a questionnaire that is easy to understand and respond to. In this research, some measurement items within the questionnaire did not utilise a Likert scale. For example, open-ended questions such as the respondent's position, activities being outsourced, use of a 3PL or 4PL and the industry sector to which the respondent's organisation belonged, were included. Then, a ratio scale was used for the respondent's tenure in their position and the duration of the outsourcing relationship. A nominal scale was used for the question pertaining to the respondent's gender. The other profiling questions pertaining to respondent's age and the organisation's sales and number of full-time employees used interval scales with groups of values to make the respondent more likely to provide this sensitive information.

The following section discusses the pretesting of the questionnaire.

4.5.2 PRETESTING THE QUESTIONNAIRE

Pretesting of the questionnaire was important to enhance the reliability and validity of the measures and ensure they were appropriate for the context (Kolb, 2008). Pretesting involves administering the questionnaire to a small sample of respondents to detect problems or ambiguities in the questionnaire that may need to be rectified (Zikmund *et al.*, 2011). Hence, pretests are widely used and supported in marketing research (Matanda & Schroder, 2002; Parmigiani & Mitchell, 2009; Seggie *et al.*, 2006; Tracey *et al.*, 2005).

The questionnaire used in this study was pretested on ten industry experts who closely resembled the targeted respondents for the study (Aaker *et al.*, 2010) particularly in terms of their position in the organisation, knowledge, and interest in the topic (Malhotra *et al.*, 2008). As recommended by Hair *et al.*, (2008) the pretest was exhaustive, and asked respondents to examine the questionnaire in terms of content, wording, sequence, form and layout, difficulty and adequacy of instructions. As advised by Matanda and Schroder (2002), the pretest allowed the researcher to ensure that questions could be answered as anticipated before the main data collection. The pretest also helped to clarify and improve the questionnaire, making it more accessible to the respondents (Slater & Atuahene-Gima, 2004). As a result of the pretest, some minor modifications were made to the wording, order, flow and instructions

in the final questionnaire. The next section describes how the issues of ethics and confidentiality were dealt with in this study.

4.5.3 ETHICS AND CONFIDENTIALITY

Ethics and confidentiality issues need to be considered when undertaking any research (Kolb, 2008) that involves the public (Aaker *et al.*, 2005) and/or business organisations. Ethics relates to whether something is considered to be right or wrong (Malhotra *et al.*, 2010). It is vital that no respondents or organisations suffer adverse effects as a result of participating in the research (Bryman & Bell, 2007). Further, respondents have a right to privacy, confidentiality and anonymity (Malhotra *et al.*, 2008). As recommended in prior research, respondents were assured of anonymity and confidentiality (Bendixen & Abratt, 2007; Zhao *et al.*, 2001) for two reasons: one, issues of ethics and organisational outcomes are considered sensitive and confidential (Vardi, 2001); two, the assurance of anonymity leads to more accurate self-reports (Peterson, 2002a). Following the recommendations of Malhotra and Birks (2007), respondents were requested to provide consent to participate in the research. This study informed respondents about the aims of the research so that they could make a fully informed decision about whether or not to participate. Care was taken to ensure objectivity during data collection. To ensure that the research was undertaken in an ethical manner, the research methodology and questionnaire survey were submitted for approval to the Monash University Human Research Ethics Committee (MUHREC) prior to undertaking the field work. Approval was obtained before administering the survey and prior to undertaking the qualitative research. This ethics information and approval contained within the survey can be seen in Appendix 1. The ethics approval from MUHREC is shown in Appendix 2. The following section discusses how the data was prepared for analysis.

4.6 DATA PREPARATION

Once the questionnaire was administered and responses were collected, the data was prepared for analysis. This involved editing, coding, checking, cleaning of data and testing for statistical assumptions to prepare data for further analysis (Malhotra *et al.*, 2008). In this

section, in-depth data preparation and procedures used in testing statistical assumptions in Section 4.6.3 are outlined.

4.6.1 DATA EDITING

Before data can be analysed, editing takes place to ensure the data is accurate and reliable (Aaker *et al.*, 2010). Data editing ensures that the data meets the cut-off point for quality (Leahey, Entwisle & Einaudi, 2003) in terms of completeness, consistency, ambiguity and legibility (Zikmund *et al.*, 2011), and that there is significant variance within data (Kolb, 2008; van Riel *et al.*, 2005). Questionnaires were checked upon receipt to ensure that there were no questionnaires that were difficult to interpret or were incomplete. There were some missing values that will be discussed later in Section 4.6.3. After editing, data was coded to facilitate use of statistical analysis.

4.6.2 DATA CODING

Data coding involved categorizing raw data into numerals or symbols to convert it to analysable form (Aaker *et al.*, 2010; Malhotra *et al.*, 2008). The questionnaire used in this study mostly consisted of pre-coded closed questions to make it easier and quicker to code (Hair *et al.*, 2008). Fixed field codes were used as they allow the same number of records for each respondent and enable the data to be entered into the same column for all respondents (Howell, 2009). Negatively worded items (such as Cool1 and RelCap6) were reverse coded. Missing data was coded as 99 to indicate that a response was not given and to minimise confusion when utilising the statistical software (Bryman & Bell, 2007). As discussed under questionnaire format in Section 4.5.1.1, some interval scales were used which were categorical and these were coded after data gathering. The coding of measurement items and the variable labels assigned in SPSS are shown in Appendix 3.

4.6.3 DATA CLEANING AND INPUT

In preparation for data analysis, data entry was checked to ensure there were no mistakes or missing data (Aaker *et al.*, 2010). Data cleaning involved a thorough analysis of consistency of responses and handling of missing responses (Shah & Goldstein, 2006). Data was inspected for inconsistencies using SPSS to check for logic contradictions or outliers (Hair *et al.*, 2008). Logic contradictions occur when two things that cannot be true at the same time

are selected (Hair *et al.*, 2008). For example, a logic contradiction would appear if a respondent indicated that their organisation's performance was both improved and impeded by outsourcing logistics. Outliers are observations or numbers that are far removed from the rest of the data (Hair *et al.*, 2010), such as obtaining a rating of 10 in a 7-point scale. No such logic inconsistencies or outliers were found.

Missing responses are a common problem in self-completion questionnaires as the interviewer is not present to ensure that all questions are completed (McDonald & Ho, 2002). When there are missing values, it means that there are unknown values of a variable (Bryman & Bell, 2007). These responses are either treated as neutral values or can be excluded from analysis by casewise or pairwise deletion (Shah & Goldstein, 2006). Casewise deletion was not employed as it significantly lowers the response rate as entire questionnaires are discarded (Malhotra & Birks, 2007). Pairwise deletion, which involves disregarding only the questions with missing values was utilised in some instances such as when values were missing as a result of the statement being irrelevant to the respondent. For example, in Parts C and E, respondents were instructed to answer only those statements relevant to them, which meant that a number of responses were missing. Several researchers (Enders & Bandalos, 2001; Hair *et al.*, 2010; McDonald & Ho, 2002) recommend pairwise deletion when the missing data is random, the sample size is 250 or more respondents, and less than ten percent of the questionnaire is missing. The current study had 242 respondents and pairwise deletion was used only when less than five percent of the questionnaire had missing values.

To make the data more usable for statistical analysis, mode estimation was used to estimate some of the missing values, particularly those that were not pairwise deleted. Hair *et al.*, (2010) recommended that estimation can replace small numbers of missing data when less than five per cent of the questions from each respondent has missing values (Malhotra, 2010). A single imputation method is commonly employed where the missing value is replaced by an estimated value (Chen & Astebro, 2003). In this study, the missing values were replaced with the mode, which is the most frequently observed value, and therefore represents the typical case (Lakshminarayan, Harp & Samad, 1999). Mean and mode estimation have been shown to provide similar results (Batista & Monard, 2003). The only missing values that were not treated at all were 25 of those missing under the position tenure question. These missing values occurred as a result of malfunction on the online survey button, which the researcher could not rectify. The researcher assumed that these missing variables were less

important to the study as there were no hypothesised relationships around respondents' tenure, and therefore did not replace them.

As part of the data preparation process, some preliminary analysis was necessary to determine whether assumptions required for further analysis were met. This included tests for assumptions of normality, linearity, and multicollinearity. To test for the assumption of normality, skewness and kurtosis statistics were calculated for each measurement item (Hair *et al.*, 2010). According to Hair *et al.*, (2010) to achieve a .01 significance level, the calculated z-value should not exceed the critical value (± 2.58). As can be seen in Appendix 4, most of the skewness and kurtosis values for the measurement items in this study ranged between -1.490 and 1.192 and did not exceed the critical value, thereby meeting the assumption of normality. However GIR 12, an interval measurement of items which did not meet the assumption of normality, was transformed by taking the log of GIR 12 and utilising it in successive analyses as recommended by Hair *et al.*, (2010).

Subsequently, the assumption of linearity is assessed by constructing partial regression plots as recommended by Hair *et al.*, (2010). Partial regression plots graphically analyse the residuals of the relationship between independent and dependent variables. These partial regression plots shown in Appendix 5 demonstrate no violations of the assumptions of linearity.

Marketing researchers are increasingly concerned with multicollinearity (Farley, Lehmann & Mann, 1998), which is an indication of "high correlations among latent exogenous variables" (Grewal, Cote & Baumgarther, 2004 p.519). The data in this study was tested for multicollinearity in two ways to ensure it did not present a problem in this study by over-inflating relationships. Initially, the variance inflation factor in regression analysis in SPSS was calculated. Hair *et al.*, (2010) recommend that a VIF value of more than ten signifies multicollinearity. None of the variables in this study had a VIF value greater than ten; all VIF values ranged between 1.30 and 4.48. A second approach to assess multicollinearity, recommended by Grewal *et al.*, (2004), is to assess the correlations amongst exogenous variables and determine if they are above .90. A correlation analysis was also undertaken to determine relationships between the variables. The resulting correlation matrix showed a large number of positive and significant ($p \leq .01$) correlations between the variables examined in this research (see Table 4.13 in Section 4.7.4.1). The matrix also shows that there are no correlations amongst the exogenous variables which are greater than .09. The

correlations ranged from .01 to .74. Therefore, the assumption of multicollinearity was satisfied. As a result, further statistical analysis such as structural equation modelling and multiple regression can be undertaken and this is discussed in Chapters 6 and 7.

In the following section, measurement purification utilising exploratory and confirmatory factor analysis is discussed.

4.7 MEASUREMENT PURIFICATION

It is necessary for the existing measurement scales and newly developed measurements to be assessed for dimensionality, reliability and validity. Measurement purification allows the most appropriate measurement items to be selected to improve the operationalisation of constructs (Gerbing & Anderson, 1988). This study used multi-item measures, making measurement purification even more critical to determine which of these items best capture the intended construct. The measures utilised were examined for unidimensionality (indicating one underlying construct), consistency, reliability and validity.

To assess unidimensionality, this research conducted an exploratory factor analysis (EFA) using SPSS software version 20, and confirmatory factor analysis (CFA) using AMOS software version 20. Both EFA and CFA were run for all measurement scales used in this study because new items were added to the scales adapted from the literature. The first part of this section will discuss EFA and CFA results. Then, the reliability and validity issues will be discussed.

4.7.1 EXPLORATORY FACTOR ANALYSIS

Exploratory factor analysis (EFA) is usually used in the exploratory phase of the research when the researcher is developing new measurement scales or a structural model (Tran & Cox, 2009). EFA allows researchers to identify the structure of the factors for a set of variables and examine which factors load onto which constructs (Yoo *et al.*, 2000). This process is primarily used to decrease the number of variables in a model, identify relationships between variables, and examine how well certain measurement items load onto

a variable (Spicer, 2005). In addition, EFA is the first test of the unidimensionality and is important in suggesting the measures that represent a construct (Gerbing & Anderson, 1988). EFA was undertaken to inform the creation of new measurement scales, i.e. determine the component matrix, standard factor loadings and variances of the scales.

In the results of an exploratory factor analysis, a high factor loading specifies which variable or construct an item loads onto or is a part of (Hair *et al.*, 2010). According to the guidelines provided by Hair *et al.*, (2010) a factor loading below .40 indicates that the item needs to be removed from further analysis because there is not a strong enough relationship between the item and the construct. This means that the item does not adequately measure the construct. This study conducted exploratory factor analysis on all measurement items used since even those adapted from existing scales were modified. The results of the EFA are discussed below.

4.7.1.1 EXPLORATORY FACTOR ANALYSIS OF OUTSOURCING ORGANISATION'S RELATIONAL CAPABILITIES MEASURES

In the current study, ten existing measurement items were used to measure the outsourcing organisation's relational capabilities (see Table 4.2). Together, these items explained 50.04% of the variance.

The ten items that were used to measure the outsourcing organisation's relational capabilities loaded onto two factors, with standard factor loadings ranging from .525 to .999. Since '*talking with the 3PL about business strategy*' had a standardised factor loading less than .40, it was removed from further analysis. The variables that emerged were labelled 'long-term relationship orientation' and 'communication with the 3PL' as these were the variables initially identified in the literature to determine an outsourcing organisation's relational capabilities.

Table 4.2: Outsourcing Organisation’s Relational Capabilities EFA

Measurement items	Standardised Factor Loadings	
	Factor 1 LT Relation. Orientation	Factor 2 Communication
Focus on long-term goals in this outsourcing relationship	.595	
Continuous interaction with the 3PL during implementation of relationship		.999
Clearly communicating objectives and goals to the 3PL		.622
Frequently discussing strategic issues with the 3PL	.528	
Openly sharing confidential information with the 3PL	.567	
Talking with the 3PL about business strategy	.233*	
Maintaining a long-term relationship with the 3PL is important	.553	
Believing that in the long-run, a relationship with 3PL will be profitable	.698	
Collaborating with the 3PL to make operational improvements	.622	
Willingness to make sacrifices to help the 3PL from time to time	.795	

* = Deleted items due to low factor loadings

4.7.1.2 EXPLORATORY FACTOR ANALYSIS OF 3PL CAPABILITIES MEASURES

To operationalise 3PL capabilities, 37 existing measurement items were used in this study (see Table 4.3). The measures that captured operational capabilities were separated into transportation and warehousing as most respondents outsourced only one of these activities. Item parcelling was used with these 13 items to create five aggregate items reflecting cost, delivery notification, warehousing effectiveness, transportation effectiveness and efficiency. This was done to deal with the missing responses that resulted from some statements being relevant only to warehousing and some only to transportation. The EFA produced an optimal factor loading with four factors with standard factor loadings ranging from .400 to .953.

However, initially information sharing and operational capabilities loaded onto the same factor. As these are treated as distinct concepts in the literature (Zhang *et al.*, 2005; Zhao *et al.*, 2001), they were separated in the current study. In addition, flexibility and responsiveness items loaded onto the same factor. Even though these variables are similar, they are also considered as distinctive concepts in previous studies (Morris & Carter, 2005; Sinkovics &

Roath, 2004). Therefore, to capture these unique differences, the EFA was forced into a six-factor solution, accounting for 63% of the variance.

Table 4.3: 3PL Capabilities EFA

Measurement items	Standardised Factor Loadings					
	Factor 1 Customer Focus	Factor 2 Information Sharing	Factor 3 Flexibility	Factor 4 Connect. IT syst.	Factor 5 Responsive -ness	Factor 6 Operational
3PL tailoring logistics to suit customers' requirements	.721					
3PL trying to identify logistics value					.776	
3PL identifying customer needs					.721	
3PL prioritising customer needs	.703					
3PL ensuring immediate attention to feedback	.711					
3PL responding quickly to changing needs	.769					
3PL changing distribution for outsourcing organisation					.491	
3PL changing equipment for outsourcing organisation					.318*	
3PL providing timely response to requests			.887			
3PL willing to accommodate requests			.953			
3PL making adjustments to changing needs			.856			
3PL developing processes to be more flexible			.759			
3PL accommodating changing circumstances			.400			
3PL using SC coordination to enhance flexibility			.359*			
3PL's system accommodating special events		.732				
3PL effectively sharing operational information		.645				
3PL sharing strategic information		.462				
Outsourcing organisation able to access 3PL's database				.645		
Outsourcing organisation able to get 3PL information		.454				
3PL's IT facilitating systems integration				.820		
3PL's IT facilitating data exchange				.864		
3PL's IT capturing real-time data				.667		
3PL being able to customise shared information				.667		
Accurate information from the 3PL		.584				
Cost				.494		
Notify				.340*		
Warehousing Effectiveness						.491

Table 4.3 Continued...

Measurement Items	Standardised Factor Loadings					
	Factor 1 Customer Focus	Factor 2 Information Sharing	Factor 3 Flexibility	Factor 4 Connect. IT syst.	Factor 5 Responsive- ness	Factor 6 Operational
Transportation Effectiveness						.539
Efficiency						.608

* = Deleted items due to low factor loadings

Measurement items with a loading of less than .40 were deleted, this included three measurement items *'the 3PL using supply chain coordination mechanisms to enhance flexibility of their operations'* from flexibility capability, *'the 3PL changing their capital equipment to meet the requirements of the outsourcing organisation'* from responsiveness capability and *'Notify'* from connectivity between IT systems capability. The resulting variables were labelled 'customer focus', 'information sharing', 'flexibility', 'operational' 'connectivity between information systems' and 'responsiveness'.

4.7.1.3 EXPLORATORY FACTOR ANALYSIS OF LOGISTICS SERVICE QUALITY MEASURES

To measure logistics service quality in this study, 25 measurement items were used. Two measurement items were deleted prior to the EFA as they had too many missing values; these were *'The 3/4PLs labelling of product is always correct'* and *'The invoices the 3/4PL gives our customer are always correct'*. It seemed the two items did not effectively capture the respondents' logistics requirements. The remaining 23 items together explained 48.94% of the variance (see Table 4.4).

Table 4.4: Logistics Service Quality EFA

Measurement Items	Standardised Factor Loadings			
	Factor 1 Personnel Contact	Factor 2 Order Discrep. Handling	3 Order Accuracy	4 Timeliness
3PL contact person understands customer's requirements	.578			
Customers problems resolved by the 3PL contact person	.692			
3PL personnel knowledgeable on outsourcing org.'s product	.699			
Adequate customer service experience of 3PL contact person	.794			
3PL customer contact personnel having the right attitude	.728			
Information available from the 3PL to the end-customer	.461			
Deliveries made by the 3PL containing the right quantities			.756	
Information provided to the end customer being adequate	.581			
Deliveries made by the 3PL containing the right items			.785	
Deliveries made by the 3PL often arriving in full			.655	
Deliveries received from the 3PL being undamaged				.180*
Deliveries received from the manufacturer being undamaged	.066*			
Damage being rarely caused by transportation				.233*
Products delivered in good condition		.333*		
Satisfactory delivery discrepancy correction from the 3PL		.840		
The 3PL's adequate process of correcting discrepancies		.903		
The 3PL's response to discrepancy reports being satisfactory		.796		
Delivery discrepancies being handled by the 3PL quickly		.591		
Short time between placing an order and receiving delivery				.794
Deliveries made by the 3PL arriving on time as promised				.825
The 3PL ensuring they deliver back-orders quickly				.445
Providing an explanation for product delivery problems				.425
Deliveries made by the 3PL not containing substituted items			.541	

* = Deleted items due to low factor loadings

The 23 items used to measure logistics service quality loaded onto four factors labelled ‘personnel contact quality’, ‘order discrepancy handling’, ‘order accuracy’ and ‘timeliness’. This was different from the six factors initially proposed in the conceptual model as ‘personnel contact quality’ and ‘information quality’ loaded onto the same factor ‘personnel contact quality’. The variables ‘order discrepancy handling’, ‘order accuracy’ and ‘timeliness’ were found to have the same factor loadings as put forward in the conceptual model, with standards factor loadings ranging from .425 to .903. However, the measurement items for variable ‘order condition’ all showed weak loadings and were deleted.

As previously mentioned, all measurement items with standardised factor loadings below .40 were deleted and this included five items *‘deliveries received from the 3PL being undamaged’*, *‘deliveries received directly from the manufacturer being undamaged’*, *‘damage being rarely caused by the transportation of the product’*, and *‘products delivered being in good condition’*.

4.7.1.4 EXPLORATORY FACTOR ANALYSIS OF ETHICAL INTEGRATION MEASURES

Ethical integration is a new construct introduced in this research, with the existing measurement items extracted from similar constructs and modified to suit the study context. Fourteen measurement items were used to capture ethical integration and these items explained 60.37% of the variance (see Table 4.5).

Table 4.5: Ethical Integration EFA

Measurement Items	Standardised Factor Loadings		
	Factor 1 Shared Values	Factor 2 Ethical Culture Fit	Factor 3 Formal System of Ethics
Outsourcing partners having same concern for others	.895		
Outsourcing partner’s values being very similar	.862		
Enthusiasm over pursuing collective objectives		.425	
Outsourcing partners supporting each other’s goals		.670	
Outsourcing partners agreeing on stakeholder treatment		.682	

Table 4.5 Continued...

Measurement Items	Standardised Factor Loadings		
	Factor 1 Shared Values	Factor 2 Ethical Culture Fit	Factor 3 Formal System of Ethics
Outsourcing partners having view of conflicts of interest		.622	
Outsourcing partners agreement on confidentiality		.753	
The 3PL taking ethical standards seriously	.647		
Outsourcing partners agreeing on what is ethical	.619		
The outsourcing organisation offering ethics training			.336*
Outsourcing organisation providing guidance on ethics			.505
The outsourcing organisation not tolerating ethical lapses			.638
Outsourcing organisation communicating its code			.888
The consequences of breaching code made clear to 3PL			.828

* = Deleted items due to low factor loadings

Only one measurement item *‘the outsourcing organisation offering the 3PL ethics training’* had a standardised factor loading below .40 and this was deleted. All the other measurement items loaded onto three variables ‘shared values’, ‘ethical culture fit’ and ‘formal system of ethics’ with standardised factor loadings ranging from .425 to .895; these were similar to those proposed in the conceptual model. The only exception was that two items originally thought to explain formal system of ethics; *‘the 3PL taking the outsourcing organisation’s ethical standards seriously’* and *‘the 3PL and the outsourcing organisation agreeing on what is ethical’* loaded onto shared values instead. However, these two items could also be conceptualised as explaining shared values with respect to ethics and ethical standards.

4.7.1.5 EXPLORATORY FACTOR ANALYSIS OF CORPORATE REPUTATION MEASURES

Five measurement items adapted from several existing studies were used in this study to operationalise corporate reputation. These items accounted for 72.47% of the variance (see Table 4.6).

Table 4.6: Corporate Reputation EFA

Measurement Items	Standardised Factor Loadings for Factor 1 Corporate Reputation
Outsourcing organisation having a good reputation	.731
Outsourcing organisation recognized for offering well known products	.919
Outsourcing organisation being known for offering high quality products	.943
Outsourcing organisation being known for offering high quality service	.799
Outsourcing organisation recognized for offering value for money products	.847

As shown in Table 4.6, all measurement items had factor loadings of above .40 and ranged from .731 to .943. All items loaded onto one variable labelled ‘corporate reputation’.

4.7.1.6 EXPLORATORY FACTOR ANALYSIS OF FINANCIAL PERFORMANCE MEASURES

As indicated in Table 4.7, financial performance was measured using six measurement items adapted from previous research. These items explained 66.55% of the variance and had standardised factor loadings ranging from .548 to .951. These measurement items all loaded onto one variable labelled ‘financial performance’. This result was different from the factors of profit, return on assets, and return on investment initially proposed in the conceptual model in Section 2.4.

Table 4.7: Financial Performance EFA

Measurement Items	Standardised Factor Loadings for Factor 1 Financial Performance
Profit (before tax) compared to main competitors	.548
Return on assets compared to main competitors	.732
Return on investment compared to main competitors	.746
Profit (before tax) impact of outsourcing logistics	.897
Return on assets impact of outsourcing logistics	.944
Return on investment impact of outsourcing logistics	.951

4.7.1.7 EXPLORATORY FACTOR ANALYSIS FOR CORPORATE BRAND EQUITY

In this study, 16 measurement items adapted from existing research were used to measure corporate brand equity. These items represented 64.48% of the variance in corporate brand equity and had standardised factor loadings ranging from .538 to .791 (see Table 4.8).

Table 4.8: Corporate Brand Equity EFA

Measurement Items	Standardised Factor Loadings	
	Factor 1 Brand Image	Factor 2 Perceived Quality
Name of the outsourcing organisation being well-known in industry	.593	
Business buyers knowing what brand stands for	.718	
Business buyers having a positive opinion of the brand	.690	
Business customers regarding the brand as a strong trade partner	.791	
Outsourcing organisation's brand being well respected in industry	.770	
Outsourcing organisation's brand image creating differentiation	.644	
The brand being known for looking after its trade partners	.586	
Business customers having a good impression of the corporate brand	.538	
The brand being perceived as consistently delivering high quality		.626
Business partners reliably predicting brand's future performance		.719
Being perceived as a leading brand in the industry		.666
Outsourcing organisation's brand known for fulfilling promises		.583
Overall business customer satisfaction with the brand		.643
Business customer recommending the brand to other customers		.697
Outsourcing organisation's brand having repeat business customers		.535
Business customers willing to pay a higher price for the brand		.755

These measurement items loaded onto two variables labelled 'brand image' and 'perceived quality'. These factors were different from the four factors envisaged in the conceptual model

in Section 2.4.1, as brand awareness and brand image collapsed into one variable labelled ‘brand image’. This suggests that both awareness and image could constitute how the corporate brand is perceived. Perceived quality and brand loyalty collapsed into one variable labelled ‘perceived quality’, since perceived quality of the products/services drives loyalty towards the brand (de Ruyter, Wetzels & Bloemer, 1998). In the subsequent section, the next step in measurement purification confirmatory factor analysis is discussed.

4.7.2 CONFIRMATORY FACTOR ANALYSIS

Confirmatory factor analysis (CFA) verifies the measurement items relevant to constructing the measures and determining discriminant validity. CFA allows rigorous analysis of how measurements and constructs (Kim & Cavusgil, 2009; Yoo *et al.*, 2000) load onto specific latent variables. CFA, using SEM software AMOS maximum likelihood method, was used in this research to confirm relationships between observed variables and their measurement items (Griffith & Myers, 2005), and to revise the measurement scale (MacCallum & Austin, 2000). This analysis involved comparing the covariance matrix of a hypothesized model and the observed covariance matrix (Tran & Cox, 2009). Items that loaded weakly onto their pre-specified constructs were eliminated as recommended by Yoo *et al.*, (2000) and McDonald and Ho (2002), and the model was revised until good model fit was achieved. The overall suitability of the models or the fit was determined using goodness-of-fit (GOF) indices that included absolute fit measures, incremental fit measures, and parsimonious fit measures. These are explained in the next section.

4.7.2.1 GOODNESS OF FIT CRITERIA

The goodness-of-fit indices measure how well the observed covariance or correlation matrix corresponds to the predicted measurement model (Hair *et al.*, 2010). GOF measures indicate whether a model is an acceptable fit based on three types of measures (a) absolute fit measures, (b) incremental fit measures, and (c) parsimonious fit measures. The acceptable fit values for each measure are provided in Table 4.9.

Absolute fit indices illustrate how well the observed data fits the hypothesized model (Hair *et al.*, 2010), therefore how well the model predicts the data. These measures include normed chi-square (χ^2/df), root mean square residual (RMR), root mean square of approximation (RMSEA), goodness-of-fit index (GFI) and adjusted goodness-of-fit index (AGFI). The chi-

square statistic (χ^2) determines the absolute fit by comparing χ^2 to the degrees of freedom (*df*). Good fit is indicated when the χ^2 is non-significant. However, caution needs to be used when interpreting the χ^2 as it is very sensitive to sample size (Baumgartner & Homburg, 1996). This means that the χ^2 may be significant even when the model fits the data well because the sample size is very small compared to the number of parameters to be estimated. Therefore, this study considered the normed chi-square (CMIN/DF) ratio to account for the χ^2 's sensitivity to sample sizes. CMIN/DF ratio less than 3 is regarded as a good model fit, indicating that the model fits with the data. The other main absolute fit measures applied in this study include the goodness-of-fit index (GFI), and root mean square error of approximation (RMSEA), as suggested by Schumacker and Lomax (2008). The GFI index has values between 0 and 1, with values greater than or equal to .90 suggesting good model fit. RMSEA determines the misfit of the model. It counteracts the χ^2 because it can be relied upon when large samples are used. There is a debate in the literature about the cut-off value for good fit using RMSEA. Some authors (Hu & Bentler, 1999) suggest a RMSEA value of equal to or below .06. Others advise that anywhere between .05 and 1 still indicates an acceptable model fit (Hair *et al.*, 2010).

The incremental fit indices compare the hypothesized model to an alternative null model which presumes that all observed variables are not correlated (Schumacker & Lomax, 2008). The incremental fit indices used in this study include the normed fit index (NFI) and comparative fit index (CFI); the acceptable fit values for these are outlined in Table 4.9.

Parsimonious fit indices assume that a better fit can be achieved with a simple model, or one that has fewer estimated parameter paths (Hair *et al.*, 2006). This study utilises the parsimonious normed fit index (PNFI) and the parsimonious goodness-of-fit index (PGFI) to indicate parsimonious fit. Table 4.9 indicates the acceptable levels of GOF measures used in this study.

Table 4.9: Goodness of Fit (GOF) Indices

Measure	Recommended Levels/Cut-off points
Model Fit	
Chi-square (χ^2)	$p > .05$
Absolute Fit	
Normed chi-square (χ^2/df)	$1 < \chi^2/df < 3$ (Carmines & Zeller, 1981) $\chi^2/df < 5$ (Byrne, 2003)
Root Mean Square Residual	RMR $< .05$ (Byrne, 2003)
Root Mean Square Error of Approximation (RMSEA)	RMSEA $\leq .05$ (Browne & Cudeck, 1993) RMSEA $\leq .06$ (Hu & Bentler, 1999) RMSEA $\leq .10$ (Hair <i>et al.</i> , 2010)
Standardised Root Mean Square Residual (SRMR)	SRMR $\leq .01$ (Hu & Bentler, 1999)
Goodness-of-fit Index (GFI)	Value close to 1 (Joreskog & Sorobom, 1989) Value close to .90 (Bagozzi, Yi & Phillips, 1991)
Adjusted Goodness of fit Index (AGFI)	Value close to .90 (Bagozzi <i>et al.</i> , 1991)
Incremental Fit	
Normed Fit Index (NFI)	Value close to .90 (Bentler, 1992) Value more than .95 (Hu & Bentler, 1999)
Tucker Lewis Fit Index (TLI)	Value close to 1 (Bollen, 1987)
Comparative Fit Index (CFI)	Value close to 1 (Bentler, 1992)
Non-normed Fit Index (NNFI)	Value close to 1 (Bollen, 1987)
Parimonious Fit	
Parsimonious Normed fit Index (PNFI)	Value between .60 and .90 (Hulland, Chow & Lam, 1996)
Parsimonious Goodness-of-fit Index (PGFI)	Value between 0 and 1 (Hulland <i>et al.</i> , 1996)
Parsimonious Ratio	Value between .60 and .90 (Hulland <i>et al.</i> , 1996)

GOF indices indicate how well the proposed model fits with the data. Two covariance matrices are generated to allow the comparison between theory and data: the estimated covariance matrix and the actual observed covariance (Tran & Cox, 2009). The fit between

these two is compared and the closer the estimated covariance matrix is to the actual observed covariance matrix, the better the model fit (Schumacker & Lomax, 2008). However, some fit indices are strongly influenced by sample size such as the Goodness-of-fit Index (GFI) and Adjusted Goodness of fit Index (AGFI) (MacCallum & Austin, 2000). As a result, several authors' caution about over-reliance on one or two fit indices, this indicates the need to look at several fit indices to overcome their respective limitations (MacCallum & Austin, 2000; McDonald & Ho, 2002; Shah & Goldstein, 2006). Therefore, this study used a number of goodness-of-fit indices to determine the appropriateness of model fit. The following section presents the measurement models achieved during CFA for the independent variables, the mediating variable, the moderating variable and the dependent variables.

4.7.3 ASSESSMENT OF MEASUREMENT MODELS

This section outlines the CFA measurement models for the variables investigated in this study. These are divided into four sub-sections. The first sub-section discusses the independent variables of the outsourcing organisation's relational capabilities and 3PL capabilities. Then the mediating, moderating and dependent variables make up the other three sections.

4.7.3.1 MEASUREMENT MODEL ESTIMATION FOR THE INDEPENDENT VARIABLES

In the current study, the independent variables are the outsourcing organisation's relational capabilities and 3PL capabilities. This section contains two measurement models, one for each of these variables. The first measurement model assessed the construct of the outsourcing organisation's relational capabilities. The results of the CFA indicated that the model fitted the data well ($\chi^2 = 42.474$, $df = 15$, $p = .000$, $\chi^2/df = 2.818$, CFI = .963, GFI = .960, NFI = .944, RMSEA = .087, PNFI = .506, PGFI = .400). The χ^2/df is below 3 at 2.818. The CFI=.963, the GFI = .960, the RMSEA was at .087 and the PNFI = .506.

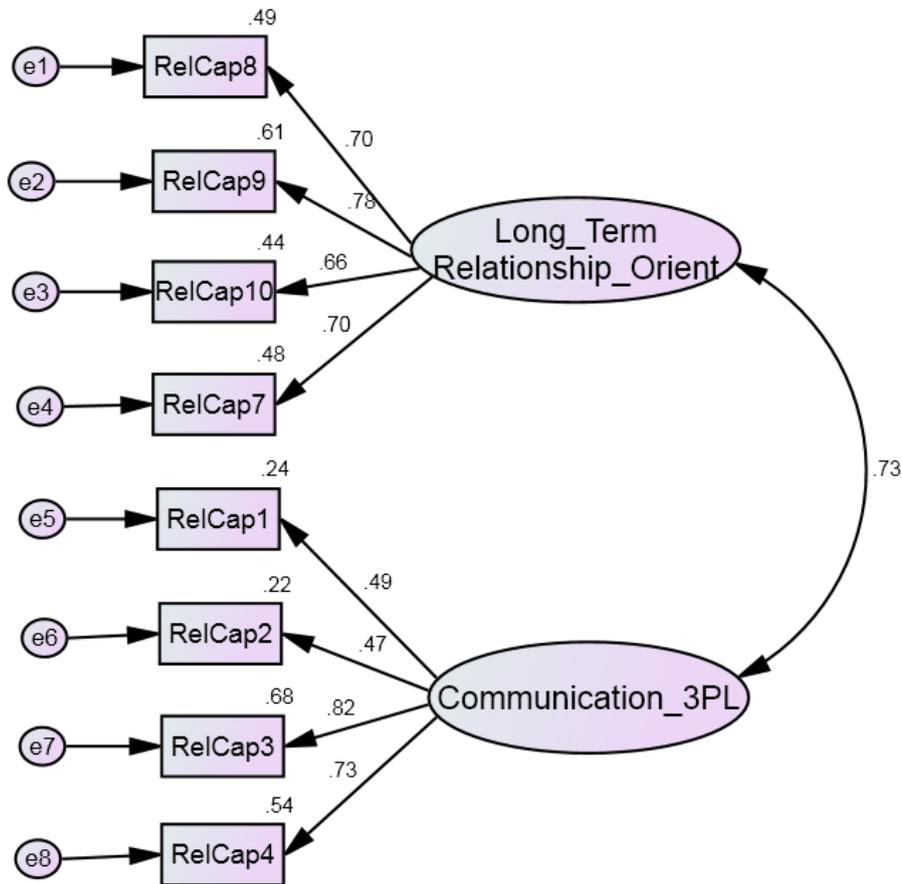


Figure 4.1: Measurement Model for the Outsourcing Organisation's Relational Capabilities

The correlation between communication with the 3PL and long-term relationship orientation is .73, making it very close to the square root of AVE. To determine discriminant validity, a chi-square difference test had to be performed. This involved comparing the constrained and unconstrained models (De Luca & Atuahene-Gima, 2007). The unconstrained model produced $\chi^2 = 42.474$ and $df = 15$, and the constrained model $\chi^2 = 64.692$ and $df = 16$. This showed a difference of 22.218 in χ^2 and one degree of freedom. This shows a significant difference between the correlation and the AVE. However, these variables did not collapse into one latent construct as originally proposed because they are distinctly different from each other. Hence, in subsequent analyses, these variables are included as dimensions of the outsourcing organisation's relational capabilities rather than being treated as a single construct.

The second independent variable in the current study was 3PL capabilities. The measurement model for 3PL capabilities included six dimensions: customer focus, flexibility, responsiveness, information sharing, connectivity between IT systems and operational. The

CFA showed that these variables did not collapse into one latent construct as originally proposed because they are distinctly different from each other. Therefore, even though they are all dimensions of 3PL capabilities, they are in fact latent constructs themselves. The results of the CFA indicated the model fitted the data adequately ($\chi^2 = 518.650$, $df = 208$, $p = .000$ $\chi^2/df = 2.494$, CFI = .907, GFI = .854, NFI = .856, RMSEA = .079, PNFI = .704, PGFI = .643). The χ^2/df was between 1 and 3 as recommended, at 2.494. The CFI = .907, the GFI = .854, the RMSEA = .079 and the PNFI = .704. The CFI value indicates good model fit and it is a better approximation than the NFI index which is sensitive to model complexity and the GFI which is sensitive to sample size. Therefore, in this measurement model, the GFI and NFI may be slightly below the recommended .90 value because of this complex measurement model and modest sample size. However, it was concluded that the model was still acceptable and thus, utilised in further analysis.

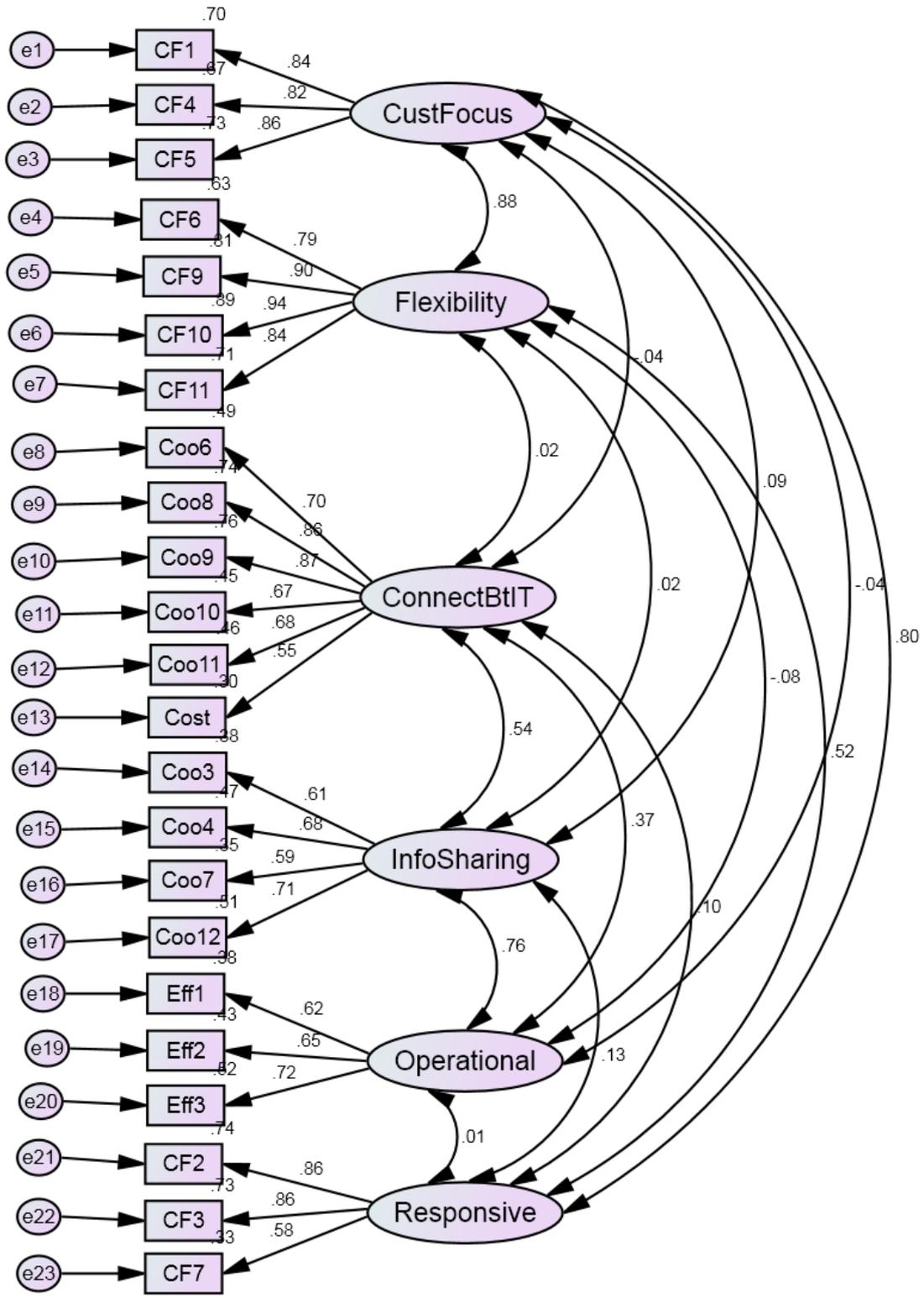


Figure 4.2: Measurement Model for 3PL Capabilities

Table 4.10 indicates the standard factor loadings and average variance extracted for each factor comprising the outsourcing organisation’s relational capabilities and 3PL capabilities.

Table 4.10: Summary of Measurement Model Statistics for the Independent Variables

Measurement items		SFL	AVE
Outsourcing organisation's relational capabilities			
<u>Communication with the 3PL</u>			.51
RelCap1	Continuously interacting with the 3PL during the implementation of the outsourcing relationship	.60	
RelCap2	Clearly communicating objectives and goals to the 3PL	.61	
RelCap3	Frequently discussing strategic issues with the 3PL	.86	
RelCap4	Openly sharing confidential information with the 3PL	.79	
<u>Long-term Relationship Orientation</u>			.57
RelCap6	Maintaining a long term relationship with the 3PL being important to the outsourcing organisation	.50	
RelCap7	Focusing on long-term goals in the outsourcing relationship	.68	
RelCap8	Belief that over the long run the relationship with the 3PL will be profitable	.69	
RelCap9	Being willing to make sacrifices to help the 3PL from time to time	.84	
RelCap10	Collaborating with the 3PL to create operational improvements	.79	
3PL Capabilities			
<u>Customer Focus</u>			.71
CF1	The 3PL tailors their logistics service activities to suit the requirements of different customers	.84	
CF4	The 3PL regularly prioritizes customer needs	.82	
CF5	The 3PL ensures that customer feedback gets immediate attention	.86	
<u>Responsiveness</u>			.61
CF2	The 3PL tries to identify end-customer value that is contributed by the logistics function	.86	
CF3	The 3PL identifies customer needs at the planning stage of the outsourcing arrangement	.86	
CF7	3PL has changed its distribution methods to suit the outsourcing organisation's needs	.60	
<u>Flexibility</u>			.76
CF6	The 3PL responds quickly to the outsourcing organisation's changing needs	.73	
CF9	3PL provides a timely response to the outsourcing organisation's requests	.91	
CF10	The 3PL is willing to accommodate the outsourcing organisation's requests	.94	

Table 4.10 Continued...

Measurement items		SFL	AVE
CF11	The 3PL makes adjustments to cope with the changing market needs of the outsourcing organisation's industry	.84	
CF12	<i>3PL developing processes to be more flexible to the requests of the outsourcing organisation**</i>		
Coo 1	<i>The 3PL being able to accommodate changing circumstances*</i>		
<u>Information Sharing</u>			.50
Coo3	3PLs logistics system able to accommodate special or non-routine events	.65	
Coo4	3PL effectively shares operational information with the outsourcing organisation	.69	
Coo7	Outsourcing organisation can obtain information from the 3PL when needed	.67	
Coo12	The information available from the 3PL is accurate	.75	
Coo5	<i>The 3PL sharing strategic information with the outsourcing organisation*</i>		
<u>Connectivity between IT systems</u>			.54
Coo6	Outsourcing organisation is able to access the 3PL's integrated database and share information	.70	
Coo8	3PL's IT facilitates systems integration with the outsourcing organisation's business operations	.86	
Coo9	3PL's information systems facilitate cross-organisational data exchange	.87	
Coo10	The 3PL's information systems capture real time data	.67	
Coo11	3PL is able to customise the information they give outsourcing organisation	.68	
Cost	The 3PL's ability to minimise cost	.60	
<u>Operational Capabilities</u>			.50
Eff1	Warehouse effectiveness	.66	
Eff2	Transportation effectiveness	.69	
Eff3	Efficiency	.75	

* Deleted due to low factor loading, ** Deleted due to cross-loading

The next sub-section looks at the CFA measurement model for the mediating variable in the current study.

4.7.3.2 MEASUREMENT MODEL ESTIMATION FOR THE MEDIATING VARIABLE

In this study, the proposed mediating variable was logistics service quality. The following measurement model included the second-order latent construct of logistics service quality. The model seemed to fit the data well ($\chi^2 = 218.243$, $df = 94$, $p = .000$, $\chi^2/df = 2.322$, $CFI = .948$, $GFI = .905$, $NFI = .913$, $RMSEA = .074$, $PNFI = .715$, $PGFI = .625$). The χ^2/df is below 3 at 2.322 as recommended. The $CFI = .948$, the $GFI = .905$, the $RMSEA = .074$, and the $PNFI = .715$.

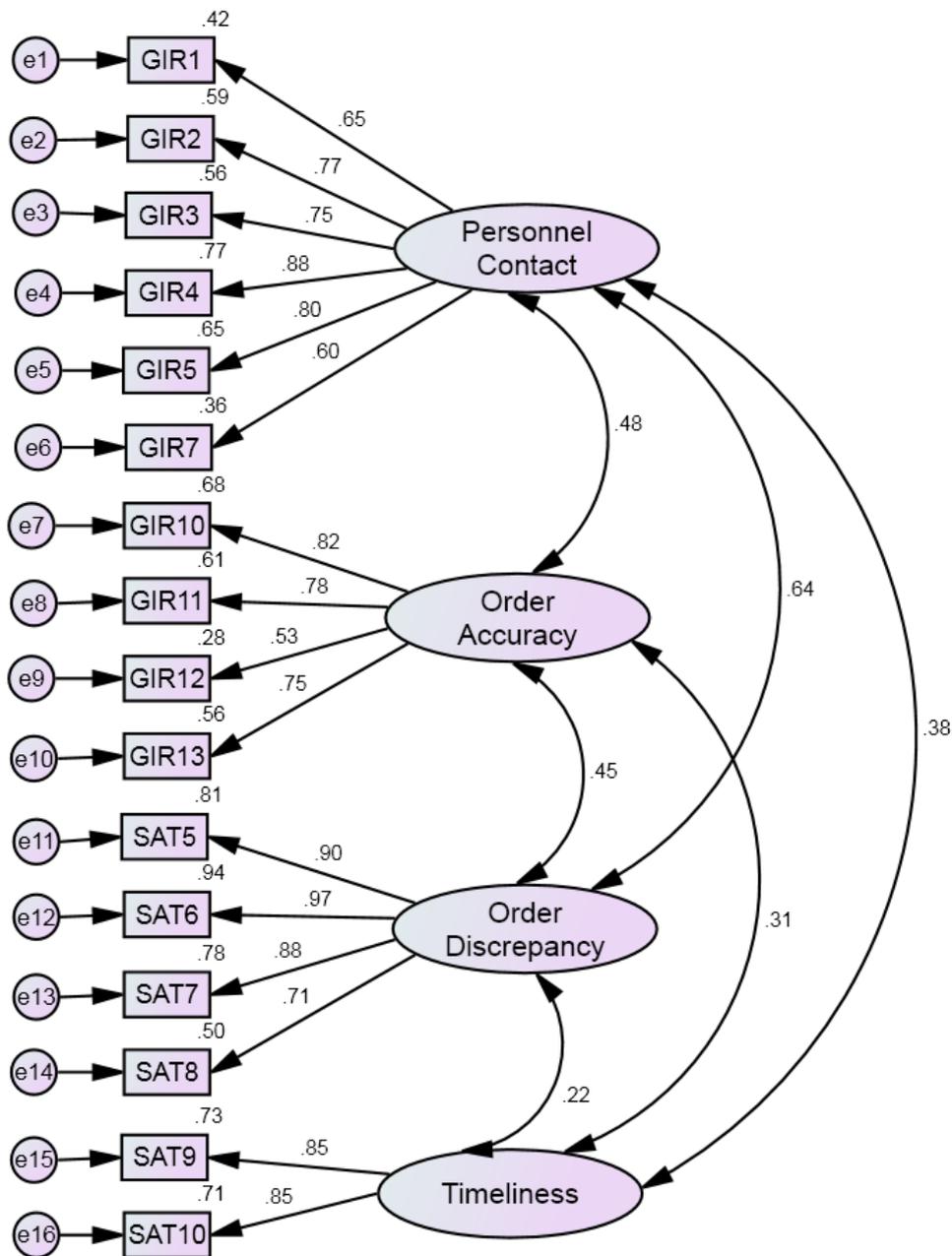


Figure 4.3: Measurement Model for Logistics Service Quality

Table 4.11 indicates the standard factor loadings and average variance extracted for logistics service quality factors in this study.

Table 4.11: Summary of Measurement Model Statistics for the Mediating Variable

Measurement items		SFL	AVE
Logistics Service Quality			
Personnel Contact Quality			.55
GIR1	The 3PL person contacting the outsourcing organisation's customers makes an effort to understand the customers' requirements	.68	
GIR2	The customers' problems are usually resolved by the 3PL contact person	.81	
GIR3	3PL's contact personnel have adequate knowledge of the outsourcing organisation's product	.76	
GIR4	The customer service experience of the 3PL contact person is adequate	.82	
GIR5	The 3PL personnel contacting the outsourcing organisation's customers have the right attitude	.74	
GIR7	Information provided to the end customer from the 3PL is adequate	.61	
<i>GIR 6</i>	<i>Information being available from the 3PL to the end-customer when requested*</i>		
Order Accuracy			.56
GIR10	Deliveries made by the 3PL contain the right items	.83	
GIR11	Deliveries made by the 3PL contain the right quantity	.78	
GIR12	Deliveries rarely contain substituted items	.60	
GIR13	Deliveries made by the 3PL often arrive in full	.75	
Order Discrepancy Handling			.75
SAT5	The way 3PL corrects delivery discrepancies is satisfactory	.90	
SAT6	The 3PL's process of correcting discrepancies is adequate	.99	
SAT7	The 3PL's response to discrepancy reports is satisfactory	.86	
SAT8	Delivery discrepancies are handled by the 3PL quickly	.68	
Timeliness			.73
SAT9	Time between placing an order and receiving delivery (lead time) is as short as promised	.85	
SAT10	Deliveries made by the 3PL arrive on time as promised	.85	
<i>SAT11</i>	<i>The 3PL ensures they deliver back orders quickly*</i>		
<i>SAT12</i>	<i>An explanation is always provided when there are product delivery problems*</i>		

* Deleted due to low factor loading, ** Deleted due to cross-loading

4.7.3.3 MEASUREMENT MODEL FOR THE MODERATING VARIABLE

The proposed moderating variable in this study is ethical integration. This measurement model assessed the second-order latent construct of ethical integration. The model seemed to fit the data reasonably well ($\chi^2 = 118.234$, $df = 38$, $p = .000$, $\chi^2/df = 3.111$, CFI = .955, GFI = .924, NFI = .936, RMSEA = .094, PNFI = .647, PGFI = .532). The χ^2/df is between 3 and 5 as recommended at 3.111. The CFI =.955, the GFI =.924, the RMSEA =.094 and the PNFI = .647.

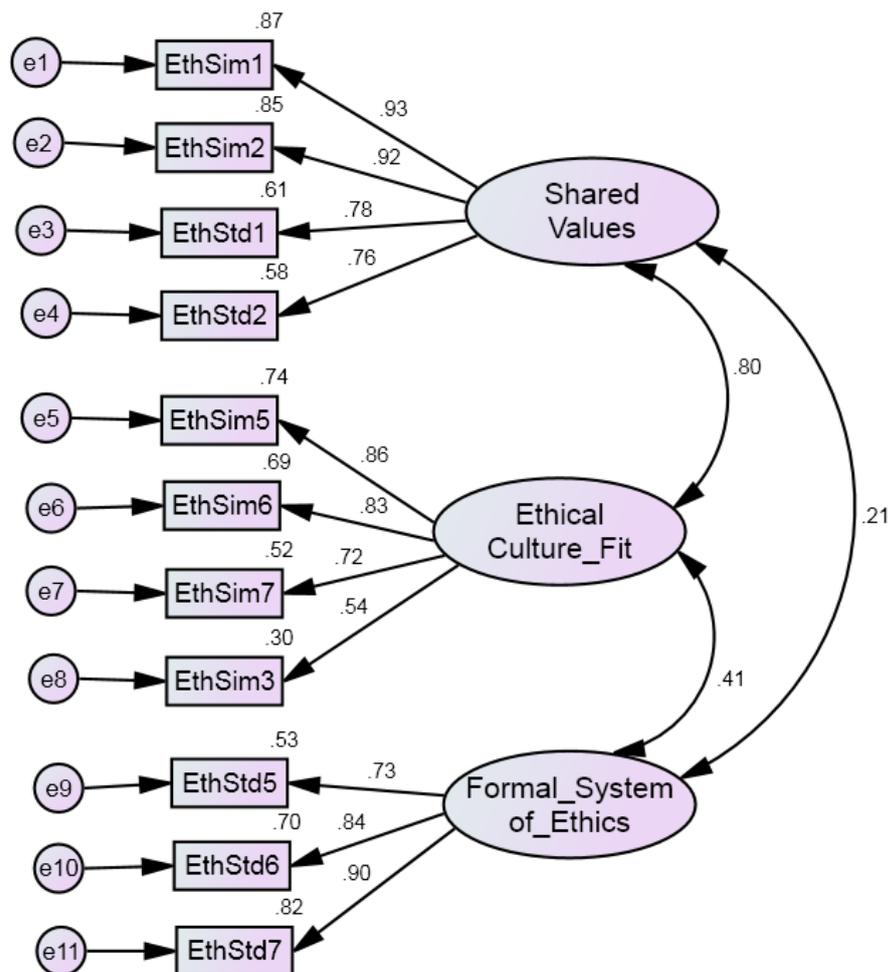


Figure 4.4: Measurement Model for Ethical Integration

Table 4.12 outlines the standardised factor loadings and average variance extracted for the three factors that comprise ethical integration.

Table 4.12: Summary of Measurement Model Statistics for the Moderating Variable

Measurement items		SFL	AVE
Ethical Integration			
Shared Values			.72
EthSim1	The 3PL has the same values as the outsourcing organisation with regard to concern for others	.95	
EthSim2	In general the outsourcing organisation's values and the 3PL's values are very similar	.93	
EthStd1	The 3/4PL takes the outsourcing organisation's ethical standards seriously	.73	
EthStd2	The 3PL and the outsourcing organisation agree on what is considered ethical	.76	
Ethical Culture Fit			.57
EthSim3	The outsourcing organisation is enthusiastic about pursuing collective objectives with the 3PL	.55	
EthSim5	The 3PL and the outsourcing organisation agree on how stakeholders should be treated	.86	
EthSim6	The 3/4PL and the outsourcing organisation deal with conflicts of interest with the same attitude	.84	
EthSim7	The 3/4PL and the outsourcing organisation agree on how confidential information should be treated	.72	
<i>EthSim4</i>	<i>The outsourcing organisation and the 3PL support each other's goals**</i>		
Formal System of Ethics			.69
EthStd 5	The outsourcing organisation does not tolerate ethical lapses from the 3/4PL	.73	
EthStd6	The outsourcing organisation's code of conduct is well communicated to the 3/4PL	.84	
EthStd7	The consequences of breaching the outsourcing organisation's code of conduct is made clear to the 3/4PL	.91	
<i>EthStd4</i>	<i>The outsourcing organisation sets rules and provides guidance to the 3/4PL on acceptable ethical behaviour*</i>		

* Deleted due to low factor loading, ** Deleted due to cross-loading

4.7.3.4 MEASUREMENT MODEL FOR THE DEPENDENT VARIABLES

In the current study, three dependent variables were investigated. These included corporate reputation, financial performance and corporate brand equity. This measurement model examined the first-order latent construct of corporate reputation. The model fit the data very well ($\chi^2 = 2.131$, $df = 2$, $p = .345$, $\chi^2/df = 1.065$, CFI = 1.000, GFI = .996, NFI = .997,

RMSEA = .016, PNFI = .332, PGFI = .199). The χ^2/df is quite acceptable since it is below 3 at 2.131, the CFI = 1.000, the GFI = .996. The RMSEA = .016 and the PNFI = .332.

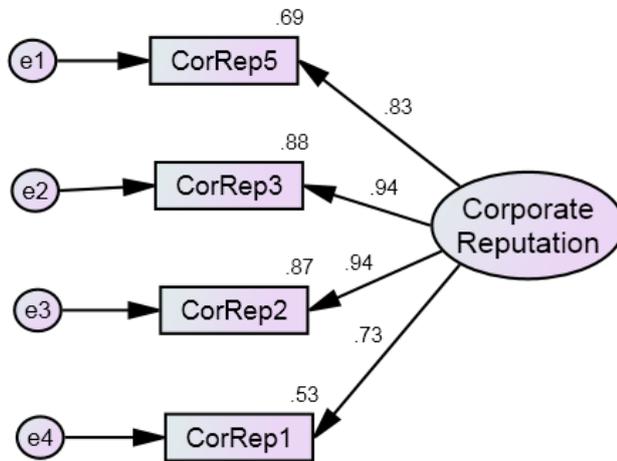


Figure 4.5: Measurement Model for Corporate Reputation

The second dependent variable of financial performance was a first-order latent construct. The measurement model indicates that the model fits the data quite well ($\chi^2 = 3.418$, $df = 2$, $p = .181$, $\chi^2/df = 1.709$, CFI = .998, GFI = .993, NFI = .996, RMSEA = .054, PNFI = .333, PGFI = .199). The χ^2/df is quite acceptable since it is below 3 at 1.709, the CFI = .998, the GFI = .993. The RMSEA = .054, and the PNFI = .333.

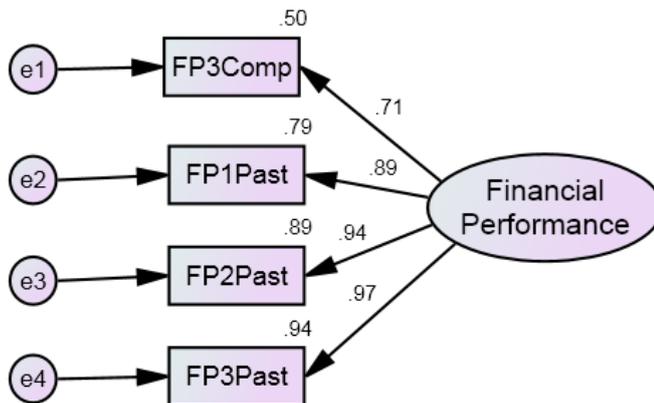


Figure 4.6: Measurement Model for Financial Performance

The third dependent variable was corporate brand equity which was a second-order construct. The measurement model fit the data well ($\chi^2 = 129.790$, $df = 50$, $p = .000$, $\chi^2/df = 2.596$, CFI = .952, GFI = .925, NFI = .924, RMSEA = .085, PNFI = .700, PGFI = .593). The χ^2/df is

quite acceptable since it is below 3 at 2.596, the CFI =.952, the GFI = 925. The RMSEA = .085 and the PNFI = .700.

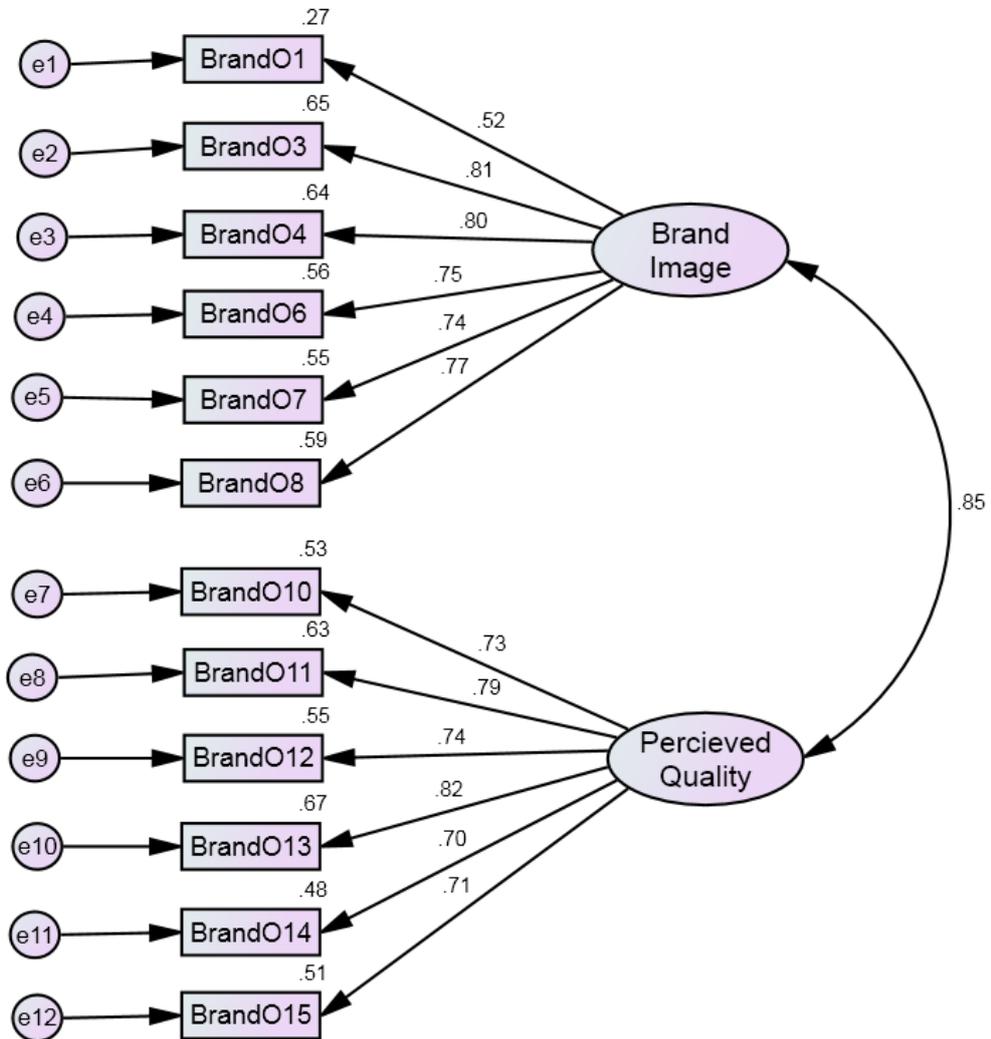


Figure 4.7: Measurement Model for Corporate Brand Equity

Table 4.13 indicates the average variance extracted (AVE) and standardised factor loadings (SFL) for the dependent variables in the current study.

Table 4.13: Summary of Measurement Model Statistics for the Dependent Variables

Measurement items		SFL	AVE
Corporate Reputation			.58
CorRep1	The outsourcing organisation having a good reputation	.53	
CorRep2	Outsourcing organisation is recognised for well-known products	.88	
CorRep3	Outsourcing organisation is known for offering high quality products	.88	
CorRep5	The outsourcing organisation is recognised for offering products that are good value for money	.70	
<i>CorRep4</i>	<i>The outsourcing organisation is recognised for offering high quality service*</i>		
Financial Performance			.78
FP3Comp	How return on investment compared to main competitors has been impacted on by logistics outsourcing	.71	
FP1Past	How profit (before tax) has been impacted on by logistics outsourcing compared to the last two years	.89	
FP2Past	How return on assets has been impacted on by logistics outsourcing compared to the last two years	.94	
FP3Past	How return on investment has been impacted on by logistics outsourcing compared to the last two years	.97	
<i>FP1Comp</i>	<i>How profit compared to main competitors has been impacted on by logistics outsourcing*</i>		
<i>FP2Comp</i>	<i>How return on assets compared to main competitors has been impacted on by logistics outsourcing*</i>		
Corporate Brand Equity			.56
<u>Brand Image</u>			
BrandO1	The name of the outsourcing organisation is well known in their industry	.62	
BrandO3	Business buyers have a positive opinion of the outsourcing organisation's brand	.80	
BrandO4	Business customers regard the outsourcing organisation's brand as a strong trade partner	.83	
BrandO6	The outsourcing organisation's brand image differentiates them from competitors	.74	
BrandO7	The outsourcing organisation's brand is known for looking after its trade partners	.74	
BrandO8	Business customers have a good impression of the outsourcing organisation's corporate brand	.81	
<i>BrandO2</i>	<i>Business buyers know what the outsourcing organisation's brand stands for*</i>		
<i>BrandO5</i>	<i>The outsourcing organisation's brand is well respected in their industry*</i>		

Table 4.13 Continued...

Measurement items		SFL	AVE
<u>Perceived Quality</u>			.58
BrandO10	The outsourcing organisation's business partners being able to reliably predict how they will perform	.71	
BrandO11	The outsourcing organisation is perceived as a leading brand in their industry, compared to competitors	.84	
BrandO12	The outsourcing organisation's brand is known for fulfilling customer promises	.74	
BrandO13	Overall business customers are satisfied with the outsourcing organisation's brand	.86	
BrandO14	The outsourcing organisation's business customers have recommended their brand to other business buyers	.69	
BrandO15	The outsourcing organisation's brand has repeat business customers	.69	
<i>BrandO16</i>	<i>The outsourcing organisation's business customers are willing to pay a higher price for their brand over other brands*</i>		
<i>BrandO9</i>	<i>The outsourcing organisation's brand being perceived as consistently delivering high quality*</i>		

* Deleted due to low factor loading, ** Deleted due to cross-loading

Three of the major constructs in this study - logistics service quality, ethical integration and corporate brand equity - were found to be second order constructs, with more than one factor loading onto the construct. When a confirmatory factor analysis reveals a second order construct, this indicates that the measurement items load onto factors which are the first order factors (e.g. brand image and perceived quality for corporate brand equity). As a result, these factors are then used to indicate the second order latent factor, e.g. corporate brand equity. Corporate reputation and financial performance emerged as first order constructs where the latent construct directly causes the measurement items. 3PL capabilities had six factors and these factors showed high discriminant validity between them, suggesting that they could not collapse into one construct. Similarly, the outsourcing organisation's relational capabilities had two factors and these showed high discriminant validity during a chi-square test, indicating that they did not collapse into one construct. Therefore, the factors had to be treated as distinct constructs as they were so different from each other. The next section looks at how reliability and validity of the measures was assessed.

4.7.4 RELIABILITY AND VALIDITY

Multi-item scales, such as the ones used in this study, have to be assessed for reliability and validity (Van Bruggen *et al.*, 2002). Both reliability and validity are important in increasing the acceptance and trustworthiness of the research findings (Spicer, 2005).

4.7.4.1 RELIABILITY

Reliability refers to the consistency of a scale in repeated measurement of a variable, a group of variables and/or the construct (Zikmund *et al.*, 2011), and indicates that obtained outcomes are of a good standard (Grbich, 1999). Reliability examines how much random error is present in the measurement scale (Bryman & Bell, 2007), representing how well the measurement instrument captures the variance and how much of the variance is caused by chance (Dillon, Madden & Firtle, 1993). Researchers advocate the use of multi-item scales as they are more likely to be reliable and valid, and more appropriate when structural equation modelling (SEM) is used (Bergkvist & Rossiter, 2007; Parsons, 2002; Slater & Atuahene-Gima, 2004). Consequently, multi-item scales were used in this study to enhance reliability and validity.

Reliability is usually determined by measuring the relationship between scores obtained from different administrations of the scale (Spicer, 2005). If the relationship is high, then a scale is exhibiting consistent results and is deemed reliable. Reliability can be tested in a number of ways (Malhotra & Birks, 2007). In this study, the internal consistency approach was used to determine reliability. Internal consistency is the most commonly used method (Hair *et al.*, 2010; Tracey *et al.*, 2005; Tran & Cox, 2009). This test determines the extent to which the items in the scale are internally consistent (Aaker *et al.*, 2007). Internal consistency is relevant because all distinct items or indicators on a scale should measure the same construct, and therefore be highly intercorrelated (Churchill Jr, 1979; Hair *et al.*, 2006; Nunnally, 1979). The coefficient alpha or Cronbach's alpha is regarded as the most acceptable way to assess reliability (Aaker *et al.*, 2010). Thus, Cronbach's alpha was used as an indicator of reliability in this study, consistent with several other studies in this field (Cho *et al.*, 2008; Matanda & Freeman, 2009; Seggie *et al.*, 2006; Sinkovics & Roath, 2004). The Cronbach alphas obtained for the measures in this study all ranged from .75 to .93 and were all above .70 as recommended by Nunnally (1979) (see Table 4.14).

Table 4.14: Correlation Matrix of the Major Constructs in the Study

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1 Responsiveness	.78																		
2 Operational	.02	.71																	
3 Info. Sharing	.09	.52**	.71																
4 Connectivity btw IT systems	.11	.30**	.46**	.73															
5 Flexibility	.53**	-.07	.01	.02	.87														
6 Cust. Focus	.69**	-.04	.07	-.04	.82**	.84													
7 Commun. with the 3PL	-.05	.32**	.44**	.30**	-.08	.00	.71												
8 LT Relation. Orientation	.05	.24**	.27**	.38**	.12	.08	.55**	.75											
9 Formal System of Ethics	-.03	.12	.25**	.26**	-.29**	-.20**	.40**	.15*	.83										
10 Ethical Culture Fit	.02	.29**	.41**	.29**	-.04	.01	.56**	.58**	.40**	.75									
11 Shared Values	.00	.38**	.41**	.21**	-.07	-.01	.53**	.49**	.28**	.74**	.85								
12 Timeliness	.06	.29**	.34**	.33**	-.05	-.03	.39**	.40*	.31**	.43***	.32**	.85							
13 Order Discrepancy H.	-.00	.38**	.33**	.25**	.09	.08	.23**	.45**	.01	.43**	.43**	.23**	.87						
14 Order Accuracy	.00	.40**	.17**	.20**	.06	.03	.09	.25**	.13*	.27**	.26**	.26**	.42**	.75					
15 Personnel Contact	.05	.37**	.35**	.23**	.18**	.12	.33**	.53**	.10	.48**	.56**	.34**	.61**	.41**	.74				
16 Perceived Quality	-.06	.20**	.06	.16*	.03	-.01	.11	.19**	.12	.20**	.18**	.15*	.23**	.26**	.11	.76			
17 Brand Image	-.10	.26**	.01	.11	-.04	-.08	.16*	.15*	.09	.16*	.19**	.11	.17**	.23**	.12	.72**	.75		
18 Financial Performance	.05	.06	-.02	.20**	-.02	-.07	.01	.18**	-.02	.09	.06	.07	.16*	.03	.15*	.16*	.10	.88	
19 Corporate Reputation	.11	.12	.08	.16*	.11	.06	.06	.35**	-.08	.22**	.25**	.09	.37**	.27**	.30**	.27**	.26**	.47**	.76
Cronbach Alpha	.82	.75	.78	.85	.92	.88	.80	.77	.87	.84	.91	.84	.92	.83	.88	.81	.88	.93	.84
Mean	4.07	5.29	4.89	4.17	4.03	3.95	4.88	5.15	4.87	4.91	4.81	5.39	4.82	5.34	4.50	5.39	5.35	4.83	5.18
Standard Deviation	1.45	.93	1.13	1.29	1.58	1.62	1.18	1.15	1.48	1.18	1.40	1.19	1.33	.99	1.22	.87	.94	1.07	1.03

4.7.4.2 VALIDITY

Validity concerns how well a measure is capturing the intended construct (Bryman & Bell, 2007). It determines if a measure truly reflects the construct (Slater & Atuahene-Gima, 2004). Validity is particularly important in social research as the constructs are measured with items that may not depict all facets of the construct (Dillon *et al.*, 1993). Validity requires a holistic understanding of the construct (Aaker *et al.*, 2010). There are various types of validity (Aaker *et al.*, 2007) and those most commonly utilised in marketing research include content and construct validity (Buvik, 2002; Sarkar *et al.*, 2001; Sinkovics & Roath, 2004; Tracey *et al.*, 2005). In the following sections, these validity types and their application in this study will be discussed.

Content Validity

Content validity, also referred to as face validity, is a subjective but systematic way of assessing whether a scale will measure what it is supposed to measure (Zikmund *et al.*, 2011). To determine content validity, an agreement between respondents and the researcher should be reached to ensure that the scale items effectively represent the whole domain of the construct being measured (Tracey *et al.*, 2005). Therefore, there is a need to ensure that no significant dimensions have been overlooked in a measurement scale, and this examination should be supported by existing literature and expert opinions (Bergkvist & Rossiter, 2007; Tracey *et al.*, 2005). In the current study, content validity was determined by using a panel of experts (five industry and three academic) who assessed how well the instrument reflects the constructs under study, as advised in prior research (Bergkvist & Rossiter, 2007; Cho *et al.*, 2008). This panel comprised experts who had participated in the qualitative study discussed in Chapter 5, and academics familiar with the research area. The panel was consulted during the questionnaire development and pretest stages. In addition, content validity was increased in this study by adapting existing measures from the literature (Aaker *et al.*, 2010). Even though content validity was confirmed, in isolation, content validity is insufficient to determine scale validity. Therefore, it was important to determine construct validity as well (Sarkar *et al.*, 2001).

Construct Validity

Construct validity involves determining what construct or facet of the construct the actual scale is measuring (Peter, 1981; Zikmund *et al.*, 2011). To evaluate construct validity, the researcher should endeavour to theoretically explain why the scale works and the underlying theory in the scale (Spicer, 2005). Construct validity is considered to be the most advanced and difficult type of validity to assess (Hair *et al.*, 2010). Construct validity consists of convergent and discriminant validity (Buvik, 2002; Zhao *et al.*, 2001) which are discussed below.

Convergent Validity

Convergent validity ascertains the extent of similarity between the measurement items of the same construct (Aaker *et al.*, 2010; Slater & Atuahene-Gima, 2004). This can be assessed by correlating a selected item on the scale with other items that measure the same concept (Spicer, 2005). High correlation between the two items suggests that the scale is measuring the intended construct (Malhotra & Birks, 2007; Peter, 1981). In this study, convergent validity was enhanced by: (a) using a minimum of three measurement items to capture each variable, as being recommended by Malhotra and Birks (2007), Shah and Goldstein (2006), and Slater and Atuahene-Gima (2004), (b) applying a 7-point Likert scale as it yields a normal distribution (Spicer, 2005), (c) carefully developing the questionnaire and, (d) pre-testing the questionnaire.

Confirmatory factor analysis (CFA) of measurement models using structural equation modeling is commonly used to assess convergent validity (Bagozzi *et al.*, 1991; Lai, 2009; Matanda & Freeman, 2009). During CFA, standardised factor loadings (SFL) above .60 indicate convergent validity. As can be seen in Table 4.10, all factor loadings were above .60 except for 'RelCap 6' in long-term relationship orientation which had a SFL of .50, 'EthSim3' in ethical culture fit which had a SFL of .55 and 'CorRep1' in corporate reputation which had a SFL of .52. However, these three factors were accepted because some researchers argue that standardised factor loadings above .40 should be accepted (Bamberg, 2003; King, Shaw, Passetti, Weich & Serfaty, 2007) and these measurement items add an in-depth understanding to the constructs of relational capabilities, ethical culture fit and corporate reputation. Additionally, the values of the average variance extracted (AVE) were above .50 for all constructs including relational capabilities, ethical culture fit and corporate

reputation. AVE determines how much convergence exists between a set of items that are measuring a construct (Batra & Ahtola, 1990). It is calculated through the average percentage of variation in a construct that its items explain; therefore, the sum of all squared SFLs for the construct is divided by the number of items to obtain the AVE (Hair *et al.*, 2010) These AVE values suggest that the measurement items were significantly related to their pre-specified constructs, suggesting convergent validity. Convergent validity is also indicated by the high Cronbach alpha's (see Table 4.14) which suggest the measurement items capturing each construct are highly correlated and converge well to their respective constructs (Narver & Slater, 1990). However, convergent validity can be inflated by common method variance which is discussed below.

Common Method Variance

Common method variance (CMV) is a frequent problem in survey research (Rindfleisch *et al.*, 2008), as it causes overstated correlations between measures that are obtained using the same respondents (Buckley, Cote & Comstock, 1990). CMV can be caused by issues in the questionnaire design such as wording, scale length, and the type of measure used (Ostroff, Kinicki & Clark, 2002). In this study, the questionnaire was developed with care and a number of steps were taken to minimize the likelihood of CMV (Malhotra, Kim & Patil, 2006). These included ensuring the scales reflect how respondents would actually respond (Lindell & Whitney, 2001), pretesting the survey with actual industry respondents, paying attention to item wording, reducing bias in the items by giving no indication of the preferred response, minimizing respondent fatigue by keeping the questionnaire as short as possible, and providing clear instructions as recommended by Nunnally and Bernstein (1994), and Slater and Atuahene-Gima (2004).

In particular, the self-reported survey data and perception measures used in this study are subject to CMV that may indicate spurious relationships (Beugelsdijk *et al.*, 2009; Kim & Cavusgil, 2009; Nguyen & Biderman, 2008). In the current study, CMV was decreased by assuring informant anonymity (Podsakoff, MacKenzie, Jeong-Yeon & Podsakoff, 2003), and making constructs more concrete and verifiable (Jap & Anderson, 2004). Since managers often have a tendency to agree or disagree uniformly without too much thought, they are subject to acquiescence bias. To deal with the problem of acquiescence bias reverse scored items were used in the questionnaire as suggested by Lindell and Whitney (2001).

Even though a number of steps were taken to reduce CMV during the development of the questionnaire, statistical procedures were also used to assess whether CMV was a problem in this data set. To test for CMV, in this study a number of approaches were used. Initially, as recommended by Kim and Cavusgil (2009), Harman's single factor test was used as the basic test for CMV. Harman's one-factor test is a popular test in marketing research (Davis & Mentzer, 2008; Espino-Rodriguez & Rodriguez-Diaz, 2008), but is considered insufficient if used in isolation (Malhotra *et al.*, 2006). The single-factor test entails a specification of a single-factor model with all measurement items loading on a single factor (Parmigiani & Mitchell, 2009). If this single-factor model indicates a better chi-square (χ^2) value compared to the model tested in the study, then CMV could be a problem (Beugelsdijk *et al.*, 2009). The single-factor model produced a χ^2 value of 3238.19. The χ^2 value of the model tested in this study is 705.05. This indicates that the study model provides a better χ^2 value and indicates that CMV may not be a problem in the current study (Kim & Cavusgil, 2009). However, as mentioned previously, this test is viewed as being inadequate to determine the existence of CMV.

Therefore, in conjunction with the Harman's single-factor test, the marker variable approach was used as an additional test of CMV. Lindell and Whitney (2001) advocate the use of a marker variable to capture the effects of CMV. A marker variable should be theoretically unrelated to at least one independent and dependent variable being studied. In this study, a marker variable "I think doing a PhD is a waste of time" was included in the questionnaire. The correlation of the marker variable and other variables in the study provides an estimate of CMV (Slater & Atuahene-Gima, 2004). In this study, correlation analysis was undertaken for the marker variable and every construct in the study. The correlations were adjusted by subtracting the smallest correlation from the others to determine whether, after the adjustment, the correlations remained significant or whether some significant correlations became insignificant. The correlations are presented in Table 4.14 and the lowest positive correlation was .01. None of the significant correlations became non-significant, suggesting that CMV may not be a problem in this study. In the next section on discriminant validity, the other type of content validity is discussed.

Discriminant Validity

Discriminant validity determines the extent to which a measure does not correlate with other measures that are supposed to be different from it (Bollen, 1989; Peter, 1981). An

examination of discriminant validity requires correlating two measures aimed at capturing two conceptually distinct constructs. If the correlation is low, it indicates that the scale is acceptably dissimilar from the other scale (Hair, Anderson, Tatham & Black, 1998). This involves the analysis of a correlation matrix and the inter-construct correlation of the measurement items (Morris & Carter, 2005). It is common in marketing research to use confirmatory factor analysis to assess discriminant validity (Kim & Cavusgil, 2009; Matanda & Freeman, 2009). This analysis involves a two-step approach where a measurement model is assessed before the structural model is estimated to determine whether the measurement model is acceptable independently of the structural model (Anderson & Gerbing, 1988; Kim & Cavusgil, 2009). Discriminant validity examines shared variance among indicators of a construct and the average variance extracted (Fornell & Larcker, 1981). Average variance extracted (AVE) indicates the amount of variance in observed variables that can be explained by related latent variables (Fornell & Larcker, 1981; Sinkovics & Roath, 2004). For example, AVE for customer focus 3PL capabilities indicates the amount of variance in CF1 that can be explained by customer focus 3PL capabilities. Discriminant validity is indicated when the square root of the shared variance for a construct is greater than the AVE (Davis & Mentzer, 2008; Jensen & Klastrup, 2008; Kim & Cavusgil, 2009). In Table 4.14, the square root of the AVE has been given at the end of the each row for each construct. Looking both horizontally and diagonally, the square root of the AVE is greater than all of the correlations for all constructs, thereby indicating discriminant validity (Fornell & Larcker, 1981).

4.8 EMERGING CONCEPTUAL MODEL

As a result of measurement purification, the operationalisation of the concepts in this study changed. As Figure 4.8 illustrates, the emerging conceptual model has fewer dimensions under each latent construct, reflecting the refinement of measurement that resulted from the EFA and CFA.

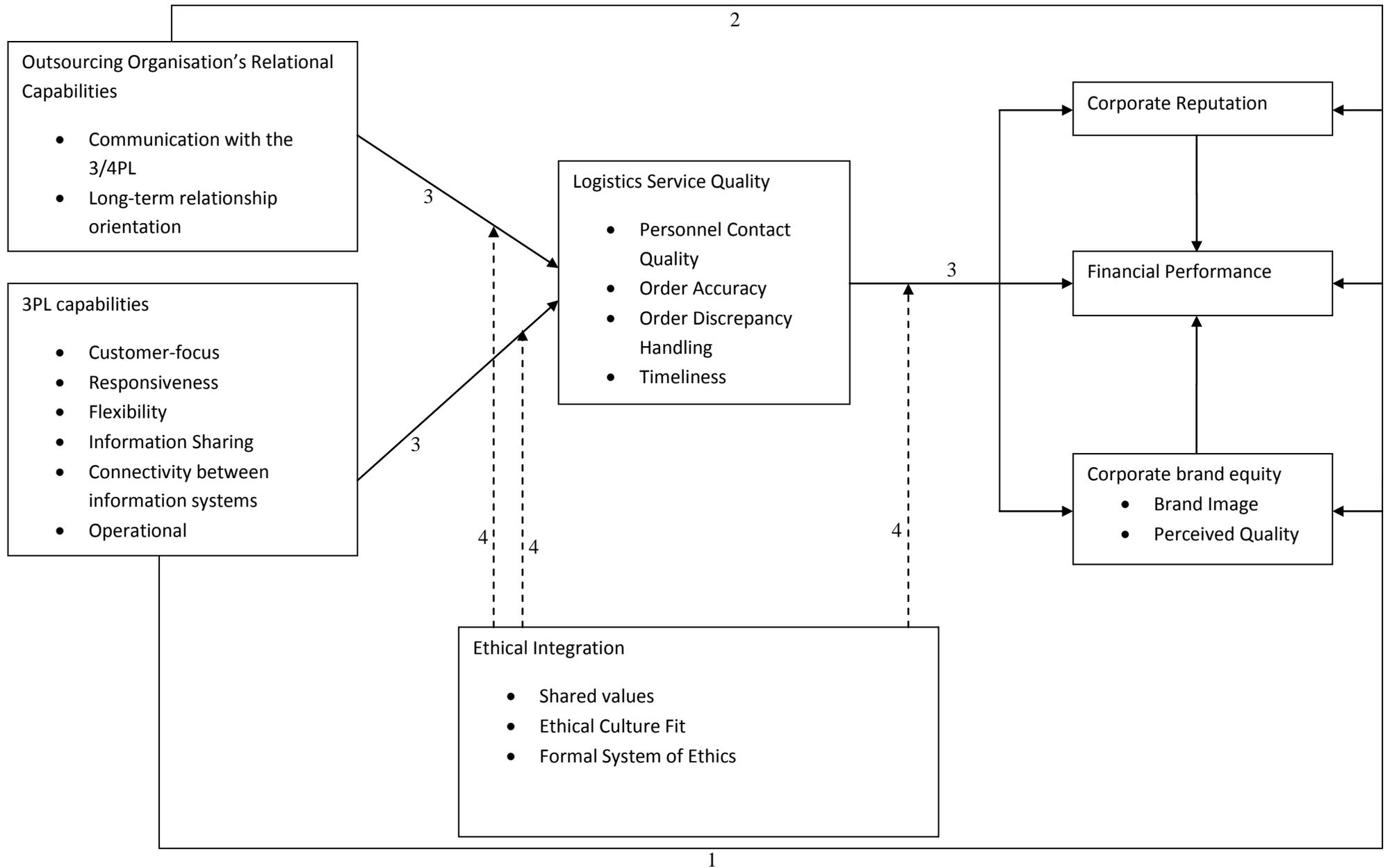


Figure 4.8: Emerging Conceptual Framework of the Relationships between Outsourcing Partner's Capabilities, Logistics Service Quality, Ethical Integration and the Outsourcing Organisation's Performance

4.9 PRELIMINARY DATA ANALYSIS

Data needs to be analysed to yield useful findings and results that address the research problem (Bryman & Bell, 2007). Preliminary data analysis consists of reducing data gathered so that it can easily be interpreted, looking for patterns in the data, and using statistical techniques to obtain meaningful results (Kolb, 2008). The first step is a preliminary analysis of the sample respondents and their employer organisations. The following sections describe the sample and its characteristics.

4.9.1 PROFILE OF RESPONDENTS

As can be seen in Table 4.15, the majority of respondents were male (91.20%) as logistics and supply chain management positions tend to be male-dominated. Most respondents were in the 31-46 (38.40%) and 47-57 (33.90%) age groups as would be expected in upper management positions. Though a range of organisational positions were represented in the sample, there were a number of senior management and middle management employees including logistics and supply chain managers, managing directors, CEO's, general managers, financial managers, marketing managers and chief of operations officers. Most respondents were middle managers (70.10%).

Table 4.15: Profile of Respondents

Characteristics	Percentage (%)	Number of respondents
<u>Gender</u>		
Male	91.20	223
Female	8.80	19
<u>Age</u>		
18-30	14	34
31-46	38.40	93
47-57	33.90	82
58-65	12.80	31
Over 65	0.80	2

Table 4.15 Continued...

Characteristics	Percentage (%)	Number of respondents
<u>Position in Organisation</u>		
Senior Management – Managing Directors and General Managers	29.80	93
Middle Management – Supply Chain , Operations Managers	70.20	146
<u>Years in Position</u>		
1 – 4.99	47.90	104
5 – 9.99	32.20	70
10 – 14.99	7.80	17
15 – 19.99	4.10	9
Over 20	7.80	17

4.9.2 PROFILE OF RESPONDENT ORGANISATIONS

Table 4.16 depicts the characteristics of the respondent’s organisations in this study. Respondents’ organisations operated in many industries, but the most common were manufacturing (24.80%) and retail (21.50%). The majority of respondents (49.20%) worked in organisations with annual sales volume of over 10 million Australian dollars. However, even though organisations had large sales volume, most did not have a large number of employees as most employed 20-50 full-time employees (21.90%) or 50-100 full-time employees (25.60%). The majority of respondents (42.90%) reported the length of the outsourcing relationship with their most important 3PL to be between 3 and 5.99 years. Most respondents (94.60%) answered the survey about a 3PL rather than a 4PL partner, and more than half of respondent organisations (52.10%) outsourced both transportation and warehousing activities.

Table 4.16: Profiles of Respondent Organisations

Characteristics	Percentage (%)	Sample Size
<u>Industry – SIC Division</u>		
A – Agriculture, Forestry and Fishing	17.10	41
B – Mining	4.50	11
C – Manufacturing	24.80	60
D – Electricity, Gas and Water	2.00	5
E – Building and Construction	4.50	11
F – Wholesale Trade	3.80	9
G – Retail Trade	21.50	52
H – Accommodation, Cafes and Restaurants	3.80	9
I – Transportation and Storage	2.90	7
L – Property and Business Services	3.40	8
M – Government Administration and Defence	1.70	4
O – Health and Community Services	10.70	26
<u>Annual Sales</u>		
0-49,999	1.70	4
50,000-199,999	2.90	7
200,000-500,000	4.10	10
500,001-1,000,000	3.70	9
1,000,001-1,999,999	6.60	16
2,000,000-5,000,000	14.00	34
5,000,001-10,000,000	17.80	43
over 10,000,000	49.20	119
<u>Number of full-time employees</u>		
0-4	3.30	8
5-19	15.30	37
20-50	21.90	53
51-100	25.60	62
101-199	9.90	24
200-500	10.70	26
501-1000	5.40	13
Over 1000	7.90	19

Table 4.16 Continued...

Characteristics	Percentage (%)	Sample Size
<u>Length of Outsourcing Relationship (in years)</u>		
0-2.99	16.50	40
3-5.99	42.90	104
6-8.99	19.00	46
9-11.99	11.10	27
12-14.99	3.70	9
15-17.99	3.30	8
18-20.99	2.80	7
21 and over	0.40	1
<u>Use of 3PL or 4PL</u>		
3PL	94.60	229
4PL	3.70	9
Both	1.70	4
<u>Outsourcing Transportation or Warehousing</u>		
Outsourcing Transportation	36.80	89
Outsourcing Warehousing	11.20	27
Outsourcing Both	52.10	126

4.10 CHAPTER SUMMARY

In this chapter, the research methodology utilised in this study, and the measurement and instrument development were discussed in addition to descriptive and exploratory research designs. Data preparation procedures comprising of testing of assumptions, measurement purification, and preliminary analysis were outlined. In the next chapter, the results of the current research are discussed beginning with the results of the exploratory study, followed by those of the quantitative survey research.

CHAPTER 5

EFFECT OF OUTSOURCING PARTNER'S CAPABILITIES ON THE OUTSOURCING ORGANISATION'S PERFORMANCE

5.1 INTRODUCTION

In this chapter, the results obtained from the exploratory qualitative study undertaken to inform the development of measures and confirm constructs of the quantitative study are outlined. Firstly, the data collection and analysis procedures, with thematic analysis as the main analysis method, are described. Then, the results and discussion of the findings are presented. Finally, the key findings from the qualitative research are summarised including how this preliminary study informed the quantitative study that followed.

5.2 DATA ANALYSIS PROCEDURES

Exploratory qualitative research allows a clearer identification of a research problem (Malhotra & Birks, 2007), facilitates development of theories (Eisenhardt & Graebner, 2007), and contributes to the understanding of the phenomena under study (Aaker *et al.*, 2005). Researchers in supply chain management advocate the use of qualitative research as a means of exploring concepts in greater depth (Singhal, Flynn, Ward, Roth & Gaur, 2008), and to successfully examine organisational behaviour (Dubois & Araujo, 2007). A more comprehensive understanding was needed in this study as many of the proposed relationships have been under-explored in prior literature. Additionally, as a new construct (ethical integration) was being developed, exploratory research was necessary to determine the appropriate components of the construct and how it might be measured. Creswell and Plano Clark (2007) advocate the use of an exploratory qualitative approach to facilitate instrument design for quantitative studies. Consequently, an exploratory research design was deemed appropriate for the first phase of the current study (Geiger & Turley, 2005).

The central premise of qualitative research is to establish multiple perspectives and gain a better appreciation of the research problem (Powell & Ennis, 2007; Strauss & Corbin, 1994).

As this study explored multiple perspectives, the qualitative research included research participants from both outsourcing and 3PL organisations. A total of 15 senior supply chain/logistics and brand managers were included to provide the most information-rich data possible on outsourcing relationships in Australia. Respondents from multiple industries were targeted to gain a more comprehensive insight into overall logistics outsourcing activities (Parsons, 2002). Table 5.1 indicates the study participants, their industry and the activity being outsourced.

Table 5.1: Summary of Participants, Participant’s Industry and the Outsourced Activity

<i>Respondent ID</i>	<i>Position</i>	<i>Industry</i>	<i>Activity outsourced/undertaken</i>
Respondent 1	Logistics Manager	Logistics	Warehousing, distribution, inventory management
Respondent 2	Logistics Director	Fast Moving Consumer Goods	Warehousing, distribution, transportation
Respondent 3	Consultant	Logistics	Consulting
Respondent 4	Chief Financial Officer in charge of logistics	Retail	Domestic freight, warehousing, cross-dock, freight forwarding
Respondent 5	Managing Director in charge of logistics	Logistics	Warehousing, transportation
Respondent 6	Group Manager for Supply Chain Solutions	Logistics	Warehousing, transportation, distribution, inventory management, transport planning
Respondent 7	Inbound Supply Chain Manager	Retail	Transportation, distribution, wharf cartage
Respondent 8	Logistics Manager	Logistics	Rail transportation, warehousing, freight management, transportation
Respondent 9	Manager of Footwear and Apparel Supply Chain	Retail	Transportation
Respondent 10	National Freight Manager	Retail	Transportation
Respondent 11	Managing Director in charge of logistics	Logistics	Transportation, warehousing, packaging
Respondent 12	National Logistics Manager	Logistics	Warehousing, inventory management, pick and pack
Respondent 13	Procurement Manager	Healthcare	Distribution, transportation
Respondent 14	General Manager of IT & Supply Chain	Retail	Distribution, cross-dock and transportation
Respondent 15	General Manager of Australian Supply Chain	Fast Moving Consumer Goods	Transportation, distribution

Interviews with participants were conducted either face-to-face or on the telephone, and lasted between 75 to 90 minutes. The interviews were tape-recorded with the respondent’s

permission and then transcribed verbatim. As advised by Hillebrand and Biemans (2011), in order to enhance validity, the transcripts were then sent back to participants for cross-checking and clarification.

A semi-structured interview guide constructed on the basis of existing literature was used (Strauss & Corbin, 2008). A semi-structured interview guide ensures that all respondents are asked the same questions and enables interviewers to probe and explore emerging constructs (Wagner & Hoegl, 2006). All interviews began with a discussion of what made the organisation's outsourcing relationships successful, and the problems encountered in outsourcing partnerships. Respondents were then requested to discuss their end business customers who received the outsourced logistics task, for example, the retailer who receives the delivery of the manufacturer's products. This led to dialogue concerning how the end business customer perceived the 3PL versus the outsourcing organisation. The 3PL's influence on the outsourcing organisation's brand and other performance outcomes were then discussed. During this discussion, respondents highlighted the importance of their outsourcing partner acting ethically. Subsequently, respondents were requested to indicate the capabilities that they required in their outsourcing partners, and how the 3PL's performance and progress were monitored. The interviewer directed the interview so as to enable the most pertinent concepts to come to light from the participant's knowledge and experience. Interviews were conducted until the point of theoretical saturation was reached at interview 15 as no new concepts emerged (Guba & Lincoln, 1994).

Data triangulation was used to reduce systematic bias in the research results (Maxwell, 2005) and improve validity and accuracy. Data triangulation was achieved by using field notes from observation and documentary analysis to complement in-depth interviews and gain a more complete understanding (Bowen, 2009; Yin, 1999). Formal documents obtained from respondents or publically available sources like the internet (Rundh, 2011), were used to support coding of primary data, namely the interview transcripts and field notes. In addition, document analysis provided information on the business context in which the respondents operated and additional information about their outsourcing relationships.

The qualitative data collected was then coded to distinguish the most important and interesting information from the large amount of data (Wolcott, 1990). Coding was done using prior categories informed by existing literature (Biggemann & Buttle, 2012) and emergent categories derived from the data that might not have been previously captured in

the literature (Granot, Greene & Brashear, 2010). The interview with each respondent generated a number of ideas; therefore, multiple codes were used, making the coding multivariate across respondents. Since a large of number of ideas were generated by respondents, coding was guided by comments considered as the most important as they seemed similar to those of other respondents or were repeated in different interviews (Kvale, 1996). During the coding process, the data was revisited a number of times to ensure the suitability of the selected codes (Biggemann & Buttle, 2012), making the process re-iterative. Table 5.2 indicates the codes that were used across themes to interpret the qualitative data in this study.

Table 5.2: Emerging Themes

Role of the outsourcing organisation	Necessary 3PL capabilities	Assessing 3PL performance	Ensuring ethical behaviour	The 3PL and the outsourcing organisation's outcomes
Assessing the 3PL	Operational Capabilities	KPIs	Documentation	Customer dissatisfaction/Customer complaints
Understanding the outsourced task	Cost	Errors	Measuring ethical behaviour	More personalised service/Extra Services
Effort towards the relationship	Efficiency	Pricing	Cultural matching	Credibility
Specifying the task	Flexibility	Product Condition	Eliminating opportunism	Representing the outsourcing organisation
Long-term orientation	Connectivity with the outsourcing organisation	Customer Service	Consequences of unethical behaviour	Service
Sharing information	Industry/Product Knowledge	Driver related measures	Preliminary discussion of standards	Customer interaction
Collaboration	IT skills	Recovering from service failure		Delivering the value proposition
	Responsiveness	Delivering on promises		Differentiation between the 3PL and the outsourcing organisation
	Bundling services	Meeting expectations		Customer engagement
				Reliability

The data was analysed using thematic analysis (Boyatzis, 1998; Roulston, 2001) whereby patterns and themes were matched on the basis of similarities and differences among the data (Floersch, Longhofer, Kranke & Townsend, 2010). A theme is a ‘patterned response or meaning within [a] dataset’ (Braun & Clarke, 2006 p.82) and can be identified by comparing patterns in the data based on prior knowledge of the research phenomena (Reissman, 2008). When qualitative data is being analysed utilising this approach, the researcher searches for patterns or recurrent themes (Lawrence & ul-Haq, 1998). A theme reflects the outline and connotation of ideas and thematic analysis allows themes to emerge from the data so as to make sense out of large amounts of text (Granot *et al.*, 2010). Thematic analysis may involve the identification of a number of key themes and sub-themes (Powell & Ennis, 2007). Similar to the coding process, during the analysis process the researcher looked for significant themes that were consistent across the dataset (Patton, 2002). In this study, the researcher looked for patterns across cases and within cases. These themes or patterns indicated what appeared to be the most important issues across respondents. Findings were then categorized to facilitate comparison and development of theoretical concepts (Strauss & Corbin, 2008). The themes identified in this study included *the role of the outsourcing organisation, necessary 3PL capabilities, assessing 3PL performance, ensuring ethical behaviour and the 3PL and the outsourcing organisation’s brand*. These themes were then sorted into logically-related clusters as advised by Grisaffe and Nguyen (2011).

5.3 RESULTS AND DISCUSSION

The results of the exploratory qualitative study discussed below are organised around the most pertinent themes that emerged. These include how the 3PL affected the outsourcing organisation’s brand and other performance outcomes, relationship management and ensuring ethical behaviour.

5.3.1 INFLUENCE OF 3PLS ON OUTSOURCING ORGANISATION’S BRAND AND OTHER OUTCOMES

The results indicated that 90 percent of respondents did not immediately acknowledge the effect of a 3PLs’ service delivery on the outsourcing organisation’s brand.

“there’s an inference that if they’re doing all of these things right then we’re meeting our value propositions, but there’s no direct assessment of whether in fact that is impacting on the brand” (Respondent 11).

Nonetheless, when probed to consider the effect that 3PLs have on outsourcing organisations’ brands, a number of brand-related outcomes emerged. Seventy-five percent of respondents claimed that most of the time the end customer could not differentiate between the 3PL and the outsourcing organisation. This was well articulated by Respondent 7 who stated that *“everything the 3PL does is us”*, and Respondent 10 who said *“it’s us not them that our customer sees”*. Some 3PLs also admitted that they were perceived as part of the outsourcing organisation. This issue was emphasised by Respondent 2, *“the customer doesn’t care if it’s a 3PL...that’s invisible to them. They know they’re buying our product”*. These findings support the literature stating that the end customer interprets the behaviour of the 3PL as that of the outsourcing organisation (Agndal & Nordin, 2009).

Often, the end customer’s only interaction with the outsourcing organisation’s brand is through the 3PL. Moreover, in some cases, co-branding was used when 3PLs wore the outsourcing organisation’s logo and this resulted in *“...anything they do right or wrong is a reflection on us”* (Respondent 3). Thus, positive experiences with the 3PL enhanced customer satisfaction with the outsourcing organisation and its brand, whilst negative experiences had a detrimental effect. For example, within the FMCG (fast moving consumer goods) industry, non-delivery or late delivery (particularly of promoted items) can result in stock-outs and the outsourcing organisation’s products being de-listed by dissatisfied business customers. Most respondents from 3PL and outsourcing organisations were aware that the 3PL, particularly when there is direct interaction with the customer, can influence customer satisfaction.

One way in which 3PLs can positively affect the outsourcing organisation is by providing additional services such as extending extra courtesy and making a greater effort for the end customer, *“it helps their brand”*. Positive recovery from service failure with the end business customer also increases the outsourcing organisation’s brand equity through enhanced goodwill. In addition, respondents from outsourcing organisations indicated how some 3PLs helped by *“suggesting improvement of process...that improves our end objective of servicing our customers as efficiently and proactively and as timely as possible”*. Interestingly, one

respondent from a 3PL organisation also mentioned the contribution that 3PL partners can make to the reduction of waste and enhancing service delivery.

The results of the in-depth interviews also indicated that 3PLs influenced the outsourcing organisation's brand through their interaction with the end customer during service delivery, thereby affecting the overall customer experience. According to Respondent 13 *"the 3PL meets... our customer every day, the small details like the attitude of the driver visiting a store is absolutely paramount to how that customer perceives our company"*. Additionally, the 3PLs' handling of the product affected customer perceptions of product quality and the extent to which customers' quality expectations were met. Thus, 3PLs can increase the outsourcing organisation's brand credibility and encourage repeat purchase. This supports literature which suggests that the brand is heavily influenced by the physical interactions with the brand such as service delivery rather than marketing communications (Berry, 2000). Therefore, as the literature indicates, internal marketing towards customer contact employees and supply chain partners, is an important part of managing the brand (Rafiq & Ahmed, 2000).

Other than the 3PL's effect on the outsourcing organisation's brand, the respondents also emphasized two other important outcomes for the outsourcing organisation: reputation and financial performance. One 3PL manager (Respondent 12) admitted *"our service affects customer feedback and the reputation of the client"*. Positive effects such as that indicated by the statement below were discussed.

"if the 3PL presents very well, they've got a uniform on, they're clean, their vehicles are clean, it impacts positively on the image of the outsourcing organisation"
(Respondent 3).

However, half of the respondents also remarked that the negative effects of the 3PL on the outsourcing organisation's reputation are quite serious. Respondents 4 and 6 from outsourcing organisations re-iterated that if the 3PL failed to deliver the product at the right time and in the right state, then the outsourcing organisation's reputation could be damaged through the loss of credibility and end customers feeling that the outsourcing organisation could not be relied on.

Even though most respondents indicated that their decisions to outsource were cost-driven, the behaviour of the 3PL negatively impacting on the outsourcing organisation financially was mentioned by only one third of respondents. In particular, Respondent 4 from an

outsourcing organisation claimed that *“they can directly impact on sales performance and therefore financial performance, especially with promoted lines”*. This implied that if the 3PL did not deliver the products when required, then sales would be lost as customers would not be willing to make further purchases. Consequently, profits would decrease. Apart from service delivery, other examples given by respondents were: the importance of delivery efficiency in minimising costs, finding the best route, loading and unloading the truck correctly, and minimising wastage.

It also emerged that outsourcing organisations often made efforts to manage the outsourcing relationship to ensure the best possible outcome from a 3PL dealing with their customers.

5.3.2 RELATIONSHIP MANAGEMENT

All respondents from outsourcing organisations highlighted the importance of using relationship management to ensure that 3PL behaviour positively influenced their brands. Effectively managing the outsourcing relationship was believed to affect the behaviour of the 3PL towards the outsourcing organisation’s business customers and therefore their brand evaluations. As Respondent 11 affirmed *“we need to have a close relationship to get the benefits from the arrangement”*. Three key areas of relationship management that influence branding outcomes were identified. These are: the outsourcing organisation’s management of the relationship, the need to recognise and obtain the necessary capabilities from a 3PL partner, and required evaluation of the 3PLs performance regarding the end customer. These three areas will be discussed below.

5.3.2.1 THE ROLE OF THE OUTSOURCING ORGANISATION

The most important outsourcing organisation’s task was identified as *“developing relationships”* with the 3PL partner. Seventy percent of respondents indicated that outsourcing organisations need to make an effort to create mutually beneficial partnerships that can facilitate a working partnership. When a positive outsourcing relationship existed, the 3PL was more likely to positively influence the outsourcing organisation’s brand. A major cause of problems cited by 12 of the 15 respondents was the failure by outsourcing organisations to make an effort to maintain a collaborative and effective relationship. Aside from relationship management, respondents also highlighted the critical nature of adopting a proactive approach and selecting 3PLs with the prerequisite capabilities and common goals.

These findings support prior claims that partner selection is one of the key drivers of outsourcing success and failure (Ahearne & Kothandaraman, 2009; Das & Teng, 2003; Pangarkar & Choo, 2001).

All respondents indicated that outsourcing relationships should be managed as a partnership. However, 80 percent of the respondents suggested that in order to maximize positive outcomes, outsourcing organisations should play a key role in relationship management. As Respondent 7 stated, “*we need to have close working relationships, we need to treat them as part of our own network*”. This is consistent with the literature proposing that outsourcing organisations that possess relational capabilities perform better and have more effective outsourcing relationships than those without (Holcomb & Hitt, 2007; McEvily, Perrone & Zaheer, 2003). However, all respondents indicated that their outsourcing relationships were based around 3-5 year contracts. Such a short-term view of relationships does not seem to foster a real partnership between the two outsourcing partners.

Three key tasks were identified as being important in the outsourcing organisation’s management of the relationship. Firstly, there was a feeling that outsourcing organisations need to assess 3PLs prior to entering into relationships. Suggested ways of assessing 3PL capabilities included undertaking reference checks, talking to existing customers, examining the ownership structure of the 3PL organisation, as well as their reputation, quality and audit processes. However, according to some of the respondents, even when rigorous assessment was undertaken, it did not necessarily ensure the success of the outsourcing partnership as “*you try to go through the rigours of the appropriate checks and balances... you never know until you start the implementation process*” (Respondent 3). As a result, 40 percent of respondents stated that they worked only with outsourcing partners they were already familiar with or previously involved with in some way to assure a positive effect on their brand.

Secondly, the respondents suggested that it was vital for outsourcing organisations to understand the requirements of the outsourced task so as to communicate the nature of the outsourced task to the 3PL and be able to judge whether or not the 3PL could perform the task. According to Respondent 2, the outsourcing organisation needed to “*understand exactly what we want the outsourced party to do*”. Understanding and specifying the task facilitates the setting of expectations in the outsourcing relationship and increases commitment and expectation fulfilment of both parties.

“understanding what the service requirements are, in terms of understanding how each party can benefit through improvement, process improvement, cost reduction”
(Respondent 15).

Respondent 15 further stated that *“specifying service standards, through clearly specifying what has to be done, so being quite prescriptive about what has to be done and being quite prescriptive about the service standards that will be met, the performance criteria that are set”*. Interestingly, most respondents indicated the need for task specification, but all cautioned against over-reliance on outsourcing contract documents as contracts were unable to cover everything and comprehensively convey what was expected of the 3PL to undertake the task and ensure positive brand evaluations.

5.3.2.2 CAPABILITIES CRUCIAL FOR OUTSOURCING OF LOGISTICS

The results of the in-depth interviews indicate that 3PLs and outsourcing organisations need specific capabilities so as to successfully maintain outsourcing partnerships. When questioned about the specific prerequisite capabilities that a potential 3PL needed, all respondents pinpointed the need to ensure that *“they can actually do the job”* (Respondent 14) and *“have the capabilities to perform”* (Respondent 8). This issue was well-articulated by a managing director of a 3PL, *“We have to have a delivery system that matches their requirements”* (Respondent 1). Other operational capabilities relevant to the specific outsourced activity included having the inventory management systems that allowed for breadth and depth of inventory, as well as automated storage and retrieval capability for inventory management.

“We can pick it up off the wharf, we take it back to our warehousing facilities, we unpack that container, we can store the stock, we can pick and pack it, and we can deliver it on our trucks to the end user or to the customer’s customer” (Respondent 5).

Several means were used to ensure that the 3PL had the prerequisite operational capabilities. These included checking: the outsourced partner’s reputation and *“having a proven track record”*, the availability of skilled people with experience, and the ability to provide expert advice that enhanced understanding of the client’s requirements. Additionally, 3PLs were required to have assets and resources that facilitated operational capability. This focus on skills and reputation suggests it is not enough for 3PLs just to have the physical resources;

they also need the expertise and knowledge to be able to undertake the task effectively and positively influence the brand.

Eighty percent of respondents pointed out that knowledge of the industry and the outsourcing organisation is a crucial capability in 3PL partners, especially when dealing with specialised products such as fragile goods, pharmaceuticals and dangerous industrial goods. According to Respondent 4, *“you always look for a potential partner that understands your market segments clearly”* as problems can arise if the 3PLs do not *“understand the triggers and the key performance indicators and the key values of retail and the key needs of retail at certain times of the year”*. Though the literature indicates that the outsourcing organisation should communicate the task and quality standards to the 3PL (Tan *et al.*, 2004), previous literature appears to have given little or no attention to the notion that the outsourcing organisation may not understand the outsourced task. This finding of the current study suggests that the right 3PL partner should not just be proficient in logistics activities, but should also have enough knowledge of its clients’ business to fully service their needs and match their business model.

Whilst all respondents identified cost minimization as the major driver for outsourcing, it appears that efficiency and flexibility were also significant in selecting 3PLs. This was well articulated by Respondent 7, *“obviously their efficiency and their costs are important as well”*. According to some respondents, the best way to measure the 3PL’s performance is by comparing the cost and efficiency of the outsourcing organisation’s in-house operations in undertaking the outsourced task. The ability of 3PLs to adapt to any changes in the client’s business was crucial in service delivery and consequently, in influencing the brand. This was pointed out by an outsourcing manager *“try and understand their ability to flex, so if our business volumes move up and down, are they able to re-locate people in an effective way or not, that’s important”* (Respondent 2). Flexibility emerged as a selection criterion within the FMCG sector due to its highly fluctuating inventory and seasonality of demand.

The respondents suggested that when the right outsourcing partner with the necessary capabilities to carry out the task and meet the needs of the outsourcing organisation was selected, the service delivered to the business customer was invariably of high quality.

A number of relational capabilities relevant to the outsourcing organisation emerged from the discussion, such as timely feedback, sharing information and frequent communication. A

third of the respondents viewed the ability to give timely feedback as vital in conflict resolution and to ensure the success of outsourcing relations.

“you have very timely checks and balances in place that you can address it very quickly if [the 3PL] isn’t performing to expectations or documented through tender expectations through KPI (Key performance indicators) measurement, then you need to be able to react very quickly” (Respondent 4).

An end customer of the outsourcing organisation (Respondent 13) suggested that feedback was crucial for the 3PLs to create improvements in the supply chain and to ensure that the needs of the business customer were met. Seventy-five percent of respondents stressed that frequent communication and information sharing enhances the visibility of the 3PL. However, as to the mode of communication, the 3PLs relied on meetings as the major platform for the communication of matters relevant to the outsourcing relationship, whilst outsourcing organisations preferred *“sharing information in real time within minutes, with daily spreadsheet being interchanged”* (Respondent 10). Thus, whilst outsourcing organisations required instantaneous information exchange, most 3PLs preferred to hold meetings to address issues. The relational capabilities of the outsourcing organisation and the ability to communicate influenced the 3PLs’ behaviour towards the outsourcing organisation’s customers during service delivery. This supports the literature asserting that those organisations skilled in managing relationships experience more successful outsourcing partnerships (Espino-Rodriguez & Rodriguez-Diaz, 2008).

Half of the respondents also pointed to the important role that the outsourcing organisation played in fostering a long-term orientation in the relationship. When a more long-term approach was taken, the respondents believed this resulted in more positive outcomes. As Respondent 8 stated, *“the relationship needs to provide value to both parties and be sustainable”*. A third of respondents thought that, in order to encourage the 3PL to behave in the appropriate manner, the risk of being quickly replaced needed to be eliminated by taking a more long-term approach to the outsourcing relationship. In addition, it was felt that if the 3PL perceived the relationship as being for the longer term, then they would be more likely to invest in the relationship and less likely to act opportunistically.

Table 5.3 indicates there are differences across respondents as to what they consider to be the most important capabilities for both parties in an outsourcing relationship.

Table 5.3: Capabilities Identified Within Case and Across Case Analysis

Resp	Operational Capabilities	Cost/ Efficiency	Flexibility	Relational Capabilities	Knowledge of outsourcing organisation's industry
1	Delivery system to match requirements			Feedback	Knowledge about specialised goods
2	Inventory management system		Ability to move people	Sharing information and long-term approach	Dangerous goods require special treatment
3	Automated storage and retrieval			Timely feedback and long-term approach	Experience within the same industry
4	Skilled in warehousing and storage	Comparing to in-house cost and efficiency	Adjust for seasonal demand	Checks and balances	Understand your segment
5	Pick/Pack, cross-dock, delivery			Sharing information and long-term approach	
6	Understanding the task			Sharing information and long-term approach	Skills in dealing with fragile products
7	They are the experts	Efficiency and cost		Feedback and sharing	Understand fashion industry specifics
8	Perform	More efficient than competitors	Adjust to fluctuation inventory levels	Sharing information and long-term approach	
9	Proven track record			Information Sharing and long-term approach	Know how to treat different products
10	Physical resources		Adapt to new delivery routes	Daily spreadsheets	Able to anticipate our needs
11	Operate in a particular way			Regular communication and long-term approach	
12	Goods delivered in a certain fashion	Low cost		Feedback	Special training in dealing with dangerous foods
13	Expertise and knowledge			Regular communication	Knowing to handle temperature-sensitive products

Table 5.3 Continued...

Resp	Operational Capabilities	Cost/ Efficiency	Flexibility	Relational Capabilities	Knowledge of outsourcing organisation's industry
14	Do the job			Frequent communication and long-term approach	Industry knowledge critical
15	Physically do the work			Feedback	Background in client's industry

5.3.2.3 ASSESSING 3PL PERFORMANCE

Whilst the abovementioned capabilities were viewed as important for outsourcing success, all respondents stressed the need to continuously monitor service delivery and performance of 3PLs to ensure positive branding outcomes. The most commonly-used key performance indicators (KPIs) were DIFOT (delivery in full on time), damages/breakages, fill rate, FIFO (first in first out), speed of delivery, and vehicle performance. These KPIs were typically used to measure performance *“to determine whether [3PLs] are achieving the expectations”* (Respondent 4) within Australian supply chains, thereby satisfying the customers. However, some organisations used soft supply chain/logistics measures such as customer complaints and the helpfulness of 3PL drivers. For instance, according to Respondent 2, *“we measure all these things, we measure how helpful, how a driver is perceived in the marketplace”*. Forty-five percent of the respondents' organisations monitored customer complaints about the delivery experience to detect any negative effects on the organisation and the brand. One outsourcing organisation surveyed *“a thousand customers every year”* to assess end customers' perceptions of the delivery experience.

“we measure how many customers complain to me, so if customer service is saying I'm not getting many complaints then the carrier is doing a good job and the warehouse is doing a good job” (Respondent 7).

An additional 3PL soft performance measure was used to compare service and performance with the expectations and promises made by the outsourcing organisation in terms of timeliness, presentation state and damage, *“quality means delivering the service levels that you say you are capable of”* (Respondent 3). Forty percent of respondents emphasised the importance of this means of judging the quality of the 3PL's service delivery. Thus, the

results of the study suggest that during the tendering process, outsourcing organisations need to assess the extent to which the 3PL actually possesses the capabilities needed to meet the expected service delivery level. This is particularly important as the 3PL's interaction with the business customer during service delivery influences the outsourcing organisation's reputation and brand.

5.3.3 ENSURING ETHICAL BEHAVIOUR

When respondents were requested to discuss the steps that their organisations took to ensure ethical behaviour, a number of approaches were mentioned. The most popular approach described by 80 percent of respondents was to use the outsourcing contract to document the values and standards required from both parties to uphold ethical behaviour within the relationship. As Respondent 8 illustrated, *"You write down ok this is going to be our level of conduct"*. In addition to using the contract, two thirds of respondents specified that regular meetings between outsourcing partners were necessary to discuss whether ethical and contractual requirements were being met. Similarly, half of the respondents conducted preliminary discussions of expectations and ethical standards with potential partners prior to entering the relationship in order to ensure ethical behaviour.

Sixty percent of respondents claimed they took steps to measure ethical behaviour from their outsourcing partner. Three of these respondents used key performance indicators to indirectly assess whether the outsourcing partner was acting ethically. Six respondents conducted audits on the operations of their outsourcing partners. On the other hand, several respondents pointed out that ethical behaviour was extremely hard to measure as the two partners are in separate businesses or industries.

Culture was identified by 60 percent of respondents as a way to influence ethical behaviour of outsourcing partners. Five respondents specifically indicated that the behaviour of top management and whether there was a cultural match at the top level of both organisations was crucial in ensuring cultural fit and similar ethical orientation. Two respondents advocated that there is a need to treat 3PLs as part of the outsourcing organisation to encourage the right behaviours in the 3PL as 3PLs were influenced by the outsourcing organisation's culture. Two respondents mentioned that specific training was necessary to achieve cultural integration and the right behaviour from outsourcing partners.

Twenty percent of respondents argued that as there was a need to have a proactive approach in managing ethical behaviour, unethical behaviour needed to be dealt with before it occurred by eliminating the primary motivation for unethical behaviour in 3PLs, such as cutting costs.

“if you allow your service provider to make a margin...as long as it’s in their interest to maintain it then I think you’re eliminating a lot of the reasons why people would then choose to behave in a less ethical manner” (Respondent 7).

The respondents reported that ethical behaviour was considered an important factor in the logistics industry because of the potential and considerable negative consequences of unethical behaviour. The most common consequence discussed by 75 percent of respondents was that if the 3PL representing the outsourcing organisation behaved unethically, the customers and the public would see the outsourcing organisation as unethical. As Respondent 2 pointed out *“Everything the 3PL does is us, our customers certainly don’t see them as being separate they just see them as being us”*. Related to this is the negative effect that 3PL’s unethical behaviour could have on the brand and reputation of the outsourcing organisation. Sixty percent of respondents emphasized that ethical behaviour became an important concern when logistics activities were outsourced.

Another consequence of 3PL’s unethical behaviour that emerged was its detrimental effect on financial performance due to the increased cost in logistics activities. This was considered critical by 80 percent of respondents. The 3PL’s unethical behaviour could also lead to termination of the relationship which can increase costs for the outsourcing organisation as pointed out by one respondent.

“you’ve got the transition costs, so you’ve got to get all the stock out of the Distribution Centre and move it to a spot or integrate with a transport provider and those things so to do something like that we’re talking about a couple of months implementation time” (Respondent 14).

Table 5.4 indicates the different approaches that the respondents’ organisations used to ensure ethical behaviour. A combination of approaches was used by each organisation and there were differences across organisations. Documentation seemed to be the most popular approach. Respondents from outsourcing organisations seemed to prefer the cultural approach and had a better understanding of the effects of the 3PL’s unethical behaviour on their organisations.

Table 5.4: Summary of Respondent’s Approaches to Ensuring Ethical Behaviour

Resp	Documentation	Preliminary discussion of standards	Measurement	Cultural	Eliminate opportunism	Consequences
1	Contract primary way to communicate ethics					Client seen as unethical, brand effects, profit effects
2	Contract stipulates codes of conduct	Discussing ethics prior to entering the contract	Audits	Cultural match at top	Increasing profits for 3PL	Shift in customer perceptions, reputation influenced, profit compromised
3				Behaviour of top management		We affect clients performance
4	Contract communicate consequences of unethical behaviour	Pre-contract discussion of ethics	KPIs	Part of organisation		Transference to outsourcing organisation, they affect our costs
5	Contract communicate ethical standards		Audits	Specific training		Agent of the client, brand effects
6	Contract includes ethical clauses					Buyer seen as unethical, reputation ruined, financial affected
7	Contract stimulates codes of ethics	Assess ethics before signing contract	KPIs	Part of organisation	Allowing a margin	Profit margins affected
8	Contract level of conduct			Cultural match at top		Transference to client’s brand, firm performance effects
9	Contract deals with ethics	Ethics discussion before relationship	Audits	Behaviour of top management		They represent us, so brand and reputation influenced
10	Contract has clause for ethics		KPIs		Giving incentives	Outsourcing organisation perceived as unethical so reputation diminished, sales lost
11	Contract has ethics clause	Assess their ethics initially	Audits	Cultural match at top		Sales lost
12	Codes of ethics in contract					Agent of the client, reputation influenced
13			Audits			Both seen as same organisation, financial effect
14	Contract covers ethics					Effect on profit

Table 5.4 Continued...

Resp	Documentation	Preliminary discussion of standards	Measurement	Cultural	Eliminate opportunism	Consequences
15		Discussing ethics before relationship begins	Audits	Specific training		We're affected, our brand, our profits

5.4 KEY FINDINGS FROM THE QUALITATIVE RESEARCH

This exploratory qualitative study was utilised to gain a more in-depth understanding of the phenomena under study to facilitate the development of the quantitative phase of the research. The results of the in-depth interviews indicated that the outsourcing organisation's reputation and financial performance were closely related to the 3PL's behaviour. Therefore, corporate reputation and financial performance were added as dependent variables to the quantitative study so as to comprehensively capture the effect of the 3PL's conduct on the outsourcing organisation.

The exploratory study yielded some valuable insight into the necessary capabilities required in outsourcing relationships, from both the 3PL and the outsourcing organisation. The emphasis on the outsourcing organisation's role in the management of the relationship to encourage particular outcomes reinforced the idea that 3PLs and outsourcing organisations had crucial roles to play in outsourcing relationships. In particular, it became apparent that the outsourcing organisation needed to effectively communicate with the 3PL and establish a long-term relationship orientation to discourage opportunistic behaviour from the 3PL. Apart from efficient management of the relationship, the outsourcing organisation also needed to be able to select the right 3PL partner. The results indicate that operational capabilities or capabilities in regards to getting the job done were most crucial and 3PLs needed these at a minimum. Customer-related capabilities were also considered paramount 3PLs; these included: knowledge of the customer's industry and needs, ability to be flexible and information sharing.

The preliminary phase of the research highlighted the importance of 3PLs' behaviour and interaction with customers during the service delivery. This confirmed that the main mechanism through which 3PLs could influence the outsourcing organisation's outcomes

would be through the quality of their delivery of logistics service. The results gave some insight into the expectations of logistics service quality that were then utilised to select an appropriate measure for logistics service quality.

Since the ethical integration construct is being introduced in this research, it was necessary to check face validity by requesting experienced industry professionals to indicate what constituted ethical integration and how it was achieved. This procedure assisted in the operationalisation of the constructs in the quantitative study and in the selection of measurement items that fully captured ethical integration and how it was achieved in outsourcing partnerships.

These key findings of the preliminary study also verified that the research context was appropriate for the quantitative phase and confirmed that the constructs included in the quantitative study were crucial in assessing how 3PLs affect the outsourcing organisation's performance. The results of the in-depth interviews also assisted the researcher to select the most appropriate measurement scales to adequately capture context-specific measures for the quantitative phase of the study.

Finally, the results obtained from this preliminary study indicated that instead of taking a dyadic approach, the focus of the quantitative study had to be either the 3PL or the outsourcing organisation. Therefore, since the 3PLs were unable to clearly indicate how their actions affected the outsourcing organisation's performance, outsourcing organisations were then selected as the focus of the quantitative phase of the study as the aim of the study was to determine how outsourcing relationships and 3PLs' behaviour affected the performance of the outsourcing organisation.

To summarise, the exploratory qualitative phase of the study led to the following changes in the quantitative study: (a) addition of two supplementary performance variables, (b) identification of the importance of customer focused 3PL capabilities, (c) identification of the effect of outsourcing organisation's relational capabilities in the outsourcing relationship, (d) addition of logistics service quality as a causal mechanism or mediating variable, (e) identification of ethical integration components, (f) selection of measurement scales and (g) decision on the outsourcing organisations to be chosen as respondents for the major study. Therefore, the qualitative study served as a useful starting point for the research and facilitated the development of the questionnaire that was utilised for the quantitative phase of

the study. In the next chapter, the tests of direct and mediated relationships between the major constructs in the study are discussed.

CHAPTER 6

MEDIATING EFFECT OF LOGISTICS SERVICE QUALITY ON THE RELATIONSHIP BETWEEN CAPABILITIES AND OUTSOURCING ORGANISATION'S PERFORMANCE

6.1 INTRODUCTION

In this chapter, the direct relationships between the outsourcing partner's capabilities and the outsourcing organisation's performance are analysed using multiple regression in SPSS. Then the mediated model using structural equation modeling (SEM) in AMOS was used to investigate whether the 3PL's capabilities and the outsourcing organisation's relational capabilities act through the 3PL's logistics service quality to influence the outsourcing organisation's performance. The aim was to determine the extent to which, if at all, logistics service quality acted as a mediator of these relationships. The chapter begins with a discussion of the data analysis procedure of multiple regression. This is followed by an outline of the direct relationships observed in the regression analyses for each of three dependent variables. Structural equation modeling as a data analysis procedure is then discussed and the mediated relationship results are presented. The chapter concludes with a summary of the results.

6.2 DATA ANALYSIS PROCEDURE – MULTIPLE REGRESSION

Multiple regression was used in SPSS to test the hypothesised direct relationships between the 3PL's capabilities, the outsourcing organisation's relational capabilities and the outsourcing organisation's performance. The purpose of multiple regression is to quantify the relationship between several independent variables and a dependent variable (Hair *et al.*, 2010). However, multiple regression only allows for multiple independent variables, and only a single dependent variable at a time, which is one of its limitations (Hair *et al.*, 2010). Thus,

when utilising multiple regression, one of the main questions being asked by the research is which variable best predicts the outcome variable. It was considered useful, when assessing direct relationships, to determine whether the independent variables and the control variables of outsourcing organisation size, industry and length of outsourcing relationship directly affected the dimensions of the outsourcing organisation's performance considered in the model. A mediated model was then specified to determine which direct and indirect effects exist between these variables.

6.3 RESULTS AND DISCUSSION

The propositions below are outlined in Chapter 3 and these were used to develop the hypotheses that are tested in this section using multiple regression.

- Proposition 1: Customer-focused capabilities possessed by the 3PL are associated with the outsourcing organisation's performance.*
- Proposition 2: 3PL's information-focused capabilities are related to the performance of the outsourcing organisation.*
- Proposition 3: Operational capabilities of the 3PL influence the performance of the outsourcing organisation.*
- Proposition 4: The outsourcing organisation's relational capabilities influence its own performance.*

3PL capabilities was conceptualised as a multi-dimensional construct and after measurement purification, the dimensions that emerged were: customer focus, responsiveness, flexibility, connectivity between IT systems, information sharing and operational. Similarly, the outsourcing organisation's relational capabilities were found to be a bi-dimensional construct consisting of long-term relationship orientation and communication with the 3PL. As a result, the hypotheses articulated below emerged.

- Hypothesis 1: Customer focus 3PL capabilities will affect the outsourcing organisation's (a) corporate reputation, (b) financial performance and (c) corporate brand equity.*
- Hypothesis 2: Responsiveness 3PL capabilities will influence the outsourcing organisation's (a) corporate reputation, (b) financial performance and (c) corporate brand equity.*
- Hypothesis 3: Connectivity between information systems 3PL capabilities will have an effect on the outsourcing organisation's (a) corporate reputation, (b)*

financial performance and (c) corporate brand equity.

Hypothesis 4: Information sharing 3PL capabilities will have an effect on the outsourcing organisation's (a) corporate reputation, (b) financial performance and (c) corporate brand equity.

Hypothesis 5: Operational 3PL capabilities will influence the outsourcing organisation's (a) corporate reputation, (b) financial performance and (c) corporate brand equity.

Hypothesis 6: Flexibility 3PL capabilities will influence the outsourcing organisation's (a) corporate reputation, (b) financial performance and (c) corporate brand equity.

Hypothesis 7: The outsourcing organisation's long-term relationship orientation capabilities will affect its own (a) corporate reputation, (b) financial performance and (c) corporate brand equity.

Hypothesis 8: The outsourcing organisation's communication with the 3PL capabilities will affect its own (a) corporate reputation, (b) financial performance and (c) corporate brand equity.

These hypotheses were tested in three regression models for each dependent variable or each dimension of the outsourcing organisation's performance. The first regression model (Model 1) determined whether the control variables (outsourcing organisation's size, industry and length of outsourcing relationship) affected the dimensions of the outsourcing organisation's performance considered in this study. The second regression model (Model 2) examined whether the independent variables of dimensions of 3PL capabilities had direct relationships with the outsourcing organisation's performance. Model 2 also indicated whether additional explanation of what caused the outsourcing organisation's performance was obtained when 3PL capabilities were added. In Model 3, the independent variables of the dimensions of the outsourcing organisation's relationship capabilities were included to determine whether these had direct relationships with the outsourcing organisation's performance. Model 3 also indicated whether additional explanation of what caused the outsourcing organisation's performance was obtained when both 3PL capabilities and the outsourcing organisation's capabilities were considered.

6.3.1 DIRECT EFFECT OF OUTSOURCING PARTNER'S CAPABILITIES ON THE OUTSOURCING ORGANISATION'S CORPORATE REPUTATION

In this section, Hypotheses 1-8a were tested which predicted that the different dimensions of 3PL capabilities and the outsourcing organisation's relational capabilities would have a direct effect on the outsourcing organisation's corporate reputation. Table 6.1 illustrates the results from the three regression models utilised in this section.

Table 6.1: Direct Relationships between the 3PL Capabilities, the Outsourcing Organisation's Relational Capabilities and the Outsourcing Organisation's Corporate Reputation

CORPORATE REPUTATION				
	Control Variables	Model 1 β (t-value)	Model 2 β (t-value)	Model 3 β (t-value)
	Outsourcing Organisation's Size	-.141* ($t = -2.164$)	-.145* ($t = -2.231$)	-.114* ($t = -1.960$)
	Outsourcing Organisation's Industry	.055 ($t = .834$)	.045 ($t = .698$)	.008 ($t = .122$)
	Length of Outsourcing Relationship	.022 ($t = .340$)	.002 ($t = .039$)	.002 ($t = .032$)
Hypothesis	Independent Variables		Model 2 β (t-value)	Model 3 β (t-value)
1a	Customer focus 3PL Capabilities		-.177 ($t = -1.328$)	-.177 ($t = -1.328$)
2a	Responsiveness 3PL Capabilities		.117 ($t = 1.312$)	.159 ($t = 1.878$)
3a	Connectivity between IT systems 3PL Capabilities		.139 ($t = 1.856$)	.026 ($t = .355$)
4a	Information Sharing 3PL Capabilities		-.047 ($t = -.577$)	-.024 ($t = -.293$)
5a	Operational 3PL Capabilities		.102 ($t = 1.352$)	.074 ($t = 1.025$)
6a	Flexibility 3PL Capabilities		.174 ($t = 1.540$)	.091 ($t = .835$)
7a	Outsourcing Organisation's Long-Term Relationship Orientation			.414*** ($t = 5.260$)

Table 6.1 Continued...

Hypo-thesis	Independent Variables	Model 1 β (t-value)	Model 2 β (t-value)	Model 3 β (t-value)
8a	Outsourcing Organisation's Communication with the 3PL			-.163* ($t = 1.980$)
	R ²	.026	.079*	.182***
	Adj. R ²	.014	.042	.142
	F Ratio	2.089	2.172	4.580
	ΔR^2		.053*	.103***
	<i>df</i>	3.000	9.000	11.000

* = significant to .05, ** = significant to .01, *** = significant to .001

Table 6.1 shows that with each of the regression models the R² improves, indicating that Model 3 explains the most variability with an R² of .182 indicating that 18.20% of the variance is explained by this model. When the independent variables of the dimensions of 3PL capabilities are considered in addition to the control variables, the R² improves by .053, adding 5.30% variance explanation, but when the independent variables of the outsourcing organisation's relational capabilities are added, it improves by .103 and variance explained increases by 10.30%. This indicates that the outsourcing organisation's relational capabilities explain some of the variability in the outsourcing organisation's corporate reputation.

The results from the regression analysis indicate that out of the three control variables examined to determine their effect on the outsourcing organisation's corporate reputation, only the outsourcing organisation's size had a significant effect (see Table 6.1). Specifically, the outsourcing organisation's size was found to have a negative effect on the outsourcing organisation's corporate reputation ($\beta = -.114$, $t = -1.960$, $p \leq .05$). This suggests that smaller firms may be in a better position to manage and sustain their reputation than are larger firms because their actions are not subject to as much close scrutiny. In addition, smaller firms may have tighter control of operations and fewer issues to manage due to their smaller size. This supports prior literature on corporate reputation that states that larger organisation's reputations are more vulnerable to changes as their actions are more visible due to their bigger size (Lange *et al.*, 2011).

None of the six 3PL capabilities dimensions had a direct effect on the corporate reputation of the outsourcing organisation. Therefore, Hypotheses 1-6a which proposed that each of the

3PL capabilities dimensions would directly affect the outsourcing organisation's corporate reputation were not supported. This may be because 3PL capabilities may affect the outsourcing organisation's corporate reputation through a mediator such as logistics service quality. This mediating effect will be tested in Section 6.5.1. These findings may also be caused by the failure of 3PL capabilities to meet the end customer's needs and expectations. For example, it may be that the outsourcing organisation needs to ensure the flexibility in the outsourcing relationship and not the 3PL. Additionally, the end customer may feel that some 3PL capabilities dimensions are not critical for them to receive the logistics task.

Hypotheses 7a and 8a predicted that the two dimensions of the outsourcing organisation's relational capabilities would have a direct relationship with its corporate reputation. Both dimensions were found to have a positive and direct relationship with corporate reputation. Thus, Hypothesis 7a was supported since a long-term relationship orientation showed a positive and direct relationship with corporate reputation ($\beta = .414$, $t = 5.260$, $p \leq .001$). Adopting a long-term approach towards suppliers builds goodwill with the outsourcing organisation's stakeholders which contributes to the outsourcing organisation's corporate reputation (Lambert *et al.*, 1996). Past studies have shown that long-term orientation in a relationship improves performance (Kwon & Suh, 2004). Therefore, the findings of the current study seem to support those in past literature.

Hypothesis 8a was supported as the outsourcing organisation's communication with the 3PL showed a negative and direct relationship with the outsourcing organisation's corporate reputation ($\beta = -.163$, $t = -1.980$, $p \leq .05$). Stakeholders may have a negative view of communication between the outsourcing organisation and the 3PL, as sensitive information may be communicated. However, this negativity may be negated by stakeholders observing how communication in the outsourcing relationship can improve the logistics service quality. The next sub-section examines the effect of 3PL capabilities and outsourcing organisation's capabilities on the outsourcing organisation's financial performance.

6.3.2 DIRECT EFFECT OF OUTSOURCING PARTNER'S CAPABILITIES ON THE OUTSOURCING ORGANISATION'S FINANCIAL PERFORMANCE

Hypotheses 1-8b were tested in this section. These hypotheses proposed that the outsourcing organisation's financial performance is directly affected by the different dimensions of 3PL capabilities and the outsourcing organisation's relational capabilities. Table 6.2 outlines the results from the three regression models utilised in this section.

Table 6.2: Direct Relationships between the 3PL Capabilities, the Outsourcing Organisation's Relational Capabilities and the Outsourcing Organisation's Financial Performance

FINANCIAL PERFORMANCE				
	Control Variables	Model 1 β (t-value)	Model 2 β (t-value)	Model 3 β (t-value)
	Outsourcing Organisation's Size	-.022 ($t = -.331$)	-.050 ($t = -.770$)	-.032 ($t = -.492$)
	Outsourcing Organisation's Industry	.127 ($t = 1.930$)	.115 ($t = 1.783$)	.098 ($t = 1.522$)
	Length of Outsourcing Relationship	-.043 ($t = -.672$)	-.062 ($t = -.976$)	-.061 ($t = -.972$)
Hypothesis	Independent Variables		Model 2 β (t-value)	Model 3 β (t-value)
1b	Customer focus 3PL Capabilities		-.255* ($t = -1.960$)	-.253* ($t = -1.960$)
2b	Responsiveness 3PL Capabilities		.158 ($t = 1.798$)	.177* ($t = 2.019$)
3b	Connectivity between IT systems 3PL Capabilities		.232** ($t = 3.142$)	.183* ($t = 2.392$)
4b	Information Sharing 3PL Capabilities		-.154 ($t = -1.902$)	-.138 ($t = -1.638$)
5b	Operational 3PL Capabilities		.052 ($t = .695$)	.041 ($t = .549$)
6b	Flexibility 3PL Capabilities		.093 ($t = .831$)	.053 ($t = .466$)
7b	Outsourcing Organisation's Long-Term Relationship Orientation			.186* ($t = 2.278$)
8b	Outsourcing Organisation's Communication with the 3PL			-.090 ($t = -1.051$)
	R ²	.020	.100**	.120**

Table 6.2 Continued...

Hypothesis	Independent Variables	Model 1 β (t-value)	Model 2 β (t-value)	Model 3 β (t-value)
	Adj. R^2	.007	.064	.077
	F Ratio	1.568	2.815	2.810
	ΔR^2		.080**	.020**
	<i>df</i>	3.000	9.000	11.000

* = significant to .05, ** = significant to .01, *** = significant to .001

As the R^2 statistic indicates, Model 3 explains the most variance in the outsourcing organisation's financial performance, 12%. Table 6.2 indicates that the R^2 improves by .080 when 3PL capabilities are added, as a significant number of these affect the outsourcing organisation's financial performance. Therefore, 8% more of the variance in the model is explained. The R^2 is further improved by .020 when the outsourcing organisation's relational capabilities are also considered, as one of these also significantly affects the outsourcing organisation's financial performance. These dimensions add a further 2% of explained variance to the model.

Table 6.2 shows the control variables seem to have no significant effect on the financial performance of the outsourcing organisation. Though this finding seems to contradict existing literature (Shang & Marlow, 2005), it may be that in this cross-section of organisations, the control variables (their size, industry and length of outsourcing relationship) did not explain much of the variability in their financial performance.

Out of the six dimensions of 3PL capabilities, three were found to have a significant direct effect on the outsourcing organisation's financial performance. Customer focus 3PL capabilities were found to have a direct negative relationship with financial performance ($\beta = -.253$, $t = -1.960$, $p \leq .05$) in Model 2 and Model 3, thereby supporting Hypothesis 1b. The literature suggests that a 3PL's customer focused capabilities would have a positive effect on the outsourcing organisation's outcomes (Wilson & Nielson, 2001; Zhao *et al.*, 2001); however, a negative relationship was observed. Customer focus 3PL capabilities may have a direct and negative effect on the outsourcing organisation's financial performance because the ability of 3PLs to prioritise customer needs may increase operational costs for the outsourcing organisation. For example, if the 3PL accommodates the outsourcing organisation's urgent deliveries, this will increase operational costs.

Responsiveness 3PL capabilities were found to have a positive and direct effect on the financial performance of the outsourcing organisation in Model 3, supporting Hypothesis 2b ($\beta = .177, t = 2.019, p \leq .05$). This may be because when the 3PL readily responds to what the outsourcing organisation needs at any given time, this lowers the operating costs for the outsourcing organisation, thereby improving the outsourcing organisation's financial performance. For example, the 3PL allows the outsourcing organisation to increase its deliveries to their customers on the same route to make the delivery process more efficient. This supports extant literature that claims the capabilities that enable 3PLs to respond to customers' needs would have a positive effect on the outsourcing organisation's performance (Bowersox *et al.*, 1999; Morash *et al.*, 1996).

Further, connectivity between IT systems 3PL capabilities was found to be significantly and positively related to financial performance; hence, Hypothesis 3b was supported ($\beta = .183, t = 2.392, p \leq .05$). Connectivity between IT systems may positively affect the outsourcing organisation's financial performance as it lowers coordination costs in the outsourcing relationship. This seems to support existing literature that suggests that IT connectivity reduces logistics costs for outsourcing organisations (Williams *et al.*, 1997).

Contrary to the findings of prior research (Knemeyer & Murphy, 2004; Knemeyer & Murphy, 2005), no direct relationship was found between information sharing 3PL capabilities and financial performance. Therefore, Hypothesis 4b was not supported ($\beta = -.138, t = -1.638, ns$). Operational 3PL capabilities did not exhibit a direct relationship with the outsourcing organisation's financial performance ($\beta = .041, t = .549, ns$) and therefore, Hypothesis 5b was not supported. Flexibility 3PL capabilities did not yield any significant direct relationships with the outsourcing organisation's financial performance ($\beta = .053, t = .466, ns$); thus, Hypothesis 6b was not supported. This could be because the effect of these 3PL capabilities on the outsourcing organisation's financial performance may be mediated or moderated by other factors. On the other hand, the end customer may not perceive flexibility as important to whether they purchase with the outsourcing organisation again, affecting the outsourcing organisation's financial performance.

One of the outsourcing organisation's dimensions of relational capabilities was found to directly affect the financial performance of the outsourcing organisation. The outsourcing organisation's long-term relationship orientation showed a positive and direct relationship to

financial performance ($\beta = .186, t = 2.278, p \leq .05$), supporting Hypothesis 7b. This positive effect on financial performance may be caused by the 3PL investing in the relationship and minimising cost or creating efficiencies for the outsourcing organisation. These findings are in line with prior studies that have shown that long-term orientation in b2b relationships improves performance (Kwon & Suh, 2004).

Communication with the 3PL was not found to have a direct relationship with the outsourcing organisation's financial performance ($\beta = -.090, t = -1.051, ns$), thus disproving Hypothesis 8b. It may be that this relational capability of the outsourcing organisation acts through a mediator to affect financial performance. The next section looks at the direct relationships between the outsourcing organisation's corporate brand equity and 3PL and outsourcing organisation's capabilities.

6.3.3 DIRECT EFFECT OF OUTSOURCING PARTNER'S CAPABILITIES ON THE OUTSOURCING ORGANISATION'S CORPORATE BRAND EQUITY

This section outlines the results of testing Hypotheses 1-8c. These hypotheses predicted that the different dimensions of 3PL capabilities and the outsourcing organisation's relational capabilities directly affect the outsourcing organisation's corporate brand equity. Table 6.3 shows the results obtained from the three regression models used in this section.

Table 6.3: Direct Relationships between the 3PL Capabilities, the Outsourcing Organisation's Relational Capabilities and Corporate Brand Equity

CORPORATE BRAND EQUITY				
	Control Variables	Model 1 β (t-value)	Model 2 β (t-value)	Model 3 β (t-value)
	Outsourcing Organisation's Size	.218*** ($t = 3.371$)	.214*** ($t = 3.433$)	.212*** ($t = 3.306$)
	Outsourcing Organisation's Industry	.001 ($t = .013$)	-.026 ($t = -.417$)	-.041 ($t = -.643$)
	Length of Outsourcing Relationship	-.040 ($t = -.630$)	-.054 ($t = -.882$)	-.058 ($t = -.943$)
Hypothesis	Independent Variables		Model 2 β (t-value)	Model 3 β (t-value)
1c	Customer focus 3PL Capabilities		.067 ($t = .523$)	.061 ($t = .480$)
2c	Responsiveness 3PL Capabilities		-.176* ($t = -2.069$)	-.163* ($t = -1.960$)

Table 6.3 Continued...

Hypothesis	Independent Variables	Model 1 β (t-value)	Model 2 β (t-value)	Model 3 β (t-value)
3c	Connectivity between IT systems 3PL Capabilities		.150* ($t = 2.091$)	.106 ($t = 1.427$)
4c	Information Sharing 3PL Capabilities		-.179* ($t = -2.286$)	-.190* ($t = -2.314$)
5c	Operational 3PL Capabilities		.316*** ($t = 4.387$)	.300*** ($t = 4.151$)
6c	Flexibility 3PL Capabilities		.069 ($t = .642$)	.050 ($t = .451$)
7c	Outsourcing Organisation's Long-Term Relationship Orientation			.136 ($t = 1.717$)
8c	Outsourcing Organisation's Communication with the 3PL			.003 ($t = .036$)
	R^2	.049**	.157***	.173***
	Adj. R^2	.037	.124	.129
	F Ratio	4.041	4.741	3.927
	ΔR^2		.108***	.016***
	df	3.000	9.000	12.000

* = significant to .05, ** = significant to .01, *** = significant to .001

The change in R^2 indicates that explanatory power is gained in each regression model. As Table 6.3 indicates, Model 2 has a .108 change in R^2 caused by the significant relationships between some dimensions of 3PL capabilities and the outsourcing organisation's corporate brand equity. This indicates that the 3PL capabilities dimensions explain an additional 10.80% of the variance. In Model 3, when the outsourcing organisation's relational capabilities are added, this increases the R^2 only marginally by .016 and these capabilities did not show significant direct relationships with corporate brand equity. However, this model does explain an additional 1.60% of the variance in the relationships.

The effect of only one of the control variables on the outsourcing organisation's corporate brand equity was supported: the size of the outsourcing organisation. The outsourcing organisation's size was found to have a direct positive effect on corporate brand equity ($\beta = .212$, $t = 3.306$, $p \leq .001$). This indicates that larger firms can more easily sustain their

corporate brand equity better than smaller ones. This may be due to their larger size and larger customer base which means that larger organisations have better capacity to build up equity than do the smaller firms. Additionally, larger organisations have more resources for b2b relationships to build up equity and a clear brand building strategy. This supports existing literature that asserts that larger organisations have more market power and can leverage a larger customer base (Lin *et al.*, 2009).

Four out of six dimensions of 3PL capabilities had a significant effect on the outsourcing organisation's corporate brand equity. A direct and negative relationship was found between responsiveness 3PL capabilities and the outsourcing organisation's corporate brand equity ($\beta = -.163$, $t = -1.960$, $p \leq .05$). This supports Hypothesis 2c. The 3PL's responsiveness to the outsourcing organisation rather than to the end customer may be negatively perceived as not fulfilling brand promises. This contradicts previous literature which states that the capabilities that enable 3PLs to respond to customers' needs would have a positive effect on performance (Bowersox *et al.*, 1999; Morash *et al.*, 1996).

Initially, in Model 2, connectivity between IT systems 3PL capabilities were found to have a positive direct relationship with the outsourcing organisation's financial performance ($\beta = .150$, $t = 2.091$, $p \leq .05$). However, in Model 3, the relationship was no longer significant ($\beta = .106$, $t = 1.427$, *ns*). Therefore, Hypothesis 3c was rejected. This finding seems to contradict the arguments of Williams *et al.*, (1997) that stated that IT connectivity increases efficiency and minimises logistics costs which customers may relate to the brand promise.

Information sharing 3PL capabilities were directly and negatively related to the outsourcing organisation's corporate brand equity ($\beta = -.190$, $t = -2.314$, $p \leq .05$), supporting Hypothesis 4c. Information sharing may be negatively perceived by end customers afraid of private or sensitive information being shared. This sharing of sensitive information may be perceived as violating the outsourcing organisation's brand promise. The literature suggests that the information sharing 3PL capabilities are positively related to corporate reputation and other customer outcomes as customers benefit from fast information sharing (Göl & Çatay, 2007). Customers may view information sharing positively only if they can determine how their logistics service quality is improved. Another explanation may be that poor ethical integration between the outsourcing partners may lead the end customer to perceive that the shared information could be opportunistically utilised and thus negatively affect them.

Hypothesis 5c was supported as operational 3PL capabilities appeared to have a direct and positive relationship with the outsourcing organisation's corporate brand equity ($\beta = .300$, $t = 4.151$, $p \leq .001$). Operational 3PL capabilities are related to how well the 3PL carries out the outsourced logistics activity. The literature indicates that the more skilled a 3PL is in carrying out the activity, the more positive will be its effect on the outcomes derived from the outsourcing relationship (Krasnikov & Jayachandran, 2008; Tan *et al.*, 2004). These results support existing literature that indicates if the end customer is aware of the 3PL's skills concerning the logistics task, this will positively affect their perceptions of the outsourcing organisation's brand.

Customer focus 3PL capabilities were not found to be directly related to corporate brand equity ($\beta = .061$, $t = .480$, *ns*). Therefore, Hypothesis 1c was not supported. Flexibility 3PL capabilities also did not produce any significant direct relationships with the outsourcing organisation's corporate brand equity; thus, Hypothesis 6c was not supported ($\beta = .050$, $t = .451$, *ns*). These 3PL capabilities may have an indirect effect on the outsourcing organisation's corporate brand equity through a mediator or may not be considered as important by the outsourcing organisation's end customer who is making brand equity judgements.

The outsourcing organisation's communication with the 3PL was not found to directly affect its corporate brand equity ($\beta = .136$, $t = 1.717$, *ns*). Therefore, Hypothesis 7c was not supported. Additionally, Hypothesis 8c was not supported as the outsourcing organisation's long-term relationship orientation also did not have a direct affect on its corporate brand equity ($\beta = .003$, $t = .036$, *ns*). It may be that the outsourcing organisation's long-term relationship orientation and communication with the 3PL needs to act through a mediating variable such as logistics service quality to affects its own corporate brand equity. This is in line with prior literature that suggests the real influence of the outsourcing organisation's relational capabilities need to act through the outsourcing partner (Espino-Rodriguez & Rodriguez-Diaz, 2008; Möller & Törrönen, 2003).

Overall, ten significant direct effects were found, including two direct effects caused by the control variable of the outsourcing organisation's size. Perhaps the non-significant relationships found in the regression analysis are due to the independent variables acting on the dependent variables through a mediator. In the next section, the results of structural equation modelling used to examine the hypothesised mediated relationships, are presented.

6.4 DATA ANALYSIS PROCEDURE – STRUCTURAL EQUATION MODELING

The conceptual model tested in this research proposes that logistics service quality is a mediating variable between the independent variables (outsourcing organisation's relational capabilities and 3PL capabilities) and the dependent variables (corporate reputation, financial performance and corporate brand equity). This means that the logistics service quality is viewed as the mechanism through which the independent variables affect the dependent variables (Preacher & Hayes, 2008). A mediator is part of the causal sequence whereby the independent variables cause the mediator which in turn causes the dependent variables. Analysing mediating variables enhances understanding of the relationship between independent and dependent variables (MacKinnon, Fairchild & Fritz, 2007).

In this study, the mediated relationship was tested using structural equation modelling (SEM) that allows the quantitative evaluation of a theoretical model by facilitating the modelling of hypotheses (Schumacker & Lomax, 2008). It is a multivariate technique that aims to explicate patterns among a set of constructs (Hair *et al.*, 2010). Matanda and Schroder (2002) suggest that SEM is appropriate for supply chain research due to its complexity and ability to estimate latent variables. SEM is popular in marketing and has been extensively used in similar research (Carson, 2007; Morris & Carter, 2005; Nguyen & Biderman, 2008; Seggie *et al.*, 2006; Yoo *et al.*, 2000; Zhao *et al.*, 2001).

SEM was viewed as suitable for data analysis in this study as it allowed estimation of latent variables (e.g. ethical integration) as well as measurement of errors (MacCallum & Austin, 2000; McDonald & Ho, 2002). The results provide an overall goodness-of-fit, facilitating the examination of how well the data is represented by the hypothesised model (Tran & Cox, 2009). Therefore, the model can be confirmed or refuted by comparing whether the pattern of variances in the data fits with the structural model of the study, thereby contributing to theory development (Shah & Goldstein, 2006). However, since SEM does assume normality in the spread of the data, as other multivariate techniques do, the normality of the data needs to be assessed; these assumptions were already verified in Chapter 4, Section 4.6.3.

This data analysis technique also allows bootstrapping. Bootstrapping is a procedure of resampling with replacement that allows an estimate of standard error to be made (Hayes, 2009). The advantage of bootstrapping is that it does not assume normal distribution since the

interaction term is known not to follow a normal distribution (Preacher & Hayes, 2008). In bootstrapping, confidence intervals are constructed based on the data, giving an indication of the probability of the indirect effect. Bootstrapping has been shown to be one of the most valid and powerful tests for mediation by simulation research (MacKinnon, Lockwood & Williams, 2004; Williams & MacKinnon, 2008) and is increasingly being used to test complex models (Hayes, 2009).

Since SEM generates a measurement model which is compared to a structural model, goodness-of-fit (GOF) indices are used to determine the validity of the measurement model (Malhotra & Birks, 2007). The same GOF indices were used as those discussed under measurement purification in Chapter 4 Section 4.7. As the assessment of measurement models section (Section 4.7.3) in Chapter 4 already discussed the measurement models for each of the constructs, in this chapter the focus is on the structural model and the relationships between the constructs. The following section outlines the results of the overall fit of the mediated model and the mediated relationships tested.

6.5 RESULTS AND DISCUSSION

The following proposition was taken from Chapter 3 and used to develop the mediation hypotheses that were tested in this section using structural equation modelling.

Proposition 5: The logistics service quality provided by the 3PL mediates the relationship between outsourcing partner's capabilities and the outsourcing organisation's performance.

This section tested the following hypotheses that emerged from proposition 5:

Hypothesis 9: 3PL logistics service quality mediates the link between customer focus 3PL capabilities and the outsourcing organisation's (a) corporate reputation, (b) financial performance and (c) corporate brand equity.

Hypothesis 10: 3PL logistics service quality mediates the link between responsiveness 3PL capabilities and the outsourcing organisation's (a) corporate reputation, (b) financial performance and (c) corporate brand equity.

Hypothesis 11: 3PL logistics service quality mediates the link between connectivity between IT systems 3PL capabilities and the outsourcing organisation's (a) corporate reputation, (b) financial performance and (c) corporate brand equity.

- Hypothesis 12: 3PL logistics service quality mediates the link between information sharing 3PL capabilities and the outsourcing organisation's (a) corporate reputation, (b) financial performance and (c) corporate brand equity.*
- Hypothesis 13: 3PL logistics service quality mediates the link between operational 3PL capabilities and the outsourcing organisation's (a) corporate reputation, (b) financial performance and (c) corporate brand equity.*
- Hypothesis 14: 3PL logistics service quality mediates the link between flexibility 3PL capabilities and the outsourcing organisation's (a) corporate reputation, (b) financial performance and (c) corporate brand equity.*
- Hypothesis 15: 3PL logistics service quality mediates the link between the outsourcing organisation's capabilities of communication with the 3PL and its (a) corporate reputation, (b) financial performance and (c) corporate brand equity.*
- Hypothesis 16: 3PL logistics service quality mediates the link between the outsourcing organisation's capabilities related to long-term relationship orientation and its (a) corporate reputation, (b) financial performance and (c) corporate brand equity.*

The SEM model shown in Figure 6.1 was adopted to determine the overall fit of the model with the data and test Hypotheses 9-16 listed above. As Figure 6.1 indicates, the model fit with the data reasonably well ($\chi^2 = 631.878$, $df = 269$, $p = .000$, $\chi^2/df = 2.349$ CFI = .901, GFI = .842, NFI = .842, RMSEA = .075, PNFI = .697, PGFI = .646). The χ^2/df is quite acceptable as it is below the cut-off point of 3. The CFI is above the .90 recommended value, indicating good fit. However, GFI and NFI are close to the recommended .90 value. The CFI value indicates good model fit and it is a better approximation than the NFI index which is sensitive to model complexity and the GFI which is sensitive to sample size. Therefore, in this structural model, the GFI and NFI may be slightly below the recommended .90 value because of this complex measurement model and modest sample size. The RMSEA value is below .08 and the PNFI was between .60 and .90 as recommended. The results of the mediation effects are presented in the next section and are discussed in relation to the three dimensions of performance that were investigated this study.

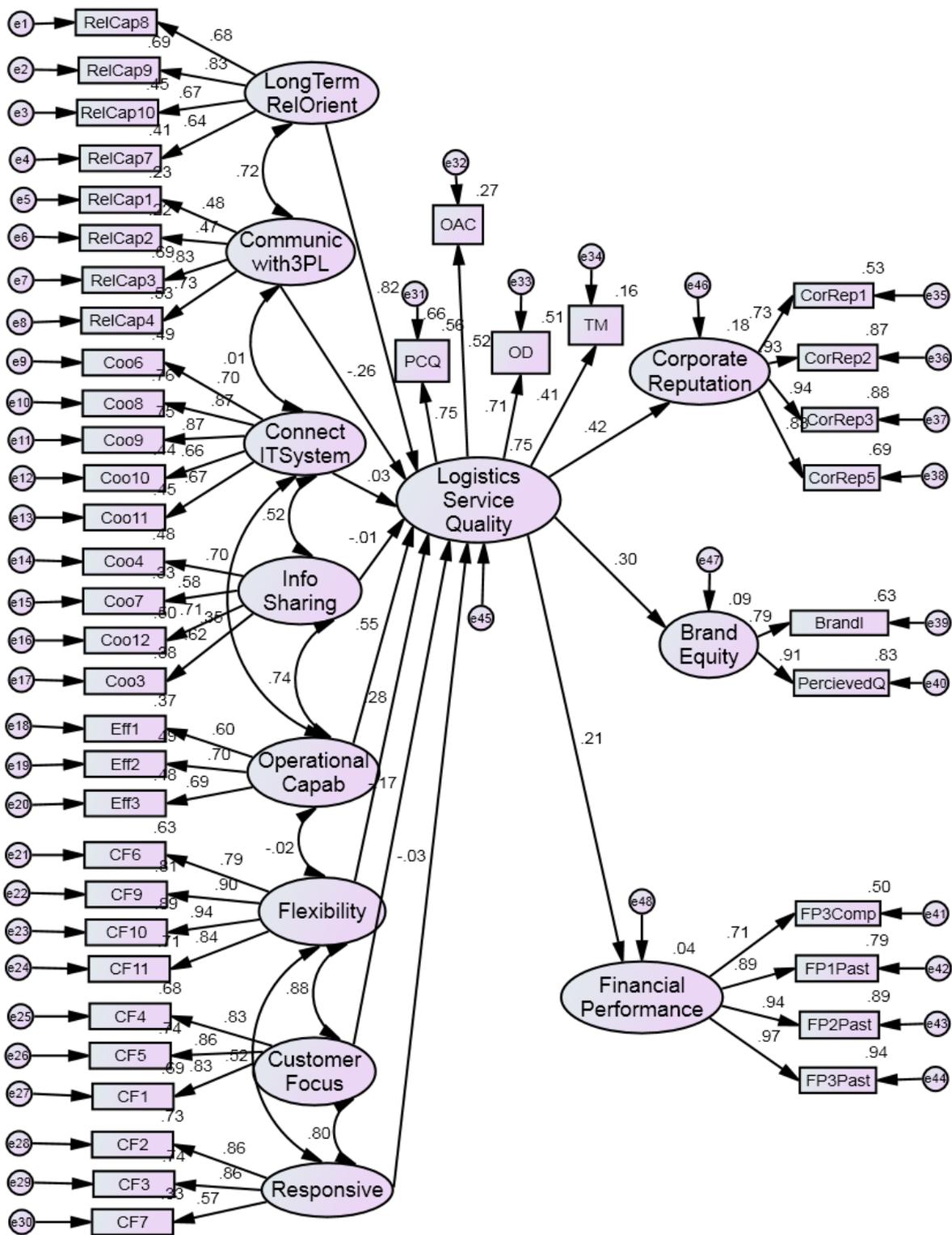


Figure 6.1: Mediated Model: Relationships between 3PL Capabilities, the Outsourcing Organisation's Relational Capabilities and Performance Mediated by Logistics Service Quality

6.5.1 THE RELATIONSHIP BETWEEN OUTSOURCING PARTNER'S CAPABILITIES AND THE OUTSOURCING ORGANISATION'S CORPORATE REPUTATION THROUGH LOGISTICS SERVICE QUALITY

In this section, the mediation effect of logistics service quality on the relationship between 3PL capabilities, the outsourcing organisation's relational capabilities, and the outsourcing organisation's corporate reputation, is discussed. Hypotheses 9-16a were tested in this section. Table 6.4 outlines the direct, indirect and total effects, whilst Table 6.5 indicates the results of the hypothesis testing of the predicted mediated relationships.

Table 6.4: Direct, Indirect and Total Effects for the Mediated Relationship between 3PL Capabilities, the Outsourcing Organisation's Relational Capabilities and the Outsourcing Organisation's Corporate Reputation

Independent Variables	Direct Effects	Indirect Effects	Total Effects
Customer Focus 3PL Capabilities	.044	-.076	-.032
Responsiveness 3PL Capabilities	-.100	-.035	.020
Connectivity between IT systems 3PL Capabilities	.006	.006	.012
Information Sharing 3PL Capabilities	-.352	.162	-.190
Operational 3PL Capabilities	-.253	.292	.040
Flexibility 3PL Capabilities	.043	.071	.114
Outsourcing Organisation's Long-Term Relationship Orientation	.197	.201	.398
Outsourcing Organisation's Communication with the 3PL	-.115	-.114	-.230

Table 6.5: The Mediated Relationship between 3PL capabilities, the Outsourcing Organisation's Relational Capabilities and the Outsourcing Organisation's Corporate Reputation through Logistics Service Quality (LSQ)

Hypothesis	Relationship	β (t-value)	Supported
9a	Customer Focus 3PL Capabilities \rightarrow LSQ \rightarrow Corporate Reputation	-.076 ($t = -.088$)	No
10a	Responsiveness 3PL Capabilities \rightarrow LSQ \rightarrow Corporate Reputation	-.035 ($t = -1.471$)	No
11a	Connectivity between IT systems 3PL Capabilities \rightarrow LSQ \rightarrow Corporate Reputation	.006 ($t = .345$)	No
12a	Information Sharing 3PL Capabilities \rightarrow LSQ \rightarrow Corporate Reputation	.162* ($t = 1.960$)	Yes
13a	Operational 3PL Capabilities \rightarrow LSQ \rightarrow Corporate Reputation	.292* ($t = 2.247$)	Yes

Table 6.5 Continued...

Hypothesis	Relationship	β (t-value)	Supported
14a	Flexibility 3PL Capabilities \rightarrow LSQ \rightarrow Corporate Reputation	.071*** ($t = 3.318$)	Yes
15a	Outsourcing Organisation's Long-Term Relationship Orientation \rightarrow LSQ \rightarrow Corporate Reputation	.201** ($t = 3.000$)	Yes
16a	Outsourcing Organisation's Communication with the 3PL \rightarrow LSQ \rightarrow Corporate Reputation	-.114* ($t = -2.063$)	Yes

* = significant to .05, ** = significant to .01, *** = significant to .001

BOLD = significant relationship/supported hypothesis

Three of the six dimensions of 3PL capabilities were not found to have a significant effect on the outsourcing organisation's corporate reputation through logistics service quality. Specifically, customer focus 3PL capabilities ($\beta = -.062$, $t = -.088$, *ns*), responsiveness 3PL capabilities ($\beta = -.050$, $t = -1.471$, *ns*) and connectivity between IT systems 3PL capabilities ($\beta = .010$, $t = .345$, *ns*). Hence, Hypotheses 9a, 10a and 11a were not supported. It might be that there is another mediating variable present between these dimensions of 3PL capabilities and the outsourcing organisation's corporate reputation.

The effect of information sharing 3PL capabilities on the outsourcing organisation's corporate reputation through logistics service quality was supported ($\beta = .080$, $t = 1.960$, $p \leq .05$), thereby supporting Hypothesis 12a. This positive mediated relationship supports existing studies which found that information sharing has a positive effect on the outsourcing relationship (e.g. Athanasopoulou, 2006; Hsu *et al.*, 2008; Sezen, 2008; Williams & Moore, 2007).

Hypothesis 13a is supported since the mediated influence of operational 3PL capabilities on the outsourcing organisation's corporate reputation through logistics service quality was significant ($\beta = .191$, $t = 2.247$, $p \leq .02$). This indicates that the operational capabilities of the 3PL affect its ability to provide the service. The service provision or service quality is then assessed for the outsourcing organisation, and this may affect its corporate reputation. This is because reputation is based on a collection of experiences and perceptions of the organisation (Abimbola & Kocak, 2007). When activities such as logistics are outsourced, the customers use their interactions with the 3PL, through the provision of logistics service quality, to assess if the service being provided to them meets their expectations. This service experience with an agent of the outsourcing organisation affecting its corporate reputation has not been

previously empirically tested. However, if the 3PL represents the outsourcing organisation in the minds of the customer, then the 3PL's ability to carry out the task will influence the customer's opinion of the outsourcing organisation.

The mediated relationship between flexibility 3PL capabilities and the outsourcing organisation's corporate through logistics service quality was significant ($\beta = .073$, $t = 3.318$, $p \leq .001$); thus, Hypothesis 14a was supported. Since the direct relationship between the 3PL's flexibility capabilities and the outsourcing organisation's corporate reputation was not significant, this suggests that the 3PL's flexibility capabilities affect the logistics service quality which the 3PL is able to offer which then affects the outsourcing organisation's corporate reputation. This seems to support arguments in past studies that flexibility 3PL capabilities enable 3PLs to provide a better service experience (Hemmington & King, 2000).

Both of the dimensions of the outsourcing organisation's relational capabilities showed an indirect effect on its corporate reputation through the 3PL's logistics service quality. The influence of the outsourcing organisation's long-term relationship orientation to its own corporate reputation, through the logistics service quality the 3PL provides, is significant ($\beta = .324$, $t = 3.000$, $p \leq .01$), and therefore supports Hypothesis 15a. This finding indicates that the logistics service quality provided by the 3PL is used by the end customer to assess the outsourcing organisation's corporate reputation. How good this logistics service quality can be is influenced by whether or not the outsourcing organisation adopts a long-term approach to the outsourcing relationship. Long-term relationship orientation enhances goal alignment with the 3PL, resulting in more favourable logistics service quality which meets the end customer's expectations.

The influence of the outsourcing organisation's communication with the 3PL on its corporate reputation through the logistics service quality the 3PL provides is significant ($\beta = -.099$, $t = -2.063$, $p \leq .05$), thereby supporting Hypothesis 16a. This finding indicates that the end customer judges the outsourcing organisation's corporate reputation according to the logistics service quality provided by the 3PL. The level of quality of this logistics service is influenced by whether the outsourcing organisation effectively communicates with the 3PL. The outsourcing organisation communicating with the 3PL contributes to an enhanced logistics service quality because the 3PL understands the task and the end customer better and can meet their expectations.

6.5.2 THE RELATIONSHIP BETWEEN OUTSOURCING PARTNER'S CAPABILITIES AND THE ORGANISATION'S FINANCIAL PERFORMANCE THROUGH LOGISTICS SERVICE QUALITY

This section outlines the results of testing Hypotheses 9-16b. These hypotheses predicted that the different dimensions of 3PL capabilities and the outsourcing organisation's relational capabilities would affect the outsourcing organisation's financial performance through logistics service quality. Table 6.6 outlines the direct, indirect and total effects in the SEM model and Table 6.7 shows the results of the hypothesis testing obtained from the SEM model.

Table 6.6: Direct, Indirect and Total Effects for the Mediated Relationship between 3PL Capabilities, the Outsourcing Organisation's Relational Capabilities and the Outsourcing Organisation's Financial Performance

Independent Variables	Direct Effects	Indirect Effects	Total Effects
Customer Focus 3PL Capabilities	-.065	-.037	-.103
Responsiveness 3PL Capabilities	-.005	-.022	-.027
Connectivity between IT systems 3PL Capabilities	.142	.002	.144
Information Sharing 3PL Capabilities	-.224	.087	-.137
Operational 3PL Capabilities	-.183	.160	-.023
Flexibility 3PL Capabilities	-.054	.035	-.019
Outsourcing Organisation's Long-Term Relationship Orientation	.093	.090	.183
Outsourcing Organisation's Communication with the 3PL	-.081	-.058	-.138

Table 6.7: The Mediated Relationship between 3PL Capabilities, the Outsourcing Organisation's Relational Capabilities and the Outsourcing Organisation's Financial Performance through Logistics Service Quality (LSQ)

Hypothesis	Relationship	β (t-value)	Result
9b	Customer Focus 3PL Capabilities → LSQ → Financial Performance	-.037 ($t = -.086$)	No
10b	Responsiveness 3PL Capabilities → LSQ → Financial Performance	-.022 ($t = -1.176$)	No
11b	Connectivity between IT systems 3PL Capabilities → LSQ → Financial Performance	.002 ($t = .267$)	No
12b	Information Sharing 3PL Capabilities → LSQ → Financial Performance	.087 ($t = 1.065$)	No
13b	Operational 3PL Capabilities → LSQ → Financial Performance	.160 ($t = 1.262$)	No

Table 6.7 Continued...

Hypothesis	Relationship	β (t-value)	Result
14b	Flexibility 3PL Capabilities → LSQ → Financial Performance	.035* ($t = 1.960$)	Yes
15b	Outsourcing Organisation's Long-Term Relationship Orientation → LSQ → Financial Performance	.090 ($t = 1.429$)	No
16b	Outsourcing Organisation's Communication with the 3PL → LSQ → Financial Performance	-.058 ($t = -1.429$)	No

* = significant to .05

BOLD = significant relationship/supported hypothesis

Only one mediated effect through logistics service quality on the outsourcing organisation's financial performance was supported. Hypothesis 14b was supported since the relationship between flexibility 3PL capabilities and the outsourcing organisation's financial performance through logistics service quality was significant ($\beta = .029$, $t = 1.960$, $p \leq .05$). This converges with existing logistics literature which claims that when a 3PL is able to offer a more flexible service, this can provide financial returns to the outsourcing organisation (Zhao *et al.*, 2001).

The other five dimensions of 3PL capabilities showed a lack of mediation. There was no mediating effect between customer focus 3PL capabilities and the outsourcing organisation's financial performance ($\beta = -.025$, $t = -.086$, *ns*). Hence, Hypothesis 9b was not supported. A lack of mediation was evident in the relationship between responsiveness 3PL capabilities and the outsourcing organisation's financial performance ($\beta = -.020$, $t = -1.176$, *ns*). Thus, Hypothesis 10b was not supported. No mediation effect was found in the connectivity between IT systems 3PL capabilities and the outsourcing organisation's financial performance ($\beta = .004$, $t = .267$, *ns*). Therefore, there was no support for Hypothesis 11b. The relationship between information sharing 3PL capabilities and the outsourcing organisation's financial performance produced no significant mediation effect ($\beta = .033$, $t = 1.065$, *ns*). Hence, Hypothesis 12b was not supported. No significant mediation effect emerged between operational 3PL capabilities and the outsourcing organisation's financial performance ($\beta = .077$, $t = 1.262$, *ns*). Thus, it would seem there was no support for Hypothesis 13b. The relationship between the outsourcing organisation's neither long-term relationship orientation ($\beta = .130$, $t = 1.429$, *ns*) nor communication with the 3PL ($\beta = -.040$, $t = -1.429$, *ns*) showed a significant mediation effect with financial performance. Thus, Hypotheses 15b and 16b were not supported. This lack of mediation on the outsourcing organisation's financial

performance may be explained by the many direct effects that were reported previously in this chapter in Section 6.3.2.

Alternatively, this lack of mediation effects may be due to conditional indirect effects; thus, both logistics service quality and ethical integration need to be considered. However, the unsupported relationship between operational 3PL capabilities and the outsourcing organisation's financial performance through logistics service quality contradicts previous literature which claims that the 3PL's ability to perform the outsourced task is the most important for affecting the outcomes of outsourced tasks, especially in terms of financial performance (Sinkovics & Roath, 2004). In the following section, the mediated relationships between the outsourcing partner's capabilities and the outsourcing organisation's corporate brand equity through logistics service quality are tested.

6.5.3 THE RELATIONSHIP BETWEEN PARTNER'S CAPABILITIES AND THE OUTSOURCING ORGANISATION'S CORPORATE BRAND EQUITY THROUGH LOGISTICS SERVICE QUALITY

This section outlines the results of mediation testing on the relationships between 3PL capabilities, the outsourcing organisation's relational capabilities and the outsourcing organisation's corporate brand equity through logistics service quality. Table 6.8 illustrates the direct, indirect and total effects produced by the SEM Model. Table 6.9 shows the results of the hypothesis testing of Hypotheses 9-16c.

Table 6.8: Direct, Indirect and Total Effects for the Mediated Relationship between 3PL Capabilities, the Outsourcing Organisation's Relational Capabilities and the Outsourcing Organisation's Corporate Brand Equity

Independent Variables	Direct Effects	Indirect Effects	Total Effects
Customer Focus 3PL Capabilities	-.085	-.058	-.144
Responsiveness 3PL Capabilities	-.100	-.035	-.135
Connectivity between IT systems 3PL Capabilities	.142	.004	.089
Information Sharing 3PL Capabilities	-.212	.114	-.098
Operational 3PL Capabilities	.140	.119	.259
Flexibility 3PL Capabilities	-.041	.054	.013
Outsourcing Organisation's Long-Term Relationship Orientation	.021	.214	.235
Outsourcing Organisation's Communication with the 3PL	.017	-.042	-.055

Table 6.9: The Mediated Relationship between 3PL Capabilities, the Outsourcing Organisation’s Relational Capabilities and the Outsourcing Organisation’s Corporate Brand Equity through Logistics Service Quality (LSQ)

Hypothesis	Relationship	β (t-value)	Result
9c	Customer Focus 3PL Capabilities → Logistics Service Quality → Corporate Brand Equity	-.058 ($t = -.083$)	No
10c	Responsiveness 3PL Capabilities → Logistics Service Quality → Corporate Brand Equity	-.036 ($t = -1.357$)	No
11c	Connectivity between IT systems 3PL Capabilities → LSQ → Corporate Brand Equity	.004 ($t = .333$)	No
12c	Information Sharing 3PL Capabilities → LSQ → Corporate Brand Equity	.114* ($t = 2.000$)	Yes
13c	Operational 3PL Capabilities → LSQ → Corporate Brand Equity	.119** ($t = 2.768$)	Yes
14c	Flexibility 3PL Capabilities → LSQ → Corporate Brand Equity	.054** ($t = 3.056$)	Yes
15c	Outsourcing Organisation’s Long-Term Relationship Orientation → LSQ → Corporate Brand Equity	.214*** ($t = 3.127$)	Yes
16c	Outsourcing Organisation’s Communication with the 3PL → LSQ → Corporate Brand Equity	-.042* ($t = -2.143$)	Yes

* = significant to .05, ** = significant to .01, *** = significant to .001
BOLD = significant relationship/supported hypothesis

Hypotheses 9 to 14c predicted that the dimensions of 3PL capabilities would affect the outsourcing organisation’s corporate brand equity through the mediating mechanism of 3PL logistics service quality. Similar to the results for corporate reputation, three of the six dimensions of 3PL capabilities had a significant indirect effect on the outsourcing organisation’s corporate brand equity through logistics service quality. These were: information sharing, operational and flexibility 3PL capabilities.

The effect of information sharing 3PL capabilities on the outsourcing organisation’s corporate brand equity through logistics service quality was significant ($\beta = .060$, $t = 2.000$, $p \leq .05$), thereby supporting Hypothesis 12c. A direct and negative relationship was reported earlier in this chapter in Section 6.3.3 between information sharing 3PL capabilities and the outsourcing organisation’s corporate brand equity. Conversely, the mediated relationship between these capabilities and the outsourcing organisation’s corporate brand equity through logistics service quality is positive. This suggests that the end business customer perceives information sharing negatively until they can determine how it can benefit them through the increased logistics service quality they experience.

The relationship between operational 3PL capabilities and the outsourcing organisation's corporate brand equity through the mediating effect of logistics service quality was positive and significant ($\beta = .191$, $t = 2.768$, $p \leq .01$), indicating that Hypothesis 13c is supported. This implies that the operational capabilities of the 3PL affect the kind of logistics service quality that it is able to deliver. The service quality delivered by the 3PL affects the outsourcing organisation's brand equity as good service quality provides positive brand associations for the customer and bad service quality results in negative brand associations. Customers' judgements of service contribute to the perceived quality dimension of brand equity as predicted by van Riel *et al.*, (2005). Though the effect on the outsourcing organisation's brand has not been empirically tested in previous literature, these results are as expected since customers are more likely to think favourably of the brand if they interact with a competent 3PL.

The mediated relationship between flexibility 3PL capabilities and the outsourcing organisation's corporate brand equity through logistics service quality was significant ($\beta = .055$, $t = 3.056$, $p \leq .01$); thus, Hypothesis 14c was supported. This supports existing literature which states that 3PLs with more customer-focused 3PL capabilities such as flexibility are more likely to fulfil the outsourcing organisation's brand promises and meet quality expectations that positively influence brand equity (Yoo *et al.*, 2000).

The other three dimensions of 3PL capabilities - customer focus, responsiveness and connectivity between information systems - did not significantly affect the outsourcing organisation's corporate brand equity through logistics service quality. The mediated relationship between customer focus 3PL capabilities and corporate brand equity through logistics service quality was not significant ($\beta = -.047$, $t = -.083$, *ns*). Therefore, Hypothesis 9c was not supported. Similarly, the effect of responsiveness 3PL capabilities on corporate brand equity through logistics service quality was not significant ($\beta = -.038$, $t = -1.357$, *ns*). Hence, Hypothesis 10c was not supported. Hypothesis 11c was not supported as the influence of connectivity between IT systems 3PL capabilities on corporate brand equity through logistics service quality was not significant ($\beta = .007$, $t = .333$, *ns*). Perhaps connectivity between IT systems 3PL capabilities does not affect the outsourcing organisation's corporate brand equity because the end customer does not consider them important for brand promises to be fulfilled. As indicated in the discussion under the outsourcing organisation's financial performance and corporate reputation, the lack of indirect effect for these variables may be a

result of the presence of another mediating variable or a conditional moderating effect. This will be explored in the next chapter, Chapter 7, Section 7.3.3.

Hypotheses 15c and 16c proposed that the two dimensions of the outsourcing organisation's relational capabilities would affect its corporate brand equity through the logistics service quality provided by the 3PL. Both dimensions of the outsourcing organisation's relational capabilities had a significant effect on the outsourcing organisation's corporate brand equity through logistics service quality. Hypothesis 15c is supported, as the indirect effect of the outsourcing organisation's long-term relationship orientation is significant ($\beta = .247$, $t = 3.127$, $p \leq .001$). This implies that the capabilities of the outsourcing organisation in terms of a long-term approach to the relationship will determine whether the 3PL wants to provide the best logistics service quality possible. This affects the outsourcing organisation's corporate brand equity as end customers experience the service quality and make an assessment of the outsourcing organisation's brand as a result of their interactions with the 3PL. This finding supports the importance of capabilities concerning relationship management. It also encourages the outsourcing organisation to utilise relationship management to influence its own corporate brand equity outcomes. Though the current literature supports the importance of relationship management and relational capabilities in organisational partnerships, these ideas have not been applied to the outsourcing context in the literature. In addition, extant literature has not empirically tested whether these relational capabilities of an outsourcing organisation can indirectly affect its own outsourcing outcomes. On the other hand, this finding is in line with current arguments that suggest the ability to better manage an organisational partnership can elicit better service provision from organisational partners (Lages *et al.*, 2005; Ling-yee, 2007).

Hypothesis 16c is supported as the indirect effect of the outsourcing organisation's communication with the 3PL on its own corporate brand equity through the logistics service quality delivered by the 3PL is significant ($\beta = -.075$, $t = -2.143$, $p \leq .05$). This implies that a capability of the outsourcing organisation in terms of communicating with the 3PL will affect the logistics service quality the 3PL provides. This service quality is then judged by end customers to determine if the outsourcing brand's promise is upheld. As with the outsourcing organisation's long-term relationship orientation, this finding supports the need for the outsourcing organisation to actively manage the outsourcing relationship to maximise positive outcomes.

Overall, eleven out of the 24 hypothesised relationships mediated by logistics service quality were found to be significant. The relationship between customer focus 3PL capabilities and the outsourcing organisation's financial performance mediated by logistics service quality may not have been supported because a direct and negative relationship already exists between these two variables. Additionally, responsiveness 3PL capabilities may only have a direct effect on the outsourcing organisation's financial performance and corporate brand equity. Further, the relationship between connectivity between IT systems' 3PL capabilities and the outsourcing organisation's financial performance may not be mediated through logistics service quality as it has a direct and positive relationship. Similarly, the outsourcing organisation's long-term relationship orientation may only directly and positively affect its own financial performance without acting through a mediator. The other non-significant mediated effects may be weak because of the indirect effects being in fact conditional. This will be determined in the following chapter, Chapter 7.

6.6 SUMMARY OF RESULTS

In summary, nine direct relationships were supported and eleven relationships mediated through logistics service quality were supported. The results suggest that the outsourcing organisation's financial performance is directly and positively affected by responsiveness and connectivity between IT systems 3PL capabilities and the outsourcing organisation's long-term relationship orientation. Connectivity between IT systems 3PL capabilities may minimise operating costs in terms of carrying out the outsourced task. Responsiveness 3PL capabilities may promote the 3PL's ability to respond to changes which in turn decreases operating costs. The outsourcing organisation's long-term relationship orientation may decrease costs by encouraging commitment and better performance from the 3PL. Financial performance also emerged to be negatively affected by customer focus 3PL capabilities. Customer focus 3PL capabilities inhibit financial performance because reacting to priority needs of the outsourcing organisation may increase costs. Logistics service quality also mediates the relationship between the outsourcing organisation's financial performance and the 3PL's flexibility capabilities. The logistics service quality provided by the 3PL can encourage repeat purchase from end customers, thereby positively influencing financial

performance. In turn, the logistics service quality the 3PL is able to deliver can be enhanced through its ability to adapt to changes in the market and in the outsourcing organisation.

The findings suggest that the outsourcing organisation's corporate brand equity is directly and negatively influenced by the 3PL's responsiveness and information sharing capabilities. This may be because the end customer negatively perceives the 3PL as responding to the outsourcing organisation's needs rather than those of the end customer. Information sharing 3PL capabilities may have a negative effect because the end customer questions whether sensitive information is being shared which might be misused. It is also directly and positively affected by the 3PL's operational capabilities. This may be a result of the outsourcing organisation's brand being enhanced by outsourcing to a competent 3PL partner who is more likely to meet customer needs. Corporate brand equity for the outsourcing organisation is also indirectly affected by information sharing, operational and flexibility 3PL capabilities and the outsourcing organisation's long-term relationship orientation and communication with the 3PL through the logistics service quality that the 3PL provides to the end customer. This suggests that the 3PL's ability to deliver the right kind of service depends on its own capabilities regarding the logistics activity required, sharing information to better understand the needs of the end customer, being flexible to changes in the environment, and how well the outsourcing organisation manages the outsourcing relationship in terms of its long-term orientation and communication with the 3PL. Operational 3PL capabilities showed both a direct and indirect relationship with the outsourcing organisation's corporate brand equity, suggesting that there may be partial mediation through logistics service quality present. The relationship between information sharing 3PL capabilities and corporate brand equity changed from a direct negative effect to a positive mediated effect suggesting that, as mentioned previously, logistics service quality is needed for the end business customer to really experience the benefit of information sharing between the 3PL and the outsourcing organisation. This finding also indicates partial mediation. The 3PL's flexibility capabilities acted through logistics service quality, suggesting that for these capabilities to positively influence the outsourcing organisation's corporate brand equity, they need to do this by affecting the logistics service quality that the 3PL provides. The outsourcing organisation's relational capabilities, comprised of long-term relationship orientation and communication with the 3PL, affected its own corporate brand equity through the 3PL's logistics service quality. This indicates that how well the outsourcing organisation manages the relationship

can influence whether the 3PL delivers a good service and upholds the brand values and promises to the end customer.

The outsourcing organisation's corporate reputation is positively influenced by its own long-term relationship orientation both directly and indirectly through the 3PL's logistics service quality. The presence of both direct and indirect relationships suggests partial mediation. This may be a result of end customers positively viewing the outsourcing organisation's efforts to continue the outsourcing relationships regardless of the outcome. The outsourcing organisation's corporate reputation was also indirectly related to information sharing, operational and flexibility 3PL capabilities. Both directly and indirectly it is also negatively affected by the other dimension of the outsourcing organisation's relational capabilities communication with the 3PL, through the 3PL's logistics service quality. This suggests a partial mediation. Communication with the 3PL may negatively affect corporate reputation because the end customer does not perceive the need for the outsourcing organisation to communicate with the 3PL. Similar to the mediated effect on corporate brand equity, the service quality is determined by the 3PL's capabilities to perform the task, their ability to share information to find out more about the end customer, their ability to respond to changes, and the outsourcing organisation's ability to manage the 3PL well in order to ensure that the right service is delivered to the end customer.

The results obtained by the SEM model suggest that mediation is taking place between the independent variables (outsourcing organisation's relational capabilities and 3PL capabilities) and the dependent variables (financial performance, corporate reputation and corporate brand equity) through logistics service quality. Logistics service quality does seem to be a significant mediating variable between information sharing, operational and flexibility 3PL capabilities, the dimensions of the outsourcing organisation's relational capabilities, and the dimensions of the outsourcing organisation's performance. However, the other 3PL capabilities may directly affect the dimensions of the outsourcing organisation's performance or may be conditional upon the moderating effect of ethical integration.

Overall, the findings suggest that the 3PL, its capabilities and the logistics service quality that it offers to the end customer, do affect the outsourcing organisation's performance. However, it also seems that the outsourcing organisation and its management of the relationship have an important influence on the outcome of the outsourcing arrangement. The next chapter will

test whether ethical integration acts as a moderator in these relationships by creating a condition that may facilitate some of the mediated relationships.

CHAPTER 7

MODERATED MEDIATION EFFECT OF ETHICAL INTEGRATION ON THE RELATIONSHIP BETWEEN CAPABILITIES, LOGISTICS SERVICE QUALITY AND THE OUTSOURCING ORGANISATION'S PERFORMANCE

7.1 INTRODUCTION

In this chapter, the results of testing the moderated mediation utilising the approach advocated by Preacher, Rucker and Hayes (2007) are outlined. The hypotheses tested in this section predict that ethical integration moderates the mediated relationship between the outsourcing partner's capabilities, 3PL logistics service quality and the outsourcing organisation's performance. Ethical integration refers to the alignment of the 3PL's ethical thinking with that of the outsourcing organisation and may create a conditional indirect effect whereby the mediated relationship is strengthened or weakened by the presence of ethical integration. This is referred to as a 'conditional indirect effect' which can be assessed by testing different moderated mediation models. At the beginning of the chapter, Preacher *et al.*'s (2007) Model 3 is described to indicate how it facilitates testing of where in the causal sequence, if at all, ethical integration moderates the relationships. The bootstrapping data analysis method including discussion of conditional indirect effects in moderated mediation is then outlined. The results of the analysis for each dependent variable are then examined and the chapter concludes with a summary of results.

7.2 DATA ANALYSIS PROCEDURE

The conceptual model tested in this study depicts a case of moderated mediation. This study hypothesised a conditional indirect effect which is defined as an indirect effect whose magnitude is influenced by the value of a moderator (Muller, Judd & Yzerbyt, 2005). In this research, the size of the mediating effect of logistics service quality is hypothesised to be

influenced by the degree of ethical integration of the outsourcing partners. In this section, the Model 3 moderated mediation approach is used as advocated by Preacher *et al.*, (2007).

Model 3

Conceptual Model

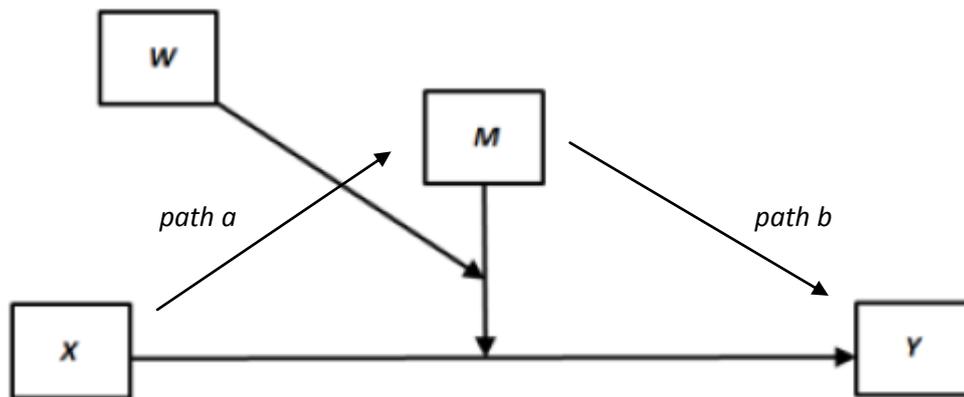


Figure 7.1: Model 3 – Moderated Mediation (Source: Preacher *et al.*, 2007)

Moderated mediation depicts a mediation effect being conditional upon the level of the moderator that is present; for example, if the moderator is present at a high level, the indirect effect may be stronger. In this model, the *M* value represents the mediator (Logistics Service Quality) and *W* is the moderator (Ethical Integration). The $X_{j..z}$ value is the independent variable (The Outsourcing Organisation’s Capabilities and 3PL Capabilities) and the $Y_{i..z}$ is the dependent variable (Financial Performance, Corporate Reputation and Corporate Brand Equity). As can be seen in Figure 7.1, the interaction effects of $X_{j..z}$ and *W*, and *M* and *W* are assessed to determine if a conditional indirect effect exists. The moderated mediation model assesses the interaction of the moderator with the independent variable, but also with the mediating variable, testing whether moderation occurs on the path between independent and mediator variables (path *a*), and on the path between mediator and dependent variables (path *b*). This is because the moderation is predicted to occur at potentially two points, as the level of ethical integration between the two outsourcing partners will influence how much the 3PL’s or the outsourcing organisation’s capabilities affect logistics service quality. This will also moderate the extent to which the logistics service quality affects the organisational performance dimensions (corporate reputation, financial performance and corporate brand equity).

Testing moderated mediation is typically done with bootstrapping. Bootstrapping is a nonparametric resampling procedure that tests for mediation and moderation without assuming that the sample is normally distributed (Preacher & Hayes, 2008). This method is conducted using statistical software and repeated sampling from the data set effectively creating a much larger pool of data from which an indirect effect (mediation) and conditional indirect effect (moderated mediation) can be tested (Hayes, 2009).

Moderated mediation was run in SPSS with the aid of the SPSS Macro (PROCESS) provided on Hayes' website (Hayes, 2012).

Graphical analysis of simple slopes can also be undertaken to help in the interpretation of the interactions and moderation effects (Preacher, Curran & Bauer, 2006). When moderation hypotheses are tested, an interaction term is created which is a product of two or more predictor variables (Hair *et al.*, 2010). This interaction term creates a conditional effect whereby the relationship is conditional upon the value of the moderator. This conditional effect needs to be probed further to understand the relationship (Aiken & West, 1991). The simple slopes analysis determines how significant the interaction effect is by selecting a number of critical values for which the regression equation is tested to determine whether or not it is significant (Aiken & West, 1991). The critical values typically assessed are at the mean and one standard deviation above and below the mean (Cohen & Cohen, 1983). Simple slope analysis was utilised in this study to better ascertain the value of the moderator at which the relationships changed.

7.3 RESULTS AND DISCUSSION

In this chapter, Proposition 6 from Chapter 3 was formulated into testable hypotheses that were investigated in this section.

Proposition 6: The level of ethical integration between the two outsourcing partners will moderate the relationship between 3PL capabilities, the outsourcing organisation's relational capabilities and the dimensions of the outsourcing organisation's performance through the mediator of 3PL's logistics service quality.

This section tested the following hypotheses:

- Hypothesis 17: The indirect effect of customer focus 3PL capabilities on the outsourcing organisation's (a) financial performance, (b) corporate reputation and (c) corporate brand equity through logistics service quality is moderated by ethical integration.*
- Hypothesis 18: The indirect effect of responsiveness 3PL capabilities on the outsourcing organisation's (a) financial performance, (b) corporate reputation and (c) corporate brand equity through logistics service quality is moderated by ethical integration.*
- Hypothesis 19: The indirect effect of connectivity between IT systems 3PL capabilities on the outsourcing organisation's (a) financial performance, (b) corporate reputation and (c) corporate brand equity through logistics service quality is moderated by ethical integration.*
- Hypothesis 20: The indirect effect of information sharing 3PL capabilities on the outsourcing organisation's (a) financial performance, (b) corporate reputation and (c) corporate brand equity through logistics service quality is moderated by ethical integration.*
- Hypothesis 21: The indirect effect of operational 3PL capabilities on the outsourcing organisation's (a) financial performance, (b) corporate reputation and (c) corporate brand equity through logistics service quality is moderated by ethical integration.*
- Hypothesis 22: The indirect effect of flexibility 3PL capabilities on the outsourcing organisation's (a) financial performance, (b) corporate reputation and (c) corporate brand equity through logistics service quality is moderated by ethical integration.*
- Hypothesis 23: The indirect effect of the outsourcing organisation's relational capabilities related to long-term relationship orientation on its own (a) financial performance, (b) corporate reputation and (c) corporate brand equity through the logistics service quality provided by the 3PL is moderated by ethical integration.*
- Hypothesis 24: The indirect effect of the outsourcing organisation's relational capabilities related to communication with the 3PL on its own (a) financial performance, (b) corporate reputation and (c) corporate brand equity through the logistics service quality provided by the 3PL is moderated by ethical integration.*

7.3.1 CONDITIONAL INDIRECT EFFECT ON THE OUTSOURCING ORGANISATION'S FINANCIAL PERFORMANCE

This section examines whether ethical integration has a conditional indirect effect on the relationship between the 3PL's capabilities and the outsourcing organisation's relational capabilities and the outsourcing organisation's financial performance through logistics service quality.

Table 7.1: Conditional Indirect Effect of Ethical Integration (Moderator) on the Relationship between 3PL Capabilities (IV) and Outsourcing Organisation's Relational Capabilities (IV) and the Outsourcing Organisation's Financial Performance (DV) through Logistics Service Quality (LSQ)

Hypothesis	Independent Variable (IV)	Interaction IV x EI β (t-value)	Interaction LSQ x EI β (t-value)	Interaction on path a xpath b xEI β (t-value)
17a	Customer Focus 3PL Capabilities	.068 ($t = 1.422$)	-.109 ($t = -1.595$)	.126** ($t = 2.876$)
18a	Responsiveness 3PL Capabilities	.077 ($t = 1.409$)	-.116 ($t = -1.713$)	.045 ($t = 1.055$)
19a	Connectivity between IT systems 3PL Capabilities	.022 ($t = .391$)	-.081 ($t = -1.039$)	-.083* ($t = -1.960$)
20a	Information Sharing 3PL Capabilities	.180* ($t = 2.901$)	-.094 ($t = -1.186$)	.026 ($t = .525$)
21a	Operational 3PL Capabilities	.137 ($t = 1.386$)	-.056 ($t = -.694$)	.057 ($t = .699$)
22a	Flexibility 3PL Capabilities	.037 ($t = .705$)	-.124 ($t = -1.736$)	.113** ($t = 2.627$)
23a	Outsourcing Organisation's Long-Term Relationship Orientation	.188** ($t = 2.874$)	-.142 ($t = -1.509$)	.038 ($t = .838$)
24a	Outsourcing Organisation's Communication with the 3PL	.166** ($t = 3.121$)	-.211* ($t = -2.228$)	-.066 ($t = -1.387$)

* = significant to .05, ** = significant to .01, *** = significant to .001

The results presented in Table 7.1 indicate that ethical integration has a conditional indirect effect on the relationships between some dimensions of 3PL capabilities and the outsourcing organisation’s financial performance through logistics service quality. Three dimensions of 3PL capabilities showed a complete moderated mediation where the interaction of path *a* multiplied by path *b* was significant. These were: customer focus, connectivity between IT systems and flexibility 3PL capabilities.

As Figure 7.2 indicates, ethical integration does create a conditional indirect effect between customer focus 3PL capabilities and the outsourcing organisation’s financial performance through logistics service quality ($\beta = .126, t = 2.876, p < .01$). Therefore, Hypothesis 17a is supported.

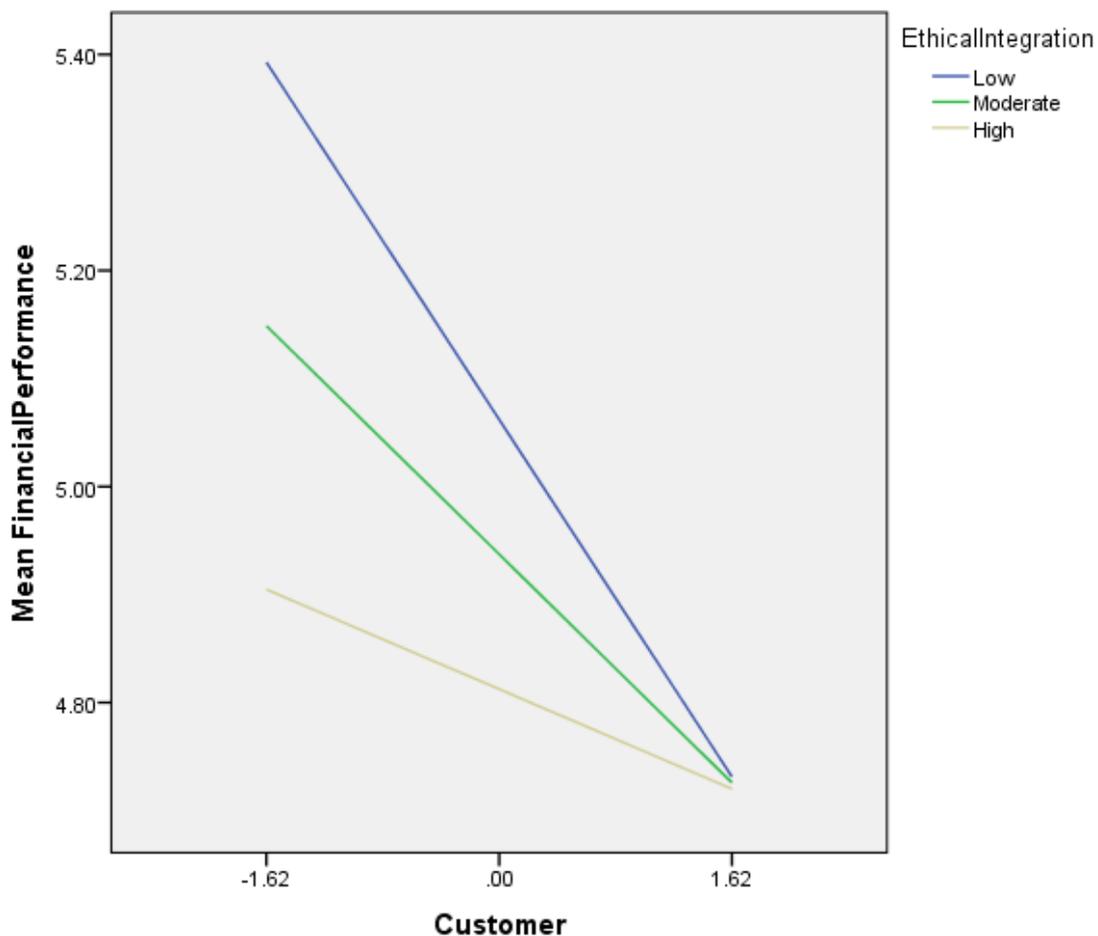


Figure 7.2: The Moderating Effect of Ethical Integration on the Link between Customer Focus 3PL Capabilities and the Outsourcing Organisation’s Financial Performance

Figure 7.2 suggests that when customer focus is low and ethical integration is low, there are significant performance benefits. This finding could be a result of ethical integration creating

additional costs for the organisation without adding the benefits for the customer that they would receive if customer focus capabilities were high. However, as customer focus increases, financial performance decreases at all levels of integration. This arises from allowing each firm to perform what it is best at, which is the typical rationale behind outsourcing (Arnold, 2000). When customer focus 3PL capabilities are high, then ethical integration has very little effect, indicating that ethical integration is not necessary when the 3PL has customer focus capabilities to achieve better financial performance. This suggests that there is a trade-off in the emphasis placed on ethical integration and customer focus. Thus, when customer focus is high, low ethical integration produces the most dramatic decrease in financial performance.

Figure 7.3 shows that ethical integration has a conditional indirect effect on the relationship between connectivity between IT systems 3PL capabilities and the outsourcing organisation's financial performance through the 3PL's logistics service quality ($\beta = -.083$, $t = -1.960$, $p < .05$). Thus, there seems to be support for Hypothesis 19a. As Figure 7.3 illustrates, when connectivity between IT systems 3PL capabilities are high, then low ethical integration produces the best financial performance outcome for the outsourcing organisation. This may be a result of ethical integration adding extra costs to the outsourcing relationship that negatively affect the outsourcing organisation's financial performance. However, when connectivity between IT systems 3PL capabilities are high, then the effects of different levels of ethical integration do not impact as much on the outsourcing organisation's financial performance. The difference between the 3PL capabilities dimension connectivity between IT systems and customer focus discussed in the previous paragraph is that high connectivity between IT systems seems to increase the outsourcing organisation's financial performance whilst customer focus capabilities may have a negative effect on financial performance. This supports the finding in Section 6.3.2 of Chapter 6 and in prior literature which suggest that connectivity between IT systems 3PL capabilities reduces coordination costs (Williams *et al.*, 1997).

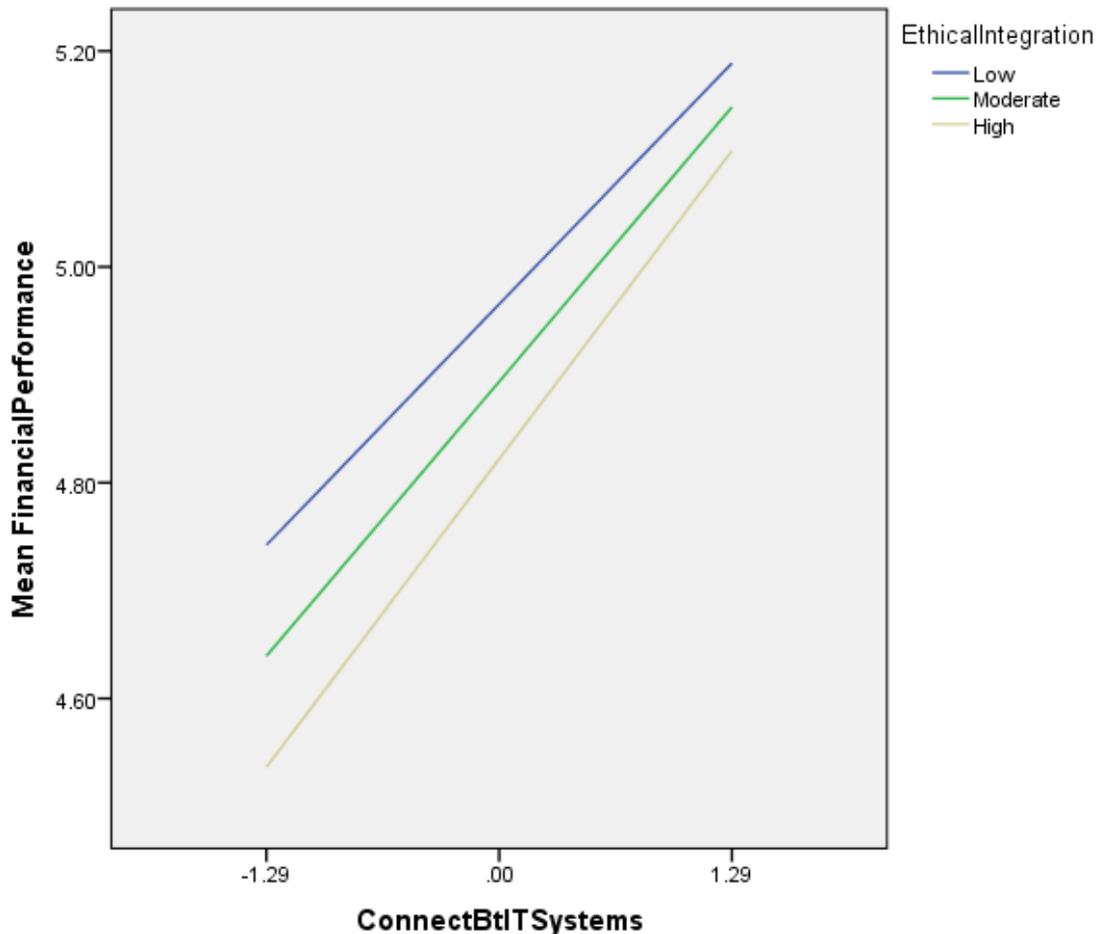


Figure 7.3: The Moderating Effect of Ethical Integration on the Link between Connectivity between IT Systems 3PL Capabilities and the Outsourcing Organisation’s Financial Performance

Figure 7.4 graphically illustrates that ethical integration moderates the mediated relationship between flexibility 3PL capabilities and the outsourcing organisation’s financial performance through 3PL logistics service quality ($\beta = .113, t = 2.627, p < .01$). This suggests that Hypothesis 22a is supported. Similar to the findings for the 3PL capabilities dimensions of customer focus and connectivity between IT systems, when flexibility 3PL capabilities are low, then low ethical integration has the most positive influence on the outsourcing organisation’s financial performance. When flexibility 3PL capabilities are high, then low ethical integration again produces the best financial performance outcome, but the difference in financial performance at the different levels of ethical integration is much smaller. As discussed in Section 6.3.2 in Chapter 6, the customers may not perceive high flexibility 3PL capabilities as necessary or as additional cost in the outsourcing relationship. This supports previous literature which has found that increased flexibility can come at high cost (Chod, Rudi & Van Mieghem, 2010; Goyal & Netessine, 2011).

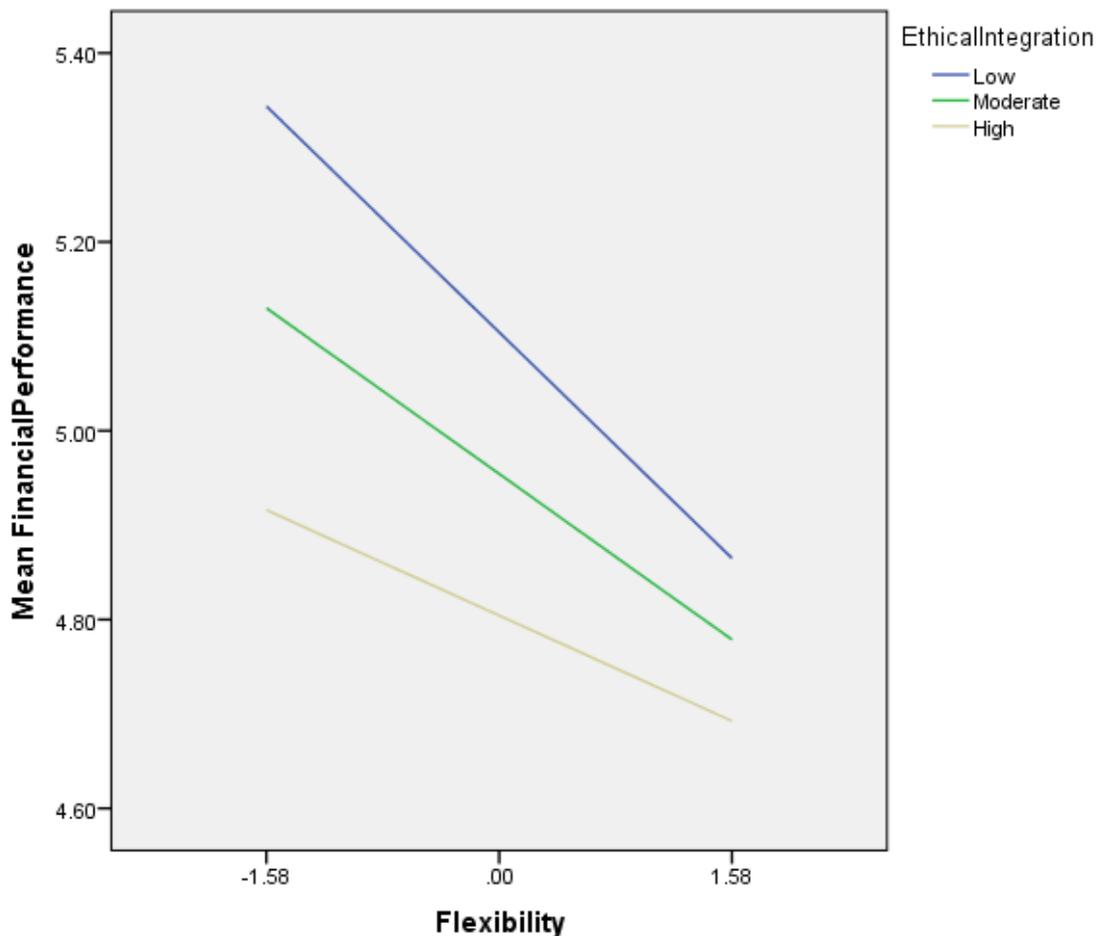


Figure 7.4: The Moderating Effect of Ethical Integration on the Link between Flexibility 3PL Capabilities and the Outsourcing Organisation’s Financial Performance

The relationship between information sharing 3PL capabilities and the outsourcing organisation’s financial performance through 3PL logistics service quality produced a partial moderated mediation. This occurred because ethical integration moderated path *a* between information sharing 3PL capabilities and logistics service quality ($\beta = .180, t = 2.901, p < .05$). Therefore, Hypothesis 20a is partially supported. As Figure 7.5 indicates, as information sharing increases, high ethical integration leads to positive performance while at the same time, financial performance dramatically decreases if ethical integration is low. This suggests that when 3PLs do not have the skills to effectively share information with the outsourcing organisation, then it is not necessary for the 3PL to be ethically integrated with the outsourcing organisation. On the other hand, when the 3PL does have high information sharing capabilities, then high ethical integration is required to enhance the outsourcing organisation’s financial performance. This finding is in line with arguments made in Section 6.3.3 of Chapter 6 which state that the customer can negatively perceive the 3PL’s sharing of

potentially sensitive information with the outsourcing organisation unless it is visible how that information is being used to improve logistics service quality or there is ethical integration present in the outsourcing relationship.

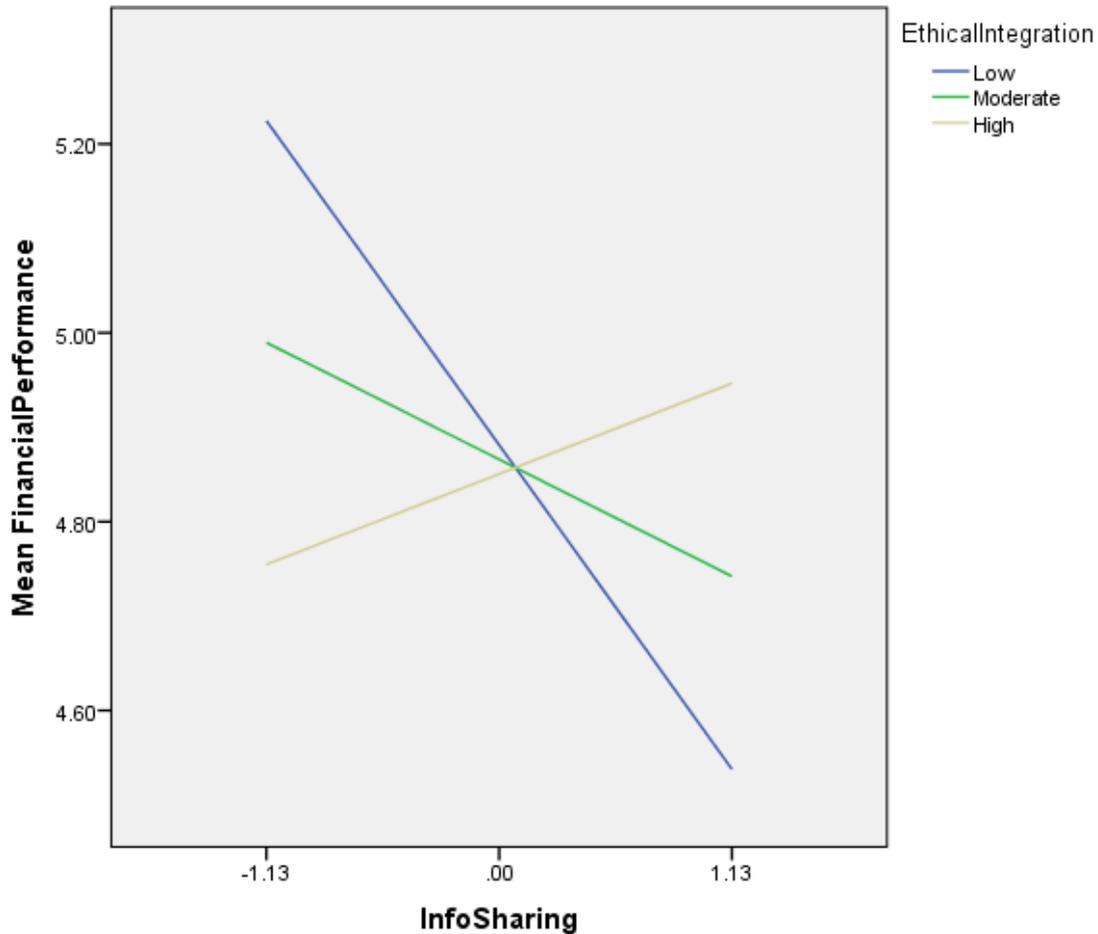


Figure 7.5: The Moderating Effect of Ethical Integration on the Link between Information Sharing 3PL Capabilities and the Outsourcing Organisation’s Financial Performance

Both of the two dimensions of the outsourcing organisation’s relational capabilities were affected by ethical integration in their indirect relationship with financial performance. The relationship between the dimension of communication with the 3PL and financial performance through 3PL logistics service quality, was moderated by ethical integration on path *a* and path *b* but not on path *a* multiplied by path *b*. Path *a* from communication with the 3PL to 3PL logistics service quality was moderated by ethical integration ($\beta = .166, t = 3.121, p < .01$). Path *b* from 3PL logistics service quality to the outsourcing organisation’s financial performance was moderated by ethical integration ($\beta = -.211, t = -2.228, p < .05$). Therefore, Hypothesis 24a is partially supported.

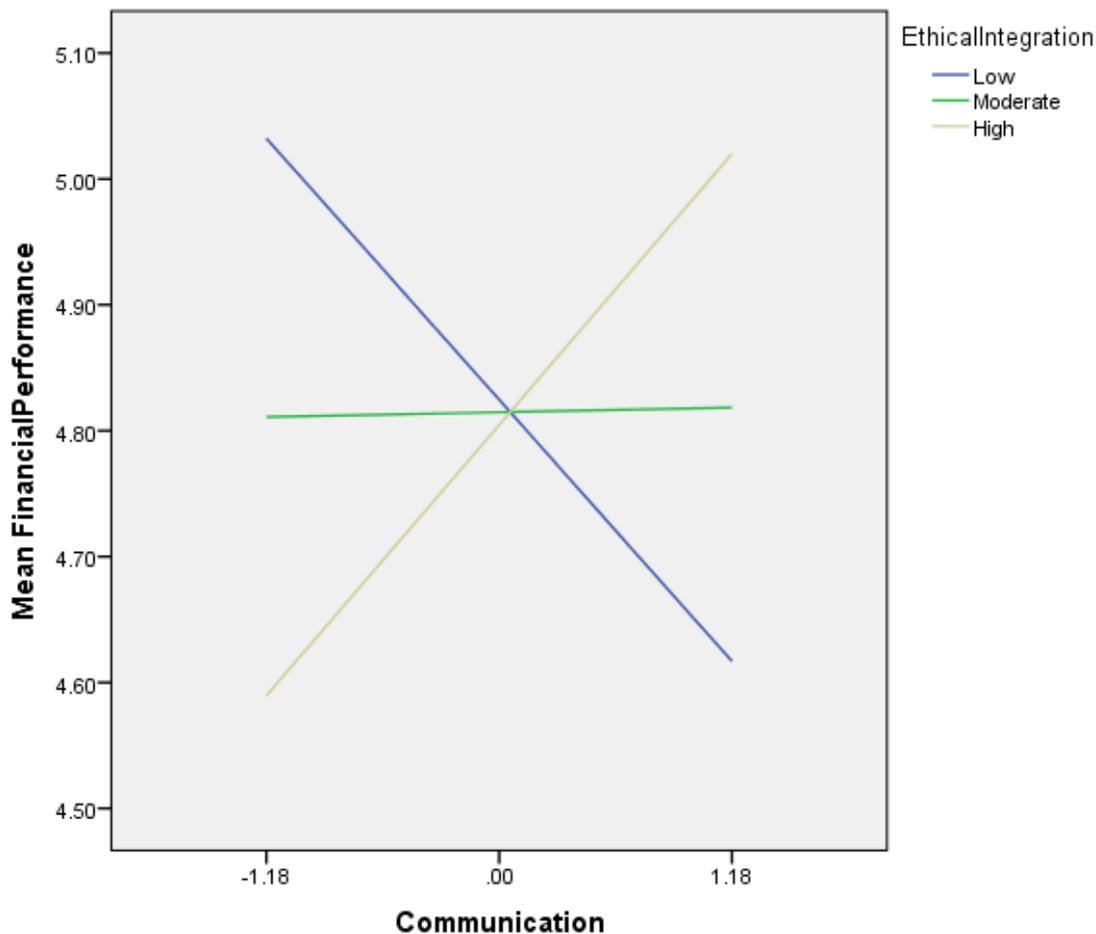


Figure 7.6: The Moderating Effect of Ethical Integration on the Link between the Outsourcing Organisation’s Communication with the 3PL and its Financial Performance

As Figure 7.6 indicates, when the outsourcing organisation’s communication with the 3PL relational capabilities are high, then the best financial performance outcome is achieved with high ethical integration. This again may suggest that the customer views communication in the outsourcing partnership more favourably when the two partners are ethically integrated. However, it appears as if ethical integration is not required when communication with the 3PL is low. When it seems that communication is not occurring, then the outsourcing organisation’s efforts towards increasing ethical integration with the 3PL may cost the outsourcing organisation and use up resources without offering any returns.

Figure 7.7 shows that ethical integration creates a conditional indirect effect on the relationship between the outsourcing organisation’s long-term relationship orientation and its financial performance through the 3PL’s logistics service quality. However, this conditional effect occurs on path *a* from long-term relationship orientation to logistics service quality ($\beta = .188, t = 2.874, p < .01$). This provides partial support for Hypothesis 23a.

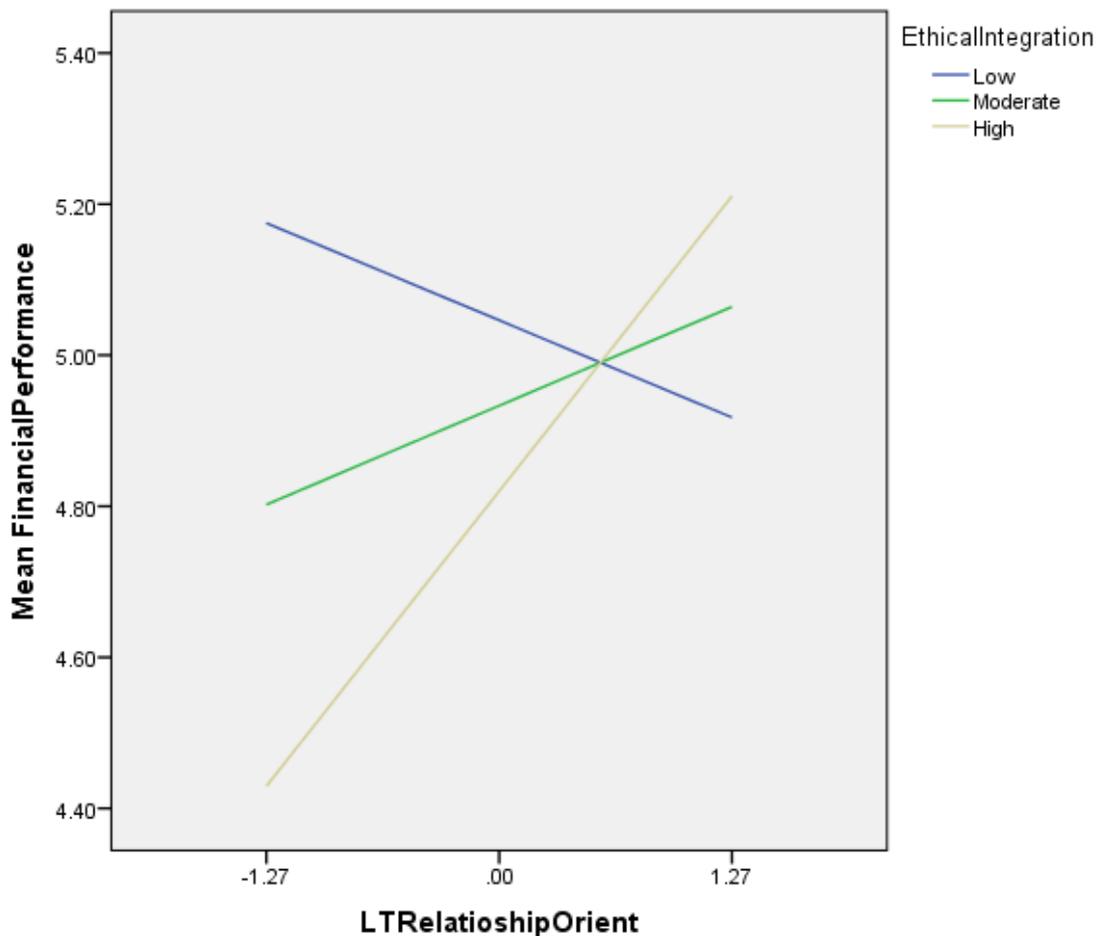


Figure 7.7: The Moderating Effect of Ethical Integration on the Link between the Outsourcing Organisation’s Long-Term Relationship Orientation and its Financial Performance

As the graph indicates, the most positive effect on financial performance is achieved when long-term relationship orientation is high and ethical integration is high. As long-term relationship orientation increases, there are significant financial benefits if there is high ethical integration. This may be due to longer term relationships needing more ethical alignment between partners to encourage the right behaviours from the 3PL and reap the financial rewards of the outsourcing relationship. As mentioned previously in this chapter, it seems that when the 3PL lacks capabilities then emphasizing ethical integration creates additional and unnecessary costs. The next section looks at the moderated mediating effect of ethical integration in terms of the dependent variable which is the outsourcing organisation’s corporate reputation.

7.3.2 CONDITIONAL INDIRECT EFFECT ON THE OUTSOURCING ORGANISATION'S CORPORATE REPUTATION

This section examines whether ethical integration has a conditional indirect effect on the relationship between either the 3PL's capabilities or the outsourcing organisation's relational capabilities and the outsourcing organisation's corporate reputation through logistics service quality.

Table 7.2: Conditional Indirect Effect of Ethical Integration (Moderator) on the Relationship between 3PL Capabilities (IV) and Outsourcing Organisation's Relational Capabilities (IV) and the Outsourcing Organisation's Corporate Reputation (DV) through Logistics Service Quality (LSQ)

Hypothesis	Independent Variable (IV)	Interaction IV x EI β (t-value)	Interaction LSQ x EI β (t-value)	Interaction on Path a x path b x EI β (t-value)
17b	Customer Focus 3PL Capabilities	.026 ($t = .574$)	-.010 ($t = -.153$)	.053 ($t = 1.286$)
18b	Responsiveness 3PL Capabilities	.062 ($t = 1.230$)	-.016 ($t = -.262$)	.025 ($t = .625$)
19b	Connectivity between IT systems 3PL Capabilities	.011 ($t = .200$)	-.002 ($t = -.033$)	-.084* ($t = -2.016$)
20b	Information Sharing 3PL Capabilities	.110* ($t = 1.960$)	-.174* ($t = -2.426$)	-.054 ($t = -1.173$)
21b	Operational 3PL Capabilities	.083 ($t = .913$)	-.065 ($t = -.872$)	-.140* ($t = -1.960$)
22b	Flexibility 3PL Capabilities	-.030 ($t = -.605$)	.002 ($t = .036$)	.024 ($t = .597$)
23b	Outsourcing Organisation's Long-Term Relationship Orientation	-.014 ($t = -.230$)	-.043 ($t = -.496$)	-.050 ($t = -1.200$)
24b	Outsourcing Organisation's Communication with the 3PL	.114* ($t = 2.378$)	-.284*** ($t = -3.325$)	-.064 ($t = -1.478$)

* = significant to .05, ** = significant to .01, *** = significant to .001

As Table 7.9 indicates, only three dimensions of 3PL capabilities were found to have a significant interaction with ethical integration in their relationships with corporate reputation through logistics service quality. These were: connectivity between IT systems, information sharing and operational 3PL capabilities. Connectivity between IT systems and operational 3PL capabilities had a complete moderated mediation caused by ethical integration which occurred on path *a* multiplied by path *b*.

The relationship between connectivity between IT systems and the outsourcing organisation's corporate reputation through 3PL logistics service quality is moderated by ethical integration ($\beta = -.084, t = -2.016, p < .05$). This supports Hypothesis 19b. Figure 7.8 shows that the best outcome for corporate reputation is achieved when connectivity between IT systems 3PL capabilities are high and ethical integration is low. However, the different degrees of ethical integration do not have much effect on financial performance when connectivity between IT systems 3PL capabilities are high. This finding suggests that ethical integration is not necessary for the outsourcing organisation to maintain or achieve a good corporate reputation as a result of partnering with a 3PL which possesses high connectivity between IT systems 3PL capabilities. This may be because when connectivity between IT systems occurs within the outsourcing relationships this has similar effects as to those that would be achieved with ethical integration. Therefore, ethical integration becomes superfluous.

When connectivity between 3PL capabilities are low, then low ethical integration yields the best corporate reputation outcome. At low connectivity between IT systems 3PL capabilities, the different degrees of ethical integration have a greater effect suggesting that when the 3PL does not possess connectivity between IT systems 3PL capabilities, then the outsourcing organisation's attempts to foster ethical integration may be perceived negatively by customers. This may be due to customers seeing ethical integration with a 3PL that does not possess the relevant capabilities as unnecessary since such a 3PL should be replaced with another that has better developed capabilities allowing systems integration.

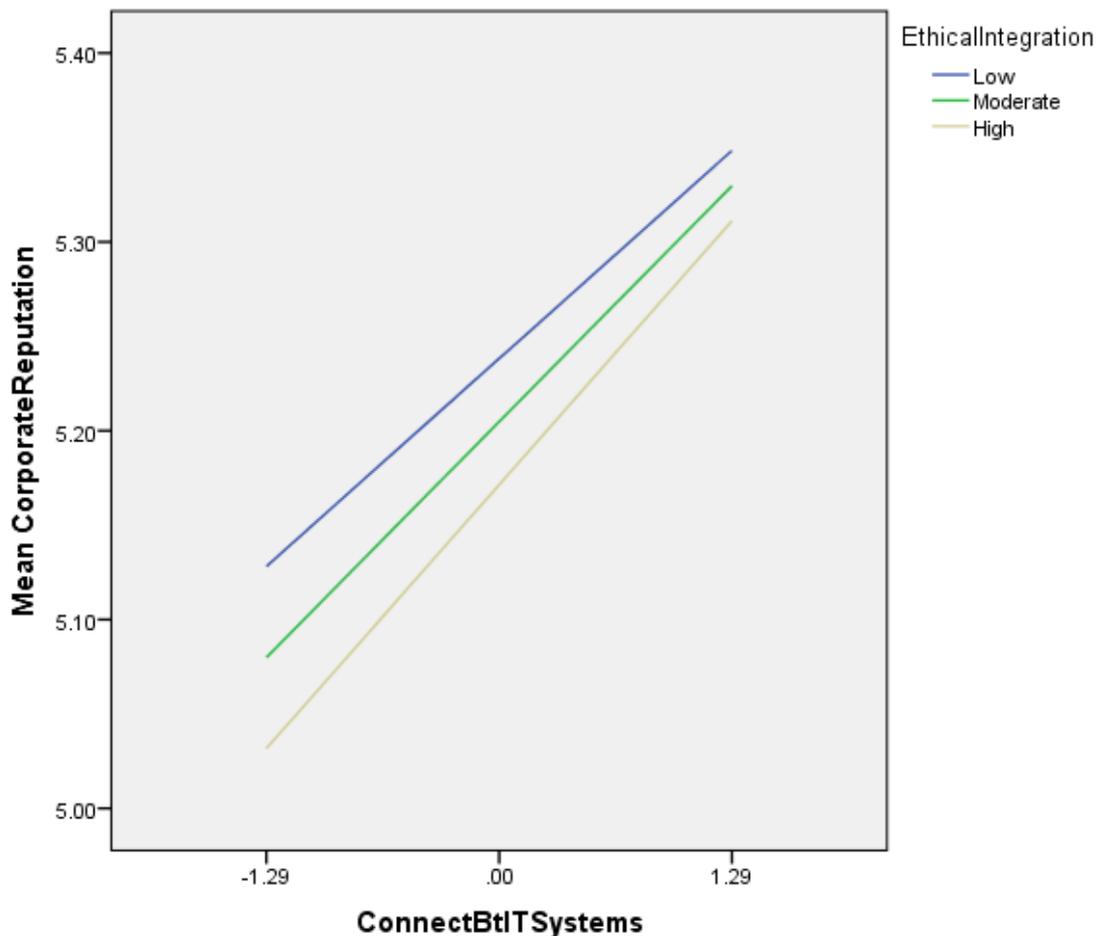


Figure 7.8: The Moderating Effect of Ethical Integration on the Link between the Connectivity between IT Systems 3PL Capabilities and the Outsourcing Organisation’s Corporate Reputation

As Table 7.2 shows, the relationship between operational 3PL capabilities and the outsourcing organisation’s financial performance through 3PL logistics service quality is moderated by ethical integration ($\beta = -.140, t = -1.960, p < .05$). Hence, Hypothesis 21b is supported.

Figure 7.9 graphically illustrates that as operational 3PL capabilities increase, high ethical integration produces significant financial gains. It may be that even when the 3PL is skilled in carrying out the task, ethical integration is necessary to ensure that the 3PL acts ethically and in line with the outsourcing organisation’s values to meet end customers’ expectations and maintain the outsourcing organisation’s corporate reputation. However, when operational 3PL capabilities are low, then low ethical integration produces better corporate reputation. This may be due to perceptions of waste if the outsourcing organisation attempts to integrate itself with a 3PL partner who is not capable of undertaking the outsourced task.

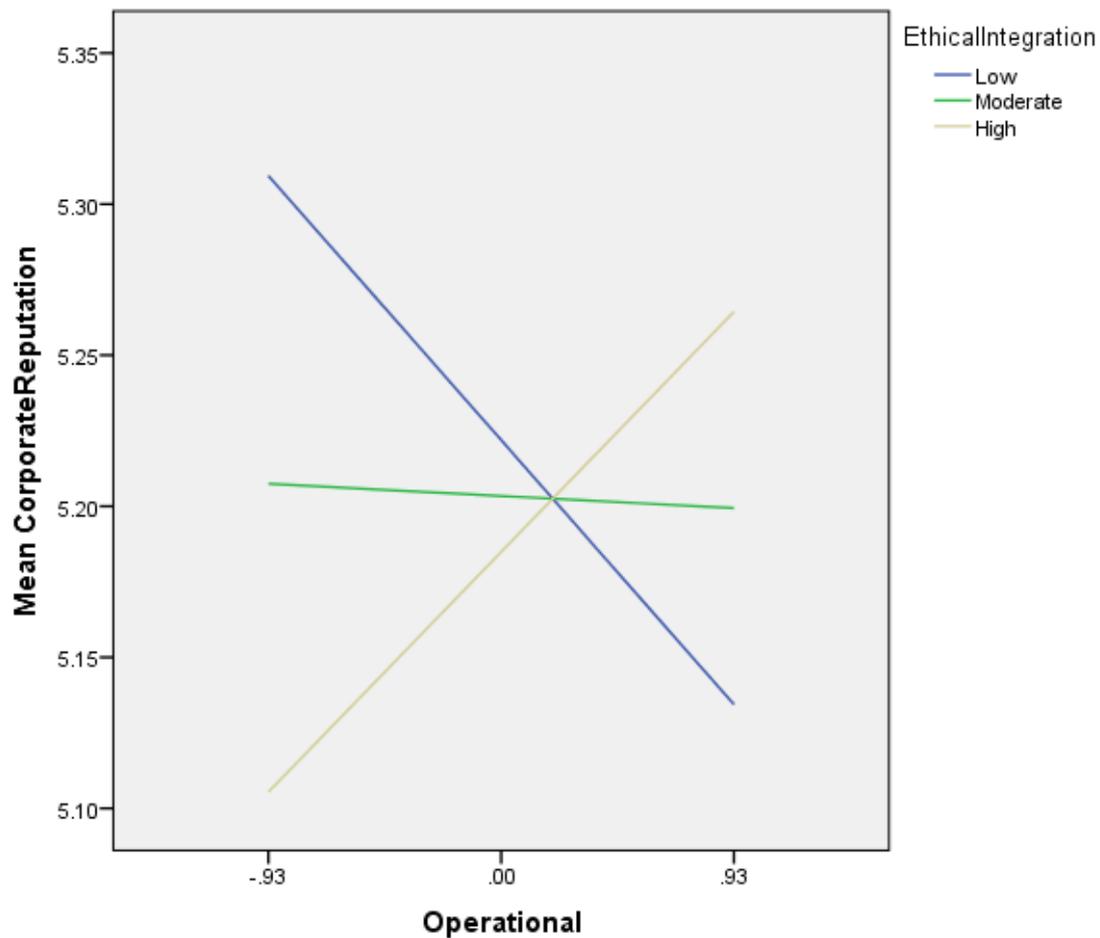


Figure 7.9: The Moderating Effect of Ethical Integration on the Link between Operational 3PL Capabilities and the Outsourcing Organisation’s Corporate Reputation

The effect of information sharing 3PL capabilities on the outsourcing organisation’s financial performance mediated through 3PL logistics service quality is partially moderated by ethical integration. This moderation occurs on path *a* from information sharing 3PL capabilities to logistics service quality ($\beta = .110, t = 1.960, p < .05$), and on path *b* from logistics service quality to financial performance ($\beta = -.174, t = -2.426, p < .05$). However, the interaction was not significant on path *a* multiplied by path *b*. Therefore, Hypothesis 20b is partially supported.

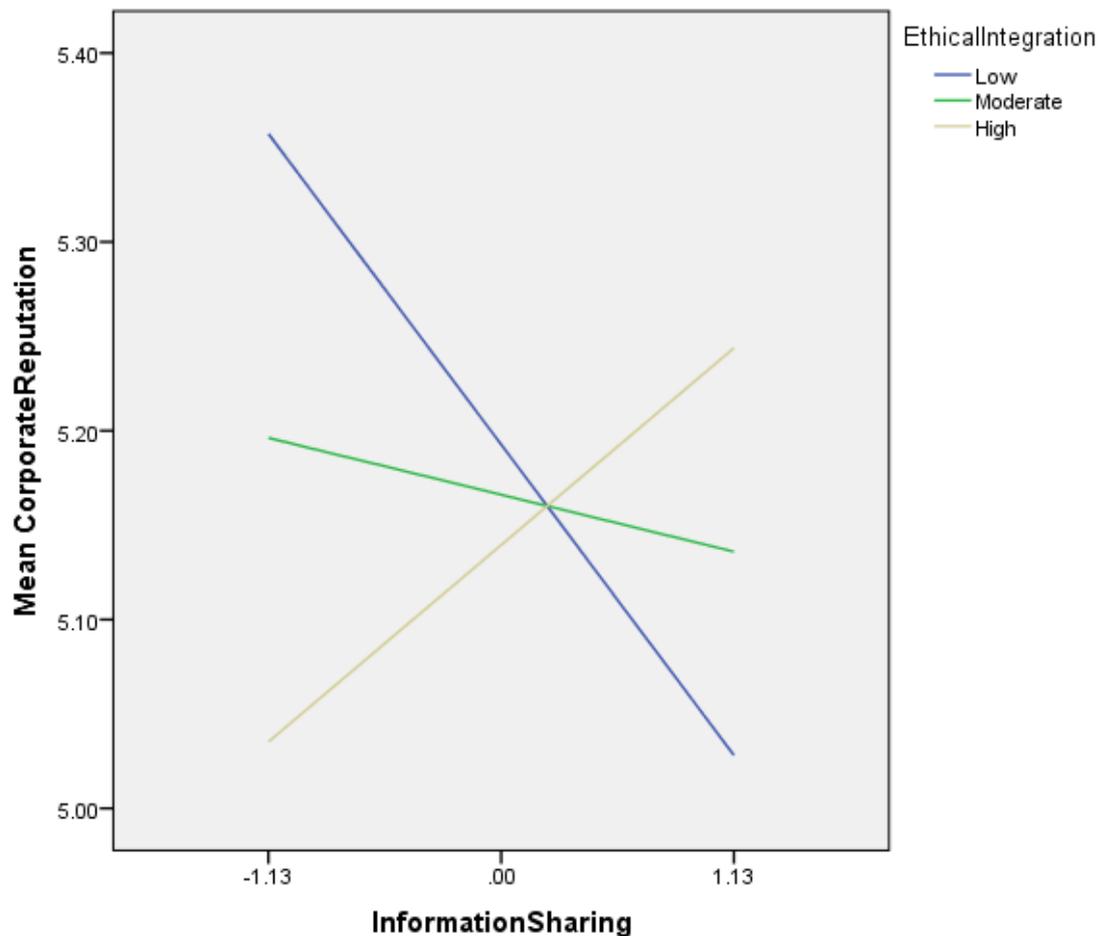


Figure 7.10: The Moderating Effect of Ethical Integration on the Link between the Information Sharing 3PL Capabilities and the Outsourcing Organisation’s Corporate Reputation

As Figure 7.10 indicates, the findings for the relationship between information sharing 3PL capabilities and the outsourcing organisation’s corporate reputation are very similar to the findings for the outsourcing organisation’s financial performance. That is, when information sharing 3PL capabilities are low, ethical integration is not necessary and attempts at developing ethical integration may be contrary to the end customers’ expectations. However, when information sharing 3PL capabilities are high, then high ethical integration significantly improves corporate reputation gains. This is related to the end customer negatively perceiving information sharing if the two organisations are not aligned in ethical thinking, particularly regarding their approach to confidential and sensitive information.

Only one of the dimensions of the outsourcing organisation’s relational capabilities seemed to be affected by ethical integration in its relationship with corporate reputation. Specifically, ethical integration creates a conditional indirect effect on the relationship between the outsourcing organisation’s communication with the 3PL and its corporate reputation through

the 3PL's logistics service quality. Ethical integration moderates path *a* between communication with the 3PL and logistics service quality ($\beta = .114, t = 2.378, p < .05$) and path *b* between logistics service quality and corporate reputation ($\beta = -.284, t = -3.325, p < .001$). However, path *a* multiplied by path *b* did not have a significant interaction effect. This suggests that Hypothesis 24b is partially supported.

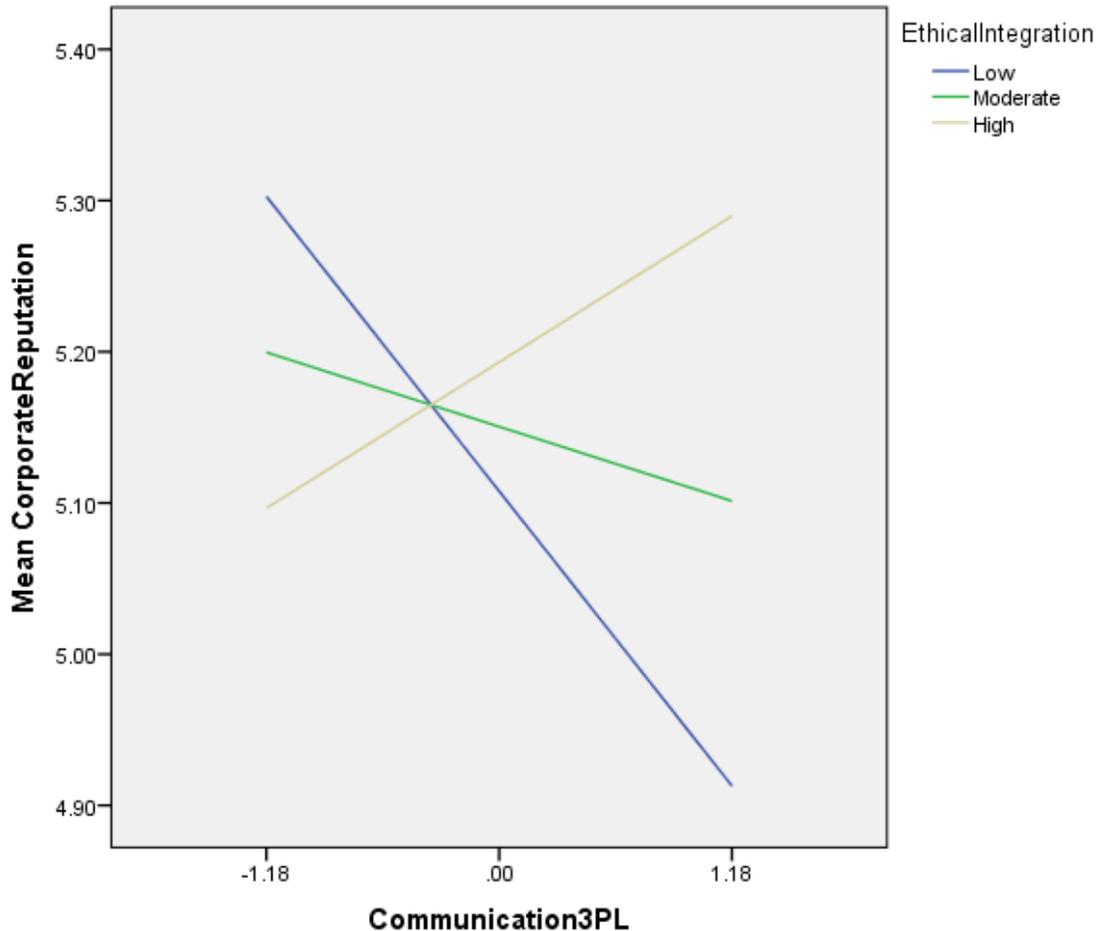


Figure 7.11: The Moderating Effect of Ethical Integration on the Link between the Outsourcing Organisation's Communication with the 3PL and its Corporate Reputation

As Figure 7.11 shows, the best corporate reputation outcome can be achieved either with low communication with the 3PL and low ethical integration or high communication with the 3PL and high ethical integration. Similar to the finding for the relationship between communication with the 3PL and financial performance, ethical integration is necessary to ensure that communication in the outsourcing organisation occurs ethically. However, when the outsourcing organisation is not skilled at communicating with the 3PL, then presumably sensitive and confidential information is not being exchanged. Ethical integration to ensure the right treatment of sensitive and confidential information becomes redundant and a waste

of the resources needed to develop ethical integration between outsourcing partners.. The next section outlines the results related to the moderated mediation caused by ethical integration on the relationship between both 3PL capabilities and the outsourcing organisation's relational capabilities on its corporate brand equity through logistics service quality.

7.3.3 CONDITIONAL INDIRECT EFFECT ON THE OUTSOURCING ORGANISATION'S CORPORATE BRAND EQUITY

This section examines whether ethical integration produces a conditional indirect effect on the relationship between either the 3PL's capabilities or the outsourcing organisation's relational capabilities and the outsourcing organisation's corporate brand equity through logistics service quality.

There were no significant moderated mediation effects found for corporate brand equity. It may be that the 3PL capabilities and the outsourcing organisation's relational capabilities affect corporate brand equity either directly or through logistics service quality, and are not moderated by ethical integration. Therefore, Hypotheses 17 -24c were not supported.

7.4 SUMMARY OF RESULTS

Overall, ten conditional indirect effects emerged from the proposed model. The outsourcing organisation's financial performance, its relationship with customer focus, connectivity between IT systems, information sharing and flexibility 3PL capabilities and the outsourcing organisation's long-term relationship orientation and communication with the 3PL through logistics service quality, were found to be conditional upon the level of ethical integration between the two outsourcing partners. This may explain why no indirect effects emerged between financial performance on the one hand and customer focus, and connectivity between IT systems and information sharing 3PL capabilities on the other, as indicated in Chapter 6, Section 6.5.2.

For the 3PL capabilities of customer focus, information sharing and flexibility, the best effect on financial performance was achieved with low capability and low ethical integration. This

may indicate that these dimensions of 3PL capabilities do not positively influence the outsourcing organisation's financial performance. However, these three dimensions did show some differences. Ethical integration had little effect when customer focus 3PL capabilities were high, whilst high flexibility 3PL capabilities also needed low ethical integration to positively affect financial performance. This finding suggests that ethical integration may not be necessary and only adds additional cost when the 3PL has flexibility capabilities to effectively handle the needs of the outsourcing organisation's customers. However, high information sharing 3PL capabilities required high ethical integration in order to produce the best financial performance outcome. This is in line with the direct and negative relationship found between information sharing and corporate reputation in Chapter 6. Perhaps customers believe that when the two organisations are not ethically aligned, they should not be sharing sensitive information as this sharing may be exploited opportunistically. Alternatively, the sharing of information may lead to the 3PL falsifying the information shared so as to make its own operations seem more productive (Gassenheimer *et al.*, 1996). Connectivity between IT systems 3PL capabilities most positively influenced financial performance when these capabilities were high and ethical integration low. Even when these capabilities were low, low ethical integration was required.

Ethical integration also had a conditional indirect effect on the relationship between the outsourcing organisation's communication with the 3PL and financial performance through the 3PL's logistics service quality. When communication with the 3PL was low, then low ethical integration produced the most positive effect on financial performance. However, when communication with the 3PL was high, then ethical integration needed to be high so as to positively affect financial performance. These two combinations had the same effect on financial performance; therefore, the outsourcing organisation could achieve the same level of financial performance through either low communication and low ethical integration or high communication and high ethical integration. This also could be tied to customers being concerned about sensitive information being shared if no ethical integration exists.

The relationship between the outsourcing organisation's long-term relationship orientation and its financial performance through logistics service quality was moderated by ethical integration. It was the only independent variable where the best financial performance outcome was derived from high capabilities and high ethical integration. A long-term approach to an outsourcing relationship may require ethical alignment in order to ensure that

financial performance is positively affected and the 3PL does not take advantage of the long-term relationship to act opportunistically.

These findings largely contradict a previous study by Griffith and Myers (2005) that found that ethical values positively influence financial performance. However, it does seem logical to assume that attempts to create ethical alignment with the outsourcing partner could generate costs and could negatively affect financial performance. However, this may be counterbalanced by the positive effect of ethical integration on the outsourcing organisation's other performance dimensions such as corporate reputation that may indirectly boost financial performance.

For corporate reputation, its relationship with connectivity between IT systems, operational and information sharing 3PL capabilities through logistics service quality was found to be conditional upon the level of ethical integration between the two organisations. Connectivity between IT systems 3PL capabilities produced the most favourable corporate reputation both when connectivity between IT systems 3PL capabilities are high and ethical integration is low. Perhaps when the 3PL does possess systems integration capabilities, ethical integration may reduce corporate reputation as customers perceive the outsourcing organisation's efforts to create ethical integration as redoubling integration efforts when the integration is already facilitated by the 3PL possessing connectivity between IT systems capabilities.

For the operational and information sharing dimensions of 3PL capabilities, the best corporate reputation result was derived by either high capability and high ethical integration or low capability and low ethical integration. This may be due to ethical integration being regarded as unnecessary when the 3PL does not possess these capabilities. However, when the 3PL possesses these capabilities, the end customer may perceive ethical integration as necessary to ensure that the 3PL acts ethically and conducts itself morally when undertaking the outsourced task.

Of the two dimensions of the outsourcing organisation's relational capabilities, only communication with the 3PL had a significant interaction with ethical integration in its relationship with corporate reputation. Similar to the findings for information sharing, the best reputational outcome was achieved from combinations of low capability and low ethical integration or high capability and high ethical integration. This again suggests that concerns

over communicating sensitive information require ethical integration in the outsourcing relationship in order to positively affect the outsourcing organisation's performance.

No moderated mediation relationships emerged for the outsourcing organisation's performance dimension of corporate brand equity. The finding contradicts the argument made in previous literature that ethical behaviour is necessary from the 3PL to ensure the outsourcing organisation's brand values are not violated (de Chernatony & Dall'Olmo Riley, 1999; Huber *et al.*, 2010), and to maintain the customer's relationship with the brand (Simmons, 2009). It may be that there are other mediating variables present in the relationship that ethical integration could moderate. Corporate brand equity as a dimension of the performance of the outsourcing organisation being affected by ethical integration in this study may not be supported because it is a longer term outcome than corporate reputation or financial performance. Since this is a cross-sectional study there may be a time lag between when customers perceive unethical behaviour and when the corporate brand equity is affected.

In conclusion, it seems that ethical integration in the outsourcing relationship does affect how well the 3PL's and the outsourcing organisation's capabilities translate to the logistics service quality provided by the 3PL, and how well this service quality affects the outsourcing organisation's performance.

CHAPTER 8

CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

8.1 INTRODUCTION

In this chapter, the key findings of this study, as well as its managerial and research implications, are presented. The study concludes with a discussion of its limitations and suggestions for future research.

8.2 SUMMARY OF MAIN FINDINGS

The key objective of this study was to determine how the outsourcing relationship affects the outsourcing organisation's performance and which factors within the relationship influence performance. The outsourcing organisation's performance, stemming from outsourcing relationships, was identified as important because of the increasing trend towards outsourcing without serious consideration being given to the outsourcing organisation's vulnerability to the behaviours of the 3PL partner. As mentioned at the beginning of this thesis, the research was guided by a number of research questions, the main one being:

How do outsourcing arrangements influence the outsourcing organisation's outcomes such as brand, reputation and performance?

The findings of this study indicate that specific variables within the outsourcing arrangement such as 3PL capabilities, the outsourcing organisation's relational capabilities, logistics service quality and ethical integration influence the brand, reputation and financial performance of the outsourcing organisation. Three categories of 3PL capabilities were originally included in the model tested in this study: customer-focused, information-focused and operational. However, during the measurement purification process discussed in Chapter 4, six distinct dimensions of 3PL capabilities emerged: customer focus, flexibility, responsiveness, information sharing, connectivity between IT systems and operational. These

dimensions of 3PL capabilities were found to be conceptually distinct constructs and therefore could not be collapsed into one latent 3PL capabilities dimension.

The main findings relating to each of the propositions and emerging hypotheses addressed in this study are discussed below.

Proposition 1: Customer-focused capabilities possessed by the 3PL are associated with the outsourcing organisation's performance.

Proposition 2: 3PL's information-focused capabilities are related to the performance of the outsourcing organisation.

Proposition 3: Operational capabilities of the 3PL influence the performance of the outsourcing organisation.

Table 8.1: Summary of Hypotheses arising from Propositions 1-3

Hypothesis	Corporate Reputation	Financial performance	Brand Equity
H1: <i>Customer focus 3PL capabilities will affect the outsourcing organisation's</i>	No	Yes	No
H2: <i>Responsiveness 3PL capabilities will influence the outsourcing organisation's</i>	No	Yes	Yes
H3: <i>Connectivity between information systems 3PL capabilities will have an effect on the outsourcing organisation's</i>	No	Yes	No
H4: <i>Information sharing 3PL capabilities will have an effect on the outsourcing organisation's</i>	No	No	Yes
H5: <i>Operational 3PL capabilities will influence the outsourcing organisation's</i>	No	No	Yes
H6: <i>Flexibility 3PL capabilities will influence the outsourcing organisation's</i>	No	No	No

Customer-focused 3PL capabilities were a key consideration in the current study as interview respondents identified in the exploratory study the lack of customer-focused capabilities in 3PLs that negatively affects the outsourcing organisation's performance. These customer-focused capabilities consisted of customer focus, responsiveness and flexibility. Customer focus 3PL capabilities were conceptualised as capabilities in terms of effectively working with the outsourcing organisation (Wilson & Nielson, 2001) and customising the logistics service to the outsourcing organisation's needs and requirements (Pfohl & Buse, 2000). These capabilities were found to have a negative direct influence on financial performance

perhaps because, in order to effectively acquire or improve customer focus capabilities, 3PLs had to increase operating costs related to the outsourced logistics task. Thus, this negatively affected the outsourcing organisation's financial performance.

Responsiveness 3PL capabilities were envisaged as the ability of a 3PL to respond to the outsourcing organisation's requests (Zhao *et al.*, 2001). The 3PL capabilities related to responsiveness were found to have a direct positive impact on the outsourcing organisation's financial performance perhaps due to the 3PL's fast and effective response to the outsourcing organisation's changing requests that decreased operating costs. For example, in response to decreasing demand for a particular product, the 3PL could quickly off-load unnecessary stock of this item. This dimension of 3PL capabilities also had a direct and negative effect on the outsourcing organisation's corporate brand equity. If the 3PL is responsive to the outsourcing organisation rather than to the end business customer, this could be perceived as contrary to brand promise fulfilment. This may be due to the 3PL being seen as part of the outsourcing organisation; therefore, their primary concern should be the end business customers and their needs and requests.

3PL flexibility capabilities were defined as capabilities that enable 3PLs to adjust their operations to suit the outsourcing organisation's changing needs (Bowersox *et al.*, 1999). This dimension of 3PL capabilities did not directly affect any of the outsourcing organisation's performance dimensions. This may be because the effect of these capabilities on the outsourcing organisation's performance was mediated by other factors such as logistics service quality discussed under Proposition 5.

Information-focused 3PL capabilities were initially thought to represent one construct; however, two constructs emerged that belonged to this group of capabilities: connectivity between IT systems and information sharing. Connectivity between IT systems 3PL capabilities captured the 3PL's ability to integrate its IT systems with that of the outsourcing organisation to facilitate effective information exchange (Göl & Çatay, 2007). These 3PL capabilities had a direct positive relationship with the outsourcing organisation's financial performance. These results suggest that operational costs may be minimised by high levels of information integration between the two outsourcing partners which permits greater efficiency in the outsourcing relationship.

Information sharing 3PL capabilities concern the willingness of the 3PL to share and receive critical information related to the outsourced task and outsourcing relationship (Hartmann & de Grahl, 2012). The 3PL's capabilities in terms of sharing information was found to have a negative direct relationship with the outsourcing organisation's corporate brand equity. This may occur when sensitive or confidential information is shared, brand promises around trust related to information are perceived to be broken.

Operational 3PL capabilities were conceptualised as the technical ability to efficiently undertake the outsourced task (Krasnikov & Jayachandran, 2008). 3PL operational capabilities were found to have a positive relationship with the outsourcing organisation's corporate brand equity. Operational 3PL capabilities were thought to be relevant to all three dimensions of the outsourcing organisation's performance, but a direct effect on only one was found. This may be due to the effect of operational 3PL capabilities being mediated by factors such as logistics service quality discussed under Proposition 5. Additionally, the relationship between operational 3PL capabilities and the outsourcing organisation's financial performance may be mediated by factors not included in this study such as whether these 3PL capabilities lead to reduction of wastage or more efficient use of resources.

Proposition 4: The outsourcing organisation's relational capabilities influence its own performance.

Table 8.2: Summary of Hypotheses arising from Proposition 4

Hypothesis		Corporate Reputation	Financial performance	Brand Equity
H7:	<i>The outsourcing organisation's long-term relationship orientation capabilities will affect its own</i>	Yes	Yes	No
H8:	<i>The outsourcing organisation's communication with the 3PL capabilities will affect its own</i>	Yes	No	No

The outsourcing organisation's relational capabilities refer to capabilities required for managing the outsourcing relationship with a 3PL partner. These capabilities consist of the outsourcing organisation being able to communicate with the 3PL and adopting a long-term approach to the outsourcing relationship (Lai, 2004; Mohr & Spekman, 1994). The measurement development and purification outlined in Chapter 4 revealed that this construct was a bi-dimensional construct comprising of long-term relationship orientation and communication with the 3PL. The outsourcing organisation's long-term relationship

orientation was found to have a direct and positive relationship with corporate reputation and financial performance. This relationship may be due to the outsourcing organisation deriving gains from being known as a good outsourcing partner and decreasing relationship costs. The outsourcing organisation's communication with the 3PL was found to have a direct and negative relationship with its own corporate reputation. This may be a result of customers perceiving communication negatively or contrary to expectations. For example, if the outsourcing organisation publically communicates one message, but its actions or the actions of its agents, such as the 3PL, are not consistent with this message, then this communication can be perceived as being simply a public relations exercise and leads to mistrust and loss of reputation.

Proposition 5: The logistics service quality provided by the 3PL mediates the relationship between outsourcing partner's capabilities and the outsourcing organisation's performance.

Table 8.3: Summary of Hypotheses arising from Proposition 5

Hypothesis		Corporate Reputation	Financial performance	Brand Equity
H9:	<i>3PL logistics service quality mediates the link between customer focus 3PL capabilities and the outsourcing organisation's</i>	No	No	No
H10:	<i>3PL logistics service quality mediates the link between responsiveness 3PL capabilities and the outsourcing organisation's</i>	No	No	No
H11:	<i>3PL logistics service quality mediates the link between connectivity between IT systems 3PL capabilities and the outsourcing organisation's</i>	No	No	No
H12:	<i>3PL logistics service quality mediates the link between information sharing 3PL capabilities and the outsourcing organisation's</i>	Yes	No	Yes
H13:	<i>3PL logistics service quality mediates the link between operational 3PL capabilities and the outsourcing organisation's</i>	Yes	No	Yes
H14:	<i>3PL logistics service quality mediates the link between flexibility 3PL capabilities and the outsourcing organisation's</i>	Yes	Yes	Yes

Table 8.3 Continued...

Hypothesis	Corporate Reputation	Financial performance	Brand Equity	Hypothesis
H15:	<i>3PL logistics service quality mediates the link between the outsourcing organisation's capabilities of communication with the 3PL and its</i>	Yes	No	Yes
H16:	<i>3PL logistics service quality mediates the link between the outsourcing organisation's capabilities related to long-term relationship orientation and its</i>	Yes	No	Yes

Logistics service quality was defined as the ability to deliver the right amount of the right product at the right place at the right time in the right condition at the right price with the right information (Mentzer *et al.*, 2001). This element of the service provided by the 3PL was found to mediate the relationship between flexibility 3PL capabilities and all three outsourcing organisation performance dimensions. It was also found to mediate the relationship between information sharing and corporate brand equity as it turned the previously negative direct relationship into a positive indirect one, suggesting partial mediation. Information sharing 3PL capabilities also had a positive relationship with the outsourcing organisation's corporate reputation through the mediating effect of the 3PL's logistics service quality. The relationship between operational 3PL capabilities and the outsourcing organisation's brand equity seems to be partially mediated through logistics service quality since a positive direct relationship was found as well as an indirect positive relationship when logistics service quality was a mediator. 3PL operational capabilities also had a positive effect on the outsourcing organisation's corporate reputation through the 3PL's logistics service quality.

Logistics service quality was also the mechanism through which the outsourcing organisation's relational capabilities affected some of the performance dimensions. The outsourcing organisation's long-term relationship orientation was found to have a positive indirect effect on its corporate reputation through the 3PL's logistics service quality, suggesting partial mediation due to a direct positive relationship also being found. The relationship between long-term relationship orientation and corporate brand equity was also

mediated by 3PL logistics service quality. Logistics service quality partially mediated the negative relationship between communication with the 3PL and corporate reputation and fully mediated the relationship between communication with the 3PL and corporate brand equity.

It seems that, as predicted, the logistics service quality delivered by the 3PL to the outsourcing organisation's end customer is the mechanism through which the end customer experienced the 3PL's capabilities. The outsourcing organisation's end business customers' perception of the 3PL's capabilities affects their judgement of the outsourcing organisation's reputation, brand and intentions to re-purchase. As this study indicates, this is a result of the end customers perceiving the 3PL to be part of the outsourcing organisation.

Proposition 6: The level of ethical integration between the two outsourcing partners will moderate the relationship between 3PL capabilities, the outsourcing organisation's relational capabilities and the dimensions of the outsourcing organisation's performance through the 3PL's logistics service quality

Table 8.4: Summary of Hypotheses arising from Proposition 6

Hypothesis		Corporate Reputation	Financial performance	Brand Equity
H17:	<i>Ethical integration moderates the indirect effect through logistics service quality of customer focus 3PL capabilities on the outsourcing organisation's</i>	No	Yes	No
H18:	<i>Ethical integration moderates the indirect effect through logistics service quality of responsiveness 3PL capabilities on the outsourcing organisation's</i>	No	No	No
H19:	<i>Ethical integration moderates the indirect effect through logistics service quality of connectivity between IT systems 3PL capabilities on the outsourcing organisation's</i>	Yes	Yes	No
H20:	<i>Ethical integration moderates the indirect effect through logistics service quality of information sharing 3PL capabilities on the outsourcing organisation's</i>	Yes	Yes	No
H21:	<i>Ethical integration moderates the indirect effect through logistics service quality of operational 3PL capabilities on the outsourcing organisation's</i>	Yes	No	Yes

Table 8.4 Continued...

Hypothesis	Corporate Reputation	Financial performance	Brand Equity	Hypothesis
H22:	<i>Ethical integration moderates the indirect effect through logistics service quality of flexibility 3PL capabilities on the outsourcing organisation's</i>	No	Yes	No
H23:	<i>Ethical integration moderates the indirect effect through logistics service quality of the outsourcing organisation's relational capabilities related to long-term relationship orientation on its own</i>	Yes	Yes	No
H24:	<i>Ethical integration moderates the indirect effect through logistics service quality of the outsourcing organisation's relational capabilities related to communication with the 3PL on its own</i>	No	Yes	No

Ethical integration refers to an agreement between the outsourcing partners on what is considered to be ethical and a joint effort towards achieving ethical behaviour from both parties (Buller & McEvoy, 1999). The degree to which the two outsourcing partners achieved ethical integration appeared to have a conditional indirect effect on the link between customer focus, connectivity between IT systems, flexibility and information-sharing 3PL capabilities and the outsourcing organisation's financial performance through logistics service quality.

Customer focus 3PL capabilities were found to have a conditional indirect effect on the outsourcing organisation's financial performance. The best effect on financial performance was achieved when customer focus 3PL capabilities were low and ethical integration was low. This could be a result of both customer focus 3PL capabilities and ethical integration increasing costs for the outsourcing organisation and therefore, negatively affecting the outsourcing organisation's financial performance.

Ethical integration acted as a moderator in the mediated relationship between connectivity between IT systems 3PL capabilities and financial performance through logistics service quality. As connectivity between IT systems 3PL capabilities increased, low ethical

integration more strongly and positively influenced financial performance as a result of the 3PL's logistics service quality. The relationship between connectivity between IT systems 3PL capabilities and corporate reputation through logistics service quality was also moderated by ethical integration. When the 3PL had high connectivity between IT systems capabilities, then low ethical integration produced the best corporate reputation outcome. This may occur because ethical integration achieves a similar connection between outsourcing partners as connectivity between IT systems. Therefore, if they are both present in the relationship, ethical integration may be seen as a waste of resources or as the outsourcing organisation expending effort to achieve what the 3PL's capabilities already provide.

The relationship between flexibility 3PL capabilities and the outsourcing organisation's financial performance through logistics service quality was moderated by the level of ethical integration present in the outsourcing relationship. Flexibility 3PL capabilities had the most positive effect on the outsourcing organisation's financial performance at low levels of ethical integration. This finding suggests that flexibility positively influences logistics service quality and thus the outsourcing organisation's performance. However, when ethical integration is present, this may mitigate the positive effect of flexibility 3PL capabilities on the outsourcing organisation's financial performance. Flexibility in an outsourcing relationship can increase operational costs and these costs are magnified if the outsourcing organisation also puts resources into developing ethical integration.

Ethical integration moderated the mediated relationships between information sharing 3PL capabilities and corporate reputation, and information sharing 3PL capabilities and financial performance through logistics service quality. In both relationships, as the information sharing 3PL capabilities increased, higher levels of ethical integration were necessary for significant and positive corporate reputation or financial gains. As mentioned previously, when sensitive information is shared, ethical integration is necessary to ensure that the information will not be misappropriated.

Ethical integration acted as a moderator to strengthen the relationship between 3PL operational capabilities and the outsourcing organisation's corporate reputation. Specifically, as the 3PL's operational capabilities increased, higher levels of ethical integration between outsourcing partners produced better corporate reputation results. This may be a result of ethical integration allowing the outsourcing organisation to better communicate customer

expectations to the 3PL to ensure that the 3PL is better able to meet these when performing the outsourced task.

A conditional indirect effect was found between the dimensions of the outsourcing organisation's relational capabilities and its financial performance through logistics service quality. As both long-term relationship orientation and communication with the 3PL increased, higher ethical integration was necessary to increase financial performance gains. This suggests that ethical integration improves the financial gains derived from the outsourcing organisation's relational capabilities. The relationship between communication with the 3PL and corporate reputation through logistics service quality was also moderated by ethical integration. Better corporate reputation was derived from higher levels of ethical integration as communication with the 3PL increased.

In conclusion, these findings suggest that the various dimensions of capabilities of both the 3PLs and the outsourcing organisations affect the outsourcing organisation's performance in outsourcing arrangements. However, the ways in which the dimensions of capabilities influenced these outcomes varied; some had a direct influence, others indirectly influenced organisational performance through logistics service quality, and some had a conditional indirect effect as these were moderated by ethical integration.

Table 8.5: Summary of Contribution of the Thesis

Research Objectives	Research Questions	Previous empirical findings in the literature	Finding in this thesis	Contribution to current knowledge from this thesis
Determine the influence of the outsourced organisation's capabilities on the outsourcing organisation's performance	Do capabilities of the outsourced organisation influence the outsourcing organisation's performance?	Customer related capabilities → firm and logistics performance (Sinkovics & Roath, 2004; Zhao <i>et al.</i> , 2001).	Customer focused capabilities negatively affected financial performance	Contrary to existing research the relationship between customer focused capabilities and financial performance was found to be negative because it increased immediate operations costs.
		Flexibility capabilities → firm performance and customer satisfaction (Emerson & Grimm, 1998; Sinkovics & Roath, 2004). Responsiveness capabilities → firm performance (Morash <i>et al.</i> , 1996).	Flexibility capabilities did not have a direct effect on the outsourcing organisation's performance. This affect was found to be indirect. Responsiveness had a positive effect on financial performance but a negative effect on corporate brand equity.	Service quality mediated flexibility and performance indicating that flexibilities contributed to service quality. Responsiveness decreased operational costs as customers may but negatively perceive the priority shifting to the outsourcing organisation.
		Information –focused capabilities were not directly related to firm performance (Zhao <i>et al.</i> , 2001). Information sharing → achievement of goals and firm performance (Hartmann & de Grahl, 2012; Hsu <i>et al.</i> , 2008; Sezen, 2008).	Connectivity between IT systems positively influenced financial performance through lowering operational costs. Information sharing capabilities had a negative effect on corporate brand equity.	Information-focused capabilities were found to be made up of connectivity between IT systems and information sharing. When a customer assesses information sharing between the 3PL and the outsourcing organisation this may be viewed negatively as if sensitive or confidential information about the customer is being shared.

Table 8.5 Continued...

Research Objectives	Research Questions	Previous empirical findings in the literature	Finding in this thesis	Contribution to current knowledge from this thesis
		Operational capability was not found to directly influence financial performance perhaps because it overall improved performance because of its effect on the brand and reputation.	Operational capability → firm performance and customer satisfaction (Cho <i>et al.</i> , 2008; Sinkovics & Roath, 2004).	Operational capability directly and positively influenced brand equity and influenced corporate reputation through service quality.
Examine the effect of the outsourcing organisation's relational capabilities on its own performance	Do the relational capabilities of the outsourcing organisation affect its own performance stemming from the outsourcing relationship?	Relationship capabilities → performance through innovation and quality (Lages <i>et al.</i> , 2009). Relational capabilities improve outsourcing relationships (Espino-Rodriguez & Rodriguez-Diaz, 2008).		Relational capabilities for the outsourcing organisation were found to consist of two constructs: communication with the 3PL and long-term relationship orientation which had different effects on performance.
		Communication → operational performance (Knemeyer & Murphy, 2004). Long-term relationship orientation and communication → relationship quality (Lages <i>et al.</i> , 2005)	Communication with the 3PL was found to negatively affect corporate reputation. Long term relationship orientation was found to positively influence corporate reputation and financial performance.	Unlike in previous studies communication had a negative effect on reputation perhaps because the customer feared sensitive information being shared between the 3PL and the outsourcing organisation. Contrary to existing research this study found that long-term orientation directly influenced outcomes such as reputation and performance without acting through the quality of the relationship.

Table 8.5 Continued...

Research Objectives	Research Questions	Previous empirical findings in the literature	Finding in this thesis	Contribution to current knowledge from this thesis
<p>Investigate whether logistics service quality provided by the 3PL mediates the relationship between 3PL capabilities, the outsourcing organisation's relational capabilities and outsourcing organisation's performance</p>	<p>Does logistics service quality delivered by the 3PL influence the effect of capabilities of outsourcing partners on the outsourcing organisation's performance?</p>	<p>Service quality → positive customer experience (O'Loughlin & Szmigin, 2005).</p> <p>Supply chain partners contribute to service quality (Zhu <i>et al.</i>, 2007).</p> <p>Operational capabilities affect service quality (Roth & Jackson, 1995)</p>	<p>Service quality mediated relationship between flexibility and all three performance dimensions.</p> <p>Service quality turned relationship between information sharing and brand equity positive.</p> <p>Service quality mediated relationship between information sharing and corporate reputation.</p> <p>Service quality partially mediated relationship between operational capabilities and brand equity and mediated relationship between operational capabilities and corporate reputation.</p> <p>Service quality partially mediated relationship between long-term relationship orientation and corporate reputation and and brand equity.</p> <p>Service quality turned negative relationship between communication with the 3PL and corporate reputation positive and mediated relationship between communication with the 3PL and brand equity.</p>	<p>Service quality was found to be mechanism through which the end business customer experienced the 3PL's capabilities which influenced their perceptions of the outsourcing organisation's performance.</p> <p>In particular, service quality mediated between flexibility, information sharing, operational 3PL capabilities and performance.</p> <p>Service quality also was the mechanism through which the outsourcing organisation's relational capabilities impacted its own performance.</p>

Table 8.5 Continued...

Research Objectives	Research Questions	Previous empirical findings in the literature	Finding in this thesis	Contribution to current knowledge from this thesis
<p>Identify how ethical integration between outsourced and outsourcing organisations influences performance of the outsourcing organisation</p> <p>AND</p> <p>Determine whether ethical integration moderates the relationship between outsourcing partner's capabilities and the outsourcing organisation's performance.</p>	<p>What effect does ethical integration (between the outsourced and outsourcing organisation) have on the relationship between the partner's capabilities and the outsourcing organisation's performance?</p>	<p>Ethical integration was a construct that this thesis developed and therefore has not been tested in previous research.</p>	<p>Ethical integration moderated the relationship between customer focus capabilities and financial performance.</p> <p>Ethical integration moderated the relationship between connectivity between IT systems and financial performance and corporate reputation.</p> <p>Ethical integration moderated the relationship between flexibility capabilities and financial performance.</p>	<p>Ethical integration at times was found to increase costs and negative perception when the 3PL already possessed capabilities focused on better understanding the outsourcing organisation's needs.</p>
			<p>Ethical integration moderated the relationship between information sharing capabilities and financial performance and corporate reputation.</p>	<p>Ethical integration was necessary for information sharing to more positively affect performance as information sharing could be of potentially sensitive information that could be unethically misused.</p>
			<p>Ethical integration moderated the relationship between operational capabilities and corporate reputation.</p>	<p>Ethical integration was necessary to show the end customer how the 3PL's skills could work with the outsourcing organisation's to improve service quality.</p>
			<p>Ethical integration moderated the relationship between long-term relationship orientation and communication with the 3PL and financial performance.</p>	<p>High ethical integration improved positive effects of the outsourcing organisation's relational capabilities on its own financial performance perhaps because the more integration relationship allowed financial benefits to be realised.</p>

8.3 IMPLICATIONS

The findings of this study have implications for both theory and management. The theory implications are presented first, followed by an overview of implications for managers in outsourcing relationships.

8.3.1 IMPLICATIONS FOR THEORY

This thesis makes four major contributions to theory. Firstly, this study indicates that outsourcing managers must consider how their brand and reputation is affected by their 3PL partner in outsourcing relationships. This effect of outsourcing logistics services on the outsourcing organisation's brand and reputation, has received limited empirical academic attention (Agndal & Nordin, 2009). These critical outcomes for the outsourcing organisation can be affected by different variables in the outsourcing relationship. These variables include how capable a 3PL partner is, how well the outsourcing organisation manages the outsourcing relationship, whether the end business customer receives an adequate level of logistics service quality, and whether the two organisations are ethically aligned. Thus, this study fills gaps in existing knowledge on how outsourcing partners such as 3PLs that act as agents of the outsourcing organisation, can significantly affect the end customer's perception of the outsourcing organisation.

The second major contribution is that this study provides insight into why previous research has found contradictory results when assessing how the outsourcing organisation's performance is affected by outsourcing logistics (Boyson *et al.*, 1999; Gadde & Hulthen, 2009; Lieb & Bentz, 2005b). The findings of this study suggest that at times the 3PL's capabilities can have a negative effect on the outsourcing organisation's performance. Previous studies may not have considered the role that different capabilities from outsourcing partners may play and whether these have different effects on the outsourcing organisation's performance. This study examined the capabilities of both the 3PL and the outsourcing organisation, from the perspective of the latter. The findings of this study highlight the capabilities that are critical in a 3PL partner. The results indicate that all six of the 3PL capabilities examined here (customer focus, responsiveness, flexibility, connectivity between IT systems, information sharing and operational) are important for different outcomes (reputation, brand equity and financial performance). This extends existing literature by providing some insights to managers on how to evaluate potential 3PL partners and the

criteria that might be used when selecting an outsourcing partner (Chung *et al.*, 2000). The current study, however, contradicts extant literature that contends that a single logistics capability exists (Cho *et al.*, 2008). This study adopted a holistic approach in conceptualising 3PL capabilities (Zhao *et al.*, 2001), and the results suggest the ideal 3PL partner needs to have a variety of capabilities. This study also emphasises the importance of the outsourcing organisation's relational capabilities. This is in line with extant literature on relationship management in outsourcing, which suggests that outsourcing relationships are more successful when the outsourcing organisation possesses relationship management capabilities (Dyer & Singh, 1998; Lages *et al.*, 2009). This research not only extends the literature by supporting the outsourcing organisation's direct effect on its own performance outcomes, but also indicates that the mediating role of the 3PL's logistics service quality depends at times on the level of ethical integration in the outsourcing relationship. In addition, this study indicates that it is important for both the outsourced and outsourcing organisations to have certain capabilities in order to achieve the optimum outcomes from outsourcing. Most existing literature has examined the capabilities of one outsourcing partner at a time and the effects of these on performance in the outsourcing relationship (Hofer *et al.*, 2009). The current study complements these previous studies by responding to calls for research where capabilities from both outsourcing partners are considered at the same time (Hartmann & de Grahl, 2012), but from the perspective of the outsourcing organisation.

The third major contribution is that logistics service quality emerged as a necessary mechanism through which the outsourcing organisation's relational capabilities and the 3PL's flexibility capabilities influenced the outsourcing organisation's performance. This supports prior literature regarding the importance of relationship management in influencing logistics service quality (Chu & Wang, 2012; Hofer *et al.*, 2009). However, it contradicts extant studies that indicate a 3PL's flexibility has a direct effect on the performance of the outsourcing organisation (Bowersox *et al.*, 1999; Zhao *et al.*, 2001). In addition, logistics service quality seems to be a prerequisite for creating a positive effect between information sharing 3PL capabilities and the outsourcing organisation's performance. Information sharing between outsourcing partners can negatively affect service delivery to the customer if the information is used unethically. The customer may need to see the positive results of information sharing through the improved quality of the logistics service or may need to perceive ethical integration between the outsourcing partners as a reassurance that the information is not being misused. Once the customer is assured that the information sharing

is being utilised to achieve better logistics service quality and ethical integration, then the information sharing 3PL capabilities can positively affect the outsourcing organisation's performance. This contradicts prior literature which has reported a direct positive relationship between information sharing and performance (Knemeyer & Murphy, 2005; Noordeweir *et al.*, 1990). Similarly, logistics service quality emerged as a partial mediator for operational 3PL capabilities and the outsourcing organisation's corporate brand equity. This partial mediation suggests that the end customers perceive that the logistics service quality they receive from the 3PL is an indication of whether the 3PL possesses the necessary capabilities to carry out the outsourced task.

Fourth, this study introduces the concept of ethical integration or a joint effort between outsourcing partners to agree on what is ethical and act in a more ethical manner. This concept emerged as an important relationship mechanism as it seems necessary for the creation of the conditions under which some 3PL capabilities can be positively perceived by the end customer and to maximise performance gains. Ethical integration was important for to the 3PL's information sharing capabilities and the outsourcing organisation's communication with the 3PL. Information sharing 3PL capabilities require high ethical integration in order to significantly improve the reputational and financial gains derived from these capabilities through logistics service quality. Similarly, for operational 3PL capabilities to produce better corporate reputation outcomes, high ethical integration is needed. This suggests that the outsourcing organisation can mitigate negative perceptions of some outsourcing activities such as sharing information by fostering ethical integration in the outsourcing relationship.

Table 8.6 Summary of Overall Contributions of this Research to Theory

Area	Contributions of the Current Study	Contribution to the literature
Effects of outsourcing	<p>Brand and reputation is significantly affected by the 3PL partner's capabilities.</p> <p>Different capabilities have different effects.</p>	Addresses the gap in literature as brand and reputation have received limited attention as outcomes of logistics outsourcing.
Effects of 3PL on outsourcing organisation	The 3PL's capabilities can negatively affect performance e.g. information sharing can have a negative direct effect on corporate reputation.	Previous research has found contradictory results when assessing how the outsourcing organisation's performance is affected by outsourcing partners.
Relationship dynamics of outsourcing relationships	Both the 3PL and the outsourcing organisation contribute to the service quality that the end business customer receives and the outsourcing organisation's performance outcomes.	<p>Supports existing research that relationship management is crucial in outsourcing success.</p> <p>Fills the gap in existing studies that only look at one partners capabilities at a time rather than one partner at a time.</p>
3PL partner selection	This study identifies six important capabilities 3PL partners need to possess: customer focused, responsiveness, flexibility, information sharing, connectivity in IT systems and operational.	This contradicts previous studies that argue that only one logistics capability exists and responds to calls for more holistic approaches to identify variety of capabilities needed by a 3PL partner.
How the 3PL affects the outsourcing organisation	Service quality is the mechanism through which many of the 3PL capabilities and the outsourcing organisation's capabilities positively influence the outsourcing organisation's performance.	Empirically supports propositions in the literature that the 3PL acts as an agent of the outsourcing organisation by delivering service quality to the end business customer.
Relationship between ethics and outsourcing relationships	Ethical integration acted as a substitute to influence positive effects on performance when some of the 3PL's capabilities were low.	There are gaps in existing knowledge regarding how organisations manage ethical behaviour of outsourcing partners.

Table 8.6 Continued...

Area	Contributions of the Current Study	Contribution to the literature
Relationship between ethics and outsourcing relationships	Ethical integration was particularly necessary when the customer could perceive the 3PL and the outsourcing organisation sharing potentially sensitive information.	In extant literature information sharing is seen as positively contributing to outsourcing performance but this study indicates that it can be perceived negatively by end customers if opportunity for unethical behaviour exists.

8.3.2 MANAGERIAL IMPLICATIONS

This study draws attention to the ways in which the decision to outsource logistics service activities can affect the outsourcing organisation's brand and reputation. As indicated in the results of the exploratory study, managers often neglect to consider how their brand and reputation may be affected by outsourcing arrangements. The findings suggest that 3PLs have a significant effect on the outsourcing organisation's brand and reputation as they frequently interact with the outsourcing organisation's end business customer, resulting in some 3PLs being perceived as representatives of the outsourcing organisation. These findings have important implications for managers who are considering the outsourcing of logistics activities or wanting to establish a new 3PL partnership. To maximise the positive outcomes of outsourcing on the outsourcing organisation's brand, reputation and financial performance, the current study points to the need for a proactive approach when selecting a 3PL with the right capabilities, developing relational capabilities within the outsourcing organisation, and cultivating ethical integration between the outsourcing partners.

Further, the study provides managers with several guidelines regarding the specific capabilities that they need to look for in 3PL partners and how to ascertain if a 3PL possesses these prerequisite capabilities. This study further indicates how managers can determine the effect that these 3PL capabilities can have on the outsourcing organisation's performance. Similarly, the study indicates how different capabilities can be nurtured in a 3PL partner. For example, educating 3PLs on how to become more responsive or effectively share information as well as deliver the outsourcing organisation's brand promise.

This study provides suggestions on how outsourcing managers can cultivate relationship capabilities within their organisations so as to effectively manage 3PLs. In particular, communication with the 3PL and the adoption of a long-term relational orientation are important relational capabilities that outsourcing organisations need. Adopting a long-term approach to outsourcing relationships is particularly critical in managing the risk associated with opportunistic behaviour from the 3PL. An outsourcing organisation can signal long-term orientation to a 3PL partner through open communication, a long-term contract, utilising highly trained personnel in the relationship, and devoting time to nurture the relationship (Hartmann & de Grahl, 2012).

This research provides some insight to outsourcing managers on how to determine if they are receiving the right logistics service quality from their 3PL partner. This can help organisations to develop better monitoring mechanisms to assess 3PLs and the 3PLs' impact on the outsourcing organisation. Outsourcing managers can also use this information to motivate 3PLs to provide better logistics service quality by isolating some of the areas identified in this study where the 3PL may be underperforming. Areas of low performance may include late deliveries or damaged goods, for example.

The findings of this study stress the importance of ethical integration in outsourcing relationships. This is a consequence of the degree of ethical integration between outsourcing partners moderating the effect of many of the 3PL capabilities on the outsourcing organisation's performance through logistics service quality. Hence, the current study suggests that outsourcing managers should endeavour to enhance ethical integration between their organisation and their 3PLs using shared values, ethical culture fit and congruence of ethical codes to foster ethical integration.

In conclusion, outsourcing managers need to be more informed about how 3PLs affect their organisation's performance and how the outsourcing organisation can be more proactive in to ensure positive performance outcomes from partnership with the 3PL.

8.4 LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FUTURE RESEARCH

As with any other academic research, this study has some limitations. Firstly, the study is limited by the sample size obtained. Even though this sample size is comparable to other business studies in outsourcing, it is still be difficult to generalise the findings across most of the outsourcing organisations from the relatively modest sample used in this study.

Additionally, this study does not adopt a global perspective on outsourcing or supply chains. A global perspective may need to consider cultural and service expectation issues when one country deals with another (Ndubisi, 2011). For example, a less-developed country may have lower service expectations than would a more developed country. Alternatively, ethical integration efforts may differ according to different cultural contexts. Additionally, this study does not take into account the effect of socio-cultural or regulatory environments. Some regulatory environments have much more state control which may dictate capability development, relationship management and even service quality. A different geographical environment may also produce different effects. Australia is characterised by heavily populated coastal areas that are widely dispersed. As a result of this and the great demand for transportation, logistics is more expensive and more critical in Australia, than it would be for a small, heavily populated country such as Poland.

Although the adoption of a multi-industry approach may be a strength of the current study in terms of obtaining generalisable results, the approach may overlook industry-specific issues as the capabilities required of 3PLs may vary according to specific industries; moreover, the norms of the outsourcing relationship may differ across industries. An industry-specific study may provide the outsourcing managers operating in those industries with more insight into the specific prerequisite capabilities required of a 3PL, and the optimal means of managing the relationship. Future research could also test this model in different industries to assess if the relationships are stronger in some industries than others. For example, ethical integration may play a more important role in industries that require sensitive handling of materials such as dangerous drugs, high value good or highly perishable products such as flowers or food.

Further, this research did not consider the availability of alternative 3PLs in the market. Past research has indicated that the level of dependence on a 3PL may affect its importance to the

outsourcing organisation and the way the relationship is managed (Cai & Yang, 2008; Chu & Wang, 2012). It may be that if there are fewer alternative 3PLs, then the outsourcing organisation may need to put more effort into developing 3PL capabilities and manage the relationship more effectively to ensure the success of the outsourcing relationship. For instance, a research context with readily available 3PLs may yield different results regarding the capabilities needed and the management of the outsourcing relationship, than a context where the availability of the 3PLs is more limited and the outsourcing organisation does not have as much choice of partner.

Another possible factor worthy of consideration when examining the performance of outsourcing relationships is the balance of power in the relationship (Harland, Lamming, Zheng & Johnsen, 2001; Wilding & Juriado, 2004). Perhaps, depending on the size of the outsourcing partner, power may change the roles of each partner in the relationship and the necessary capabilities required to maximise positive outcomes from the arrangement. For example, when the outsourcing organisation has more power, the 3PL may need more developed capabilities and thus it may need to assume responsibility for managing the outsourcing relationship. However, when the 3PL has more power, the outsourcing organisation may need more advanced capabilities and take the primary role in managing the relationship.

8.5 CONCLUSION

The study investigated how the outsourcing organisation's performance in an outsourcing relationship is affected by the capabilities of both partners, the 3PL's logistics service quality, and the ethical integration of the two organisations. Most outsourcing and supply chain management literature considers the impact of outsourcing on their financial performance only, while paying scant attention to the brand and reputation outcomes. This study indicates that these two dimensions of performance are also important and can be negatively affected by the 3PL's behaviour. This suggests that the outsourcing organisation's brand and reputation are critical organisational assets that need to be protected when logistics is outsourced.

However, it is not enough for an outsourcing organisation to choose a good 3PL partner in order to improve performance as a result of the outsourcing relationship. Outsourcing organisations must also have the capabilities to manage the relationship in order to positively influence the behaviour of the 3PL.

Finally, many customers and business partners are concerned about ethical behaviour. However, there is little discussion of how ethical behaviour can be ensured when an outsourcing partner is used. The findings of this study indicate that ethical integration between outsourcing partners is crucial when information is being shared and when the outsourcing organisation needs to provide more guidance to the 3PL regarding the outsourcing task. This study highlights additional important considerations that managers must take into account in order to maximise the positive outcomes derived from outsourcing relationships.

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Appendix 1: Study Questionnaire



MONASH University
Business and Economics



**Service Quality, Ethical Integration and
Branding Outcomes in Logistics
Outsourcing**

Dr. Margaret Jekanyika Matanda and Violet Lazarevic

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MONASH University

Business and Economics

Department of Marketing
Monash University
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Dear Respondent,

My name is Violet Lazarevic and I am conducting a research project on outsourcing of logistics activities in Australia as part of my Doctor of Philosophy (Marketing) Dissertation at Monash University. The aim of this research is investigate the impact of outsourcing logistics activities to a third-party or fourth-party (3/4PLs) logistics provider on the outsourcing organisation's brand and performance.

The study aims to provide insight on how third and fourth-party logistic providers' capabilities, logistics service quality management and ethical integration affects the outsourcing organisation. We expect this research will add value to managers by providing insight on how outsourcing organisations can manage ethical behaviour in outsourcing relationships so as to protect their brands, reputation and performance during outsourcing of logistics activities. The results obtained in this study will also enable us to provide some guidelines to organisations on selecting and managing of outsourcing arrangements.

We kindly ask you to participate in this research by completing the attached questionnaire. Please note that your response is completely anonymous, and only aggregate level data will be reported and published. Your involvement in this study is voluntary. By completing and returning this questionnaire, you provide consent for your responses to be used for our research purposes.

When completing this survey please keep in mind your most important 3/4PL partner. For more details about the project please see the attached Explanatory Statement. Please answer all questions and follow the instructions preceding each section. If you are unsure about an answer please provide your best estimate.

If you wish to receive a copy of the summary of research results or have any queries about the research please contact one of the other researchers named in the attached Explanatory Statement. This survey should take approximately 20 minutes to complete. This survey is being administered to a cross-section of organisations in Australia.

Your participation in this research is invaluable and your time is greatly appreciated. Thank you very much for your valuable time and consideration.



Violet Lazarevic, PhD Candidate



Project Explanatory Statement

Project Title: Influence of Service Quality and Ethical Integration on Branding Outcomes in Logistics Services Outsourcing

Background Information

This research is undertaken by Violet Lazarevic for her Business and Commerce Doctor of Philosophy (Marketing) Degree at Monash University. The research is being supervised by Dr. Margaret Jekanyika Matanda and Professor Felix Mavondo in the Department of Marketing at Monash University and is funded by Monash University.

The Aim of the Research

The aim of the study is to examine the impact of outsourcing logistics activities to third/fourth party logistics providers (3/4PLs) on the outsourcing organisation's branding and performance outcomes. Whilst prior research has investigated the relationship between outsourcing and performance limited attention has been paid to effect of the outsourced organisation's competence and ethical behaviour on the outsourcing organisations' brand.

Expected Benefits of this Study

The research will provide insights to managers on how to protect their brands, reputations and performance during outsourcing of logistics activities and how to manage ethical behaviour in outsourcing relationships. Further, the study also aims to provide some guidelines to organisations on selecting and managing outsourcing arrangements.

Why have you been invited to participate in this study?

You have been selected to participate in this study mainly because of your position and experience in an organisation involved in outsourcing relationships. Participants required are logistics and branding managers in organisations that outsource their logistics activities that are over 18.

Confidentiality

The combined, non-identifying results of this research will be used in research reports and may be published in business magazines and journals. Please note that no individual or organisation will be identifiable from the results, as only aggregate findings will be reported.

Researchers Involved in the Study from Monash University

Violet Lazarevic BComm (First Class Honours)	(Ph) [REDACTED] email: [REDACTED]
Dr Margaret Jekanyika Matanda BURP, MBA, PhD.	(Ph) [REDACTED] email: [REDACTED]
Professor Felix Mavondo BSc Hons, MBA, PhD.	(Ph) [REDACTED] email: [REDACTED]

What your participation in this study would involve

1. Participation in this study is voluntary and your responses will be anonymous.
2. You will not be required to provide any identifying information.
3. You will be invited to participate in a survey which should take approximately 20 minutes to complete.
4. No individual respondents will be identified in the final report.
5. A copy of the results will be available to participating respondents. If you would like a copy of the collated results from this study please contact one of the research investigators (the contact details are listed above).
6. As part of the Monash University Code of Conduct, the data collected during this study will be kept in a secure area at Monash University for at least five years.
7. De-identified data, that is information that cannot identify any individual, will be kept for future research. The reason this de-identified data will be retained indefinitely is to permit this information to be compared or combined with data from other studies.

Providing Consent

Consent to participate in this research is implied by completing and returning the survey.

If you have any questions

Please contact one of the research investigators (the contact details are listed above).

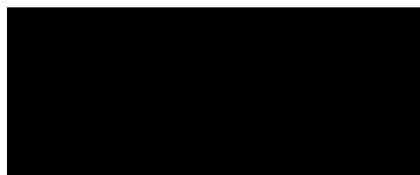
Ethical Guidelines

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact the Monash University Human Research *Ethics* Committee. You can write/talk to the secretary of the committee. Please remember to cite the project number in your communication.

The Secretary
Monash University Human Research Ethics Committee (MUHREC)
Building 3D, PO Box No 3A, Monash, Victoria, 3800
Telephone: +61 3 9905 2052
Fax: + 61 3 9905 1420
Email: muhrec@adm.monash.edu.au
Project Number: 2011000232

Thank you for your help and participation

Yours sincerely,



Violet Lazarevic

Part A: Background Questions

1. What is your position in your company?

2. How long have you held this position? Years Months

--	--

Part B: Managing Outsourcing Relationships

When answering the questions in this questionnaire please keep in mind your MOST important 3/4PL partner.

(Third party logistics providers (3PLs) are defined as external service providers which carry out the outsourced work.

Fourth party logistics providers (4PLs) are defined as facilitators of logistics solutions who provide management, coordination and typically more functions than a third party service provider.)

3. Could you please indicate below the types of activities that are outsourced by your organisation to your most important one or two 3/4PLs and the length of time these activities have been outsourced to your 3/4PL partner?

Importance of partner	Activities/processes outsourced	Third or fourth party logistics provider	Length of the relationship
Your most important 3/4PL			
Your second most important 3/4PL			

Part C: Third/Fourth Party (3/4PL) Logistics Provider Capabilities

4. In the following three sub-sections we ask you to rate the capabilities of your most important 3/4PL partner.

Please indicate how much you agree with the following statements regarding your 3/4PL.

(Please circle or tick the appropriate number) The scale/number is interpreted as 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Neither Agree or Disagree, 5 = Slightly Agree, 6 = Agree, 7 = Strongly Agree.

<i>Sub-section 1: Customer Focus</i>		Strongly Disagree \longrightarrow Strongly Agree						
i.	Our 3/4PL tailors their logistics service activities to suit the requirements of different customers	1	2	3	4	5	6	7
ii.	Our 3/4PL tries to identify end-customer value that is contributed by the logistics function	1	2	3	4	5	6	7
iii.	Our 3/4PL identifies customer needs at the planning stage of the outsourcing arrangement	1	2	3	4	5	6	7
iv.	Our 3/4PL regularly prioritizes customer needs	1	2	3	4	5	6	7
v.	Our 3/4PL ensures that customer feedback gets immediate attention	1	2	3	4	5	6	7
vi.	Our 3/4PL responds quickly to our changing needs	1	2	3	4	5	6	7
vii.	Our 3/4PL have changed their distribution methods to suit our needs	1	2	3	4	5	6	7
viii.	Our 3/4PL have changed their capital equipment to suit our requirements	1	2	3	4	5	6	7
ix.	Our 3/4PL provides a timely response to our requests	1	2	3	4	5	6	7
x.	Our 3/4PL is willing to accommodate our requests	1	2	3	4	5	6	7
xi.	Our 3/4PL makes adjustments to cope with changing market needs in our industry	1	2	3	4	5	6	7
xii.	Our 3/4PL has developed processes to be more flexible to our requests	1	2	3	4	5	6	7

<i>Sub-section 2: Coordination</i>								
i.	Our 3/4PL is unable to make adjustments to accommodate changing	1	2	3	4	5	6	7

	circumstances							
ii.	Our 3/4PL uses supply chain coordination mechanisms to enhance flexibility of their operations	1	2	3	4	5	6	7
iii.	Our 3/4PLs' logistics system can accommodate special or non-routine events	1	2	3	4	5	6	7
iv.	Our 3/4PL effectively shares operational information with us	1	2	3	4	5	6	7
v.	Our 3/4PL shares strategic information with us	1	2	3	4	5	6	7
vi.	We are able to access our 3/4PLs' integrated database and share information	1	2	3	4	5	6	7
vii.	We can obtain information from the 3/4PL whenever we need it	1	2	3	4	5	6	7
viii.	Our 3/4PLs' information systems facilitate systems integration with our business operations	1	2	3	4	5	6	7
ix.	Our 3/4PLs' information systems facilitate cross-organisational data exchange	1	2	3	4	5	6	7
x.	Our 3/4PLs' information systems capture real-time data	1	2	3	4	5	6	7
xi.	Our 3/4PL is able to customise the information they share with us	1	2	3	4	5	6	7
xii.	The information available from the 3/4PL is accurate	1	2	3	4	5	6	7

Sub-section 3: Logistics requirements – Please respond only to those statements relevant to you

i.	Our 3/4PL is able to meet quoted delivery <u>dates</u>	1	2	3	4	5	6	7
ii.	Our 3/4PL is able to meet quoted delivery <u>quantities</u>	1	2	3	4	5	6	7
iii.	Our 3/4PL provides the distribution coverage we require	1	2	3	4	5	6	7
iv.	Our 3/4PL is able to minimize the warehousing costs	1	2	3	4	5	6	7
v.	Our 3/4PL is able to reduce the transportation costs	1	2	3	4	5	6	7
vi.	Our 3/4PL is able to minimize costs around tracking and tracing deliveries	1	2	3	4	5	6	7
vii.	Our 3/4PL is able to reduce order management costs (e.g. minimize order handling)	1	2	3	4	5	6	7
viii.	Our 3/4PL provides intact storage of materials/goods at their warehouse	1	2	3	4	5	6	7
ix.	Our 3/4PL is able to accurately pick orders at their warehouse	1	2	3	4	5	6	7
x.	Our 3/4PL has accurate records of inventory in their warehouse	1	2	3	4	5	6	7
xi.	Our 3/4PL labels products in the warehouse correctly	1	2	3	4	5	6	7
xii.	Our 3/4PL notifies customers of <u>delivery delays</u>	1	2	3	4	5	6	7
xiii.	Our 3/4PL notifies customer of <u>product shortages</u> in the warehouse	1	2	3	4	5	6	7

Part D: Outsourcing Organisation's Relational Capabilities

5. In this section we ask you to evaluate YOUR organisations' dealings with your most important outsourcing partner.
Please indicate how much you agree with the following statements.
(Please circle or tick the appropriate number)

		Strongly Disagree \longrightarrow Strongly Agree						
i.	We continuously interact with our 3/4PL during the implementation of the outsourcing relationship	1	2	3	4	5	6	7
ii.	We clearly communicate our objectives and goals to our 3/4PL	1	2	3	4	5	6	7
iii.	We frequently discuss strategic issues with our 3/4PL	1	2	3	4	5	6	7
iv.	We openly share confidential information with our 3/4PL	1	2	3	4	5	6	7
v.	We rarely talk to our 3/4PL about our business strategy	1	2	3	4	5	6	7
vi.	Maintaining a long-term relationship with our 3/4PL is important to our organisation	1	2	3	4	5	6	7
vii.	We focus on long-term goals in this outsourcing relationship	1	2	3	4	5	6	7
viii.	We believe that over the long-run our relationship with our 3/4PL will be profitable	1	2	3	4	5	6	7
ix.	We are willing to make sacrifices to help our 3/4PL from time-to-time	1	2	3	4	5	6	7
x.	We collaborate with our 3/4PL to create operational improvements	1	2	3	4	5	6	7

Part E: Complementarity between outsourcing partners

6. In this section you are required to discuss how complementary you and your outsourcing partner are to each other. *Complementarity is defined as not identical but reciprocal strengths.*
Please indicate how much you agree with the following statements.
(Please circle or tick the appropriate number)

		Strongly Disagree \longrightarrow Strongly Agree						
		1	2	3	4	5	6	7
i.	We need each other's resources to accomplish our goals	1	2	3	4	5	6	7
ii.	The resources contributed by both us and our 3/4PL are important for the outsourcing relationship	1	2	3	4	5	6	7
iii.	Our 3/4PL has the technical capabilities that we need, but we do not possess	1	2	3	4	5	6	7
iv.	Our organisational procedures match those of our 3/4PL	1	2	3	4	5	6	7
v.	Our 3/4PL has the same capabilities as our organisation	1	2	3	4	5	6	7

Part F: Service quality delivery of our outsourcing partner

7. In these 2 sub-sections we ask you to discuss your 3/4PLs' logistics service quality. Answer only those statements that apply to your outsourcing relationship.
Please indicate how much you agree with the following statements.
(Please circle or tick the appropriate number)

<i>Sub-section 1: Getting it right</i>		Strongly Disagree \longrightarrow Strongly Agree						
		1	2	3	4	5	6	7
i.	The 3/4PL person contacting our customer makes an effort to understand the customers' requirements	1	2	3	4	5	6	7
ii.	The customers' problems are usually resolved by the 3/4PL contact person	1	2	3	4	5	6	7
iii.	Our 3/4PLs' contact personnel have adequate knowledge of our product	1	2	3	4	5	6	7
iv.	The customer service experience of the 3/4PL contact person is adequate	1	2	3	4	5	6	7
v.	The 3/4PL personnel contacting our customer have the right attitude	1	2	3	4	5	6	7
vi.	Information is available from our 3/4PL to our end-customer when requested	1	2	3	4	5	6	7
vii.	Information provided to our end-customer from the 3/4PL is adequate	1	2	3	4	5	6	7
viii.	The 3/4PLs' labelling of our product is always correct	1	2	3	4	5	6	7
ix.	The invoices the 3/4PL gives to our customer are always correct	1	2	3	4	5	6	7
x.	Deliveries made by our 3/4PL rarely contain <u>the wrong item</u>	1	2	3	4	5	6	7
xi.	Deliveries made by our 3/4PL rarely contain <u>an incorrect quantity</u>	1	2	3	4	5	6	7
xii.	Deliveries made by our 3/4PL rarely contain <u>substituted items</u>	1	2	3	4	5	6	7
xiii.	Deliveries made by our 3/4PL often arrive <u>in full</u>	1	2	3	4	5	6	7

Sub-section 2: Satisfaction

i.	Deliveries received from the 3/4PL are frequently <u>damaged</u>	1	2	3	4	5	6	7
ii.	Deliveries received directly from manufacturer are <u>undamaged</u>	1	2	3	4	5	6	7
iii.	Damage is rarely caused by the transportation of the product	1	2	3	4	5	6	7
iv.	Products delivered are in good condition	1	2	3	4	5	6	7
v.	The way our 3/4PL corrects delivery discrepancies is satisfactory	1	2	3	4	5	6	7
vi.	Our 3/4PLs' process of correcting discrepancies is adequate	1	2	3	4	5	6	7
vii.	Our 3/4PLs' response to discrepancy reports is satisfactory	1	2	3	4	5	6	7
viii.	Delivery discrepancies are handled by our 3/4PL quickly	1	2	3	4	5	6	7
ix.	Time between placing an order and receiving delivery (lead time) is as short as promised	1	2	3	4	5	6	7
x.	Deliveries made by our 3/4PL arrive on time as promised	1	2	3	4	5	6	7
xi.	Our 3/4PL ensures they deliver back orders quickly	1	2	3	4	5	6	7
xii.	An explanation is always provided when there are product delivery problems	1	2	3	4	5	6	7

Part G: Ethical Integration in the outsourcing arrangement

8. The next 2 sub-sections cover questions regarding how ethical behaviour is ensured in the outsourcing arrangement. Please indicate how much you agree with the following statements.
(Please circle or tick the appropriate number)

<i>Sub-Section 1: Ethical similarity</i>		Strongly Disagree \longrightarrow Strongly Agree						
i.	Our 3/4PL has the same values as our organisation with regard to concern for others	1	2	3	4	5	6	7
ii.	In general our organisations' values and our 3/4PLs' values are very similar	1	2	3	4	5	6	7
iii.	We are enthusiastic about pursuing collective objectives with our 3/4PL	1	2	3	4	5	6	7
iv.	Our organisation and our 3/4PL support each other's goals	1	2	3	4	5	6	7
v.	Our 3/4PL and our organisation agree on how stakeholders should be treated	1	2	3	4	5	6	7
vi.	Our 3/4PL and our organisation deal with conflicts of interest with the same attitude	1	2	3	4	5	6	7
vii.	Our 3/4PL and our organisation agree on how confidential information should be treated	1	2	3	4	5	6	7

<i>Sub-section 2: Ethical standards</i>		Strongly Disagree \longrightarrow Strongly Agree						
i.	Our 3/4PL takes our ethical standards seriously	1	2	3	4	5	6	7
ii.	Our 3/4PL and our organisation agree on what is considered ethical	1	2	3	4	5	6	7
iii.	We offer our 3/4PL ethics training	1	2	3	4	5	6	7
iv.	We provide guidance to our 3/4PL on acceptable ethical behaviour	1	2	3	4	5	6	7
v.	We do not tolerate ethical lapses from our 3/4PL	1	2	3	4	5	6	7
vi.	Our code of conduct is well communicated to our 3/4PL	1	2	3	4	5	6	7
vii.	The consequences of breaching our code of conduct is made clear to our 3/4PL at the beginning of the outsourcing relationship	1	2	3	4	5	6	7

Part H: Environmental Responsibility in the outsourcing relationship

9. In this section you are asked to rate the level of environmental responsibility in your outsourcing relationship with your 3/4PL. Please indicate your level of agreement with the following statements.
(Please tick or circle the appropriate number)

		Strongly Disagree \longrightarrow Strongly Agree						
i.	Our 3/4PL and our organisation are both committed to waste reduction	1	2	3	4	5	6	7
ii.	Our 3/4PL uses environmentally sustainable packaging for our products	1	2	3	4	5	6	7
iii.	Our 3/4PL and our organisation both recycle products	1	2	3	4	5	6	7
iv.	Our 3/4PL and our organisation both reuse products	1	2	3	4	5	6	7
v.	Our 3/4PL and our organisation are both committed to reducing our carbon footprint	1	2	3	4	5	6	7
vi.	We only use 3/4PLs with ISO certification	1	2	3	4	5	6	7
vii.	Our 3/4PL has environmental programs in place to make their operations more sustainable	1	2	3	4	5	6	7

Part I: Branding Outcomes for the outsourcing organisation

10. Thinking of your corporate brand please consider the following statements and indicate how much your 3/4PL has impacted on the following aspects of your brand.
(Please circle or tick the appropriate number). The scale/number is interpreted as 1 = Not at all, 2 = To a small extent, 3 = To some extent, 4 = Somewhat, 5 = To a moderate extent, 6 = To a great extent, 7 = Significantly

		Not at all \longrightarrow Significantly						
i.	The name of our organisation is well known in the industry	1	2	3	4	5	6	7
ii.	Business buyers know what our brand stands for	1	2	3	4	5	6	7
iii.	Business buyers have a positive opinion of our brand	1	2	3	4	5	6	7
iv.	Business customers regard our brand as a strong trade partner	1	2	3	4	5	6	7
v.	Our brand is well respected in our industry	1	2	3	4	5	6	7

vi.	Our brand image differentiates us from our competitors	1	2	3	4	5	6	7
vii.	Our brand is known for looking after its trade partners	1	2	3	4	5	6	7
viii.	Business customers have a good impression of our corporate brand	1	2	3	4	5	6	7
ix.	Our brand is perceived as consistently delivering high quality	1	2	3	4	5	6	7
x.	Our business partners are able to reliably predict how we will perform in the future	1	2	3	4	5	6	7
xi.	We are perceived as a leading brand in our industry, compared to our competitors	1	2	3	4	5	6	7
xii.	Our brand is known for fulfilling customer promises	1	2	3	4	5	6	7
xiii.	Overall our business customers are satisfied with our brand	1	2	3	4	5	6	7
xiv.	Our business customers recommend our brand to other business buyers	1	2	3	4	5	6	7
xv.	Our brand has repeat business customers	1	2	3	4	5	6	7
xvi.	Our business customers are willing to pay a higher price for our brand over other brands in our industry	1	2	3	4	5	6	7

Part J: Firm Performance for the outsourcing organisation

11. Please rate how your organisation's performance has been impacted on by outsourcing logistics

a) Compared to your main competitors AND

b) Compared to the past 2 years

(Please circle or tick the appropriate number). The scale/number is interpreted as 1 = Much worse, 2 = Worse, 3 = Slightly worse, 4 = About the same, 5 = Slightly better, 6 = Better, 7 = Much better

Much Worse → Much Better							Much Worse → Much Better							
Compared to your main competitors							Compared to the past 2 years							
1	2	3	4	5	6	7	Profit (before tax)	1	2	3	4	5	6	7
1	2	3	4	5	6	7	Return on Assets (ROA)	1	2	3	4	5	6	7
1	2	3	4	5	6	7	Return on Investment (ROI)	1	2	3	4	5	6	7

12. In the following section please assess how your corporate reputation has been affected by outsourcing logistics compared to your main competitors.

(Please circle or tick the appropriate number)

							Much Worse → Much Better						
i.	Our organisation has a good reputation						1	2	3	4	5	6	7
ii.	Our organisation is recognized for offering well known products						1	2	3	4	5	6	7
iii.	Our organisation is known for offering high quality <u>products</u>						1	2	3	4	5	6	7
iv.	Our organisation is known for offering high quality <u>service</u>						1	2	3	4	5	6	7
v.	Our organisation is recognized for offering products that are good value for money						1	2	3	4	5	6	7

Part K: Profile of the respondent and organisation

13. Please indicate your confidence with the answers you have provided.

(Please circle or tick the appropriate number). The scale/number is interpreted as 1 = Not at all confident, 2 = Confident to a small extent, 3 = Confident to some extent, 4 = Somewhat confident, 5 = Confident to a moderate extent, 6 = Confident to a great extent, 7 = Extremely confident

							Not at all Confident → Extremely Confident						
i.	I have sufficient knowledge of my organisation's logistics outsourcing relationships to complete this questionnaire						1	2	3	4	5	6	7

14. The following questions in the next two sections are required in most research dealing with ethical issues and help to check measurement problems. Please answer them honestly.

Please indicate your level of agreement with the following statements.

(Please circle or tick the appropriate number). The scale/number is interpreted as 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Neither Agree or Disagree, 5 = Slightly Agree, 6 = Agree, 7 = Strongly Agree

Appendix 2: MUHREC Ethics Approval

Human Ethics Certificate of Approval

Date: 02 November 2010

Project Number: CF10/2577 - 2010001430

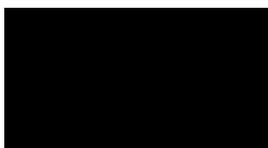
Project Title: Influence of service quality and ethical integration on branding outcomes in logistics services outsourcing

Chief Investigator: Dr Margaret Matanda

Approved: From: 2 November 2010 To: 2 November 2015

Terms of approval

1. The Chief investigator is responsible for ensuring that permission letters are obtained, if relevant, and a copy forwarded to MUHREC before any data collection can occur at the specified organisation. **Failure to provide permission letters to MUHREC before data collection commences is in breach of the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research.**
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash University letterhead and the Monash University complaints clause must contain your project number.
6. **Amendments to the approved project (including changes in personnel):** Requires the submission of a Request for Amendment form to MUHREC and must not begin without written approval from MUHREC. Substantial variations may require a new application.
7. **Future correspondence:** Please quote the project number and project title above in any further correspondence.
8. **Annual reports:** Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. **Final report:** A Final Report should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected date of completion.
10. **Monitoring:** Projects may be subject to an audit or any other form of monitoring by MUHREC at any time.
11. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

Professor Ben Canny
Chair, MUHREC

cc: Ms Violet Lazarevic



Human Ethics Certificate of Approval

Date: 17 March 2011

Project Number: CF11/0553 – 2011000232

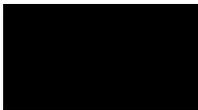
Title: Influence of service provider on outsourcing organisation's brand equity, firm performance and reputation

Chief Investigator: Dr Margaret Matanda

Approved: From: 17 March 2011 To: 17 March 2016

Terms of approval

1. The Chief investigator is responsible for ensuring that permission letters are obtained, if relevant, and a copy forwarded to MUHREC before any data collection can occur at the specified organisation. **Failure to provide permission letters to MUHREC before data collection commences is in breach of the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research.**
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
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11. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.



Professor Ben Canny
Chair, MUHREC

cc: Ms Violet Lazarevic

Appendix 3: Labelling of Constructs, Variables and Measurement Items in the Study

Label	Measurement items for the Constructs/Variables
Outsourcing Organisation's Relational Capabilities	
Communication with the 3PL	
RelCap1	Continuously interacting with the 3PL during the implementation of the outsourcing relationship
RelCap2	Clearly communicating objectives and goals to the 3PL
RelCap3	Frequently discussing strategic issues with the 3PL
RelCap4	Openly sharing confidential information with the 3PL
Long-term Relationship Orientation	
RelCap6	Maintaining a long term relationship with the 3PL being important to the outsourcing organisation
RelCap7	Focusing on long-term goals in the outsourcing relationship
RelCap8	Belief that over the long run the relationship with the 3PL will be profitable
RelCap9	Being willing to make sacrifices to help the 3PL from time to time
RelCap10	Collaborating with the 3PL to create operational improvements
3PL Capabilities	
Customer Focus	
CF1	The 3PL tailors their logistics service activities to suit the requirements of different customers
CF4	The 3PL regularly prioritizes customer needs
CF5	The 3PL ensures that customer feedback gets immediate attention
Responsiveness	
CF2	The 3PL tries to identify end-customer value that is contributed by the logistics function
CF3	The 3PL identifies customer needs at the planning stage of the outsourcing arrangement
CF7	3PL has changed its distribution methods to suit the outsourcing organisation's needs
Flexibility	
CF6	The 3PL responds quickly to the outsourcing organisation's changing needs
CF9	3PL provides a timely response to the outsourcing organisation's requests
CF10	The 3PL is willing to accommodate the outsourcing organisation's requests
CF11	The 3PL makes adjustments to cope with the changing market needs of the outsourcing organisation's industry
CF12	3PL developing processes to be more flexible to the requests of the outsourcing organisation

Coo 1	The 3PL being able to accommodate changing circumstances
Information Sharing	
Coo3	3PLs logistics system able to accommodate special or non-routine events
Coo4	3PL effectively shares operational information with the outsourcing organisation
Coo5	The 3PL sharing strategic information with the outsourcing organisation
Coo7	Outsourcing organisation can obtain information from the 3PL when needed
Coo12	The information available from the 3PL is accurate
Connectivity between IT systems	
Coo6	Outsourcing organisation is able to access the 3PL's integrated database and share information
Coo8	3PL's IT facilitates systems integration with the outsourcing organisation's business operations
Coo9	3PL's information systems facilitate cross-organisational data exchange
Coo10	The 3PL's information systems capture real time data
Coo11	3PL is able to customise the information they give outsourcing organisation
Cost	The 3PL's ability to minimise cost
Operational Capabilities	
Eff1	Warehouse effectiveness
Eff2	Transportation effectiveness
Eff3	Efficiency
Logistics Service Quality	
PCQ	Personnel Contact Quality
GIR1	The 3PL person contacting the outsourcing organisation's customer makes an effort to understand the customers' requirements
GIR2	The customers' problems are usually resolved by the 3PL contact person
GIR3	3PL's contact personnel have adequate knowledge of the outsourcing organisation's product
GIR4	The customer service experience of the 3PL contact person is adequate
GIR5	The 3PL personnel contacting the outsourcing organisation's customer have the right attitude
GIR6	Information being available from the 3PL to the end-customer when requested
GIR 7	Information provided to the end customer from the 3PL is adequate
OA	Order Accuracy
GIR10	Deliveries made by the 3PL contain the right items

GIR11	Deliveries made by the 3PL contain the right quantity
GIR12	Deliveries rarely contain substituted items
GIR13	Deliveries made by the 3PL often arrive in full
OD	Order Discrepancy Handling
SAT5	The way 3PL corrects delivery discrepancies is satisfactory
SAT6	The 3PL's process of correcting discrepancies is adequate
SAT7	The 3PL's response to discrepancy reports is satisfactory
SAT8	Delivery discrepancies are handled by the 3PL quickly
TM	Timeliness
SAT9	Time between placing an order and receiving delivery (lead time) is as short as promised
SAT10	Deliveries made by the 3PL arrive on time as promised
SAT11	The 3PL ensures they deliver back orders quickly
SAT12	An explanation is always provided when there are product delivery problems
Ethical Integration	
Shared Values	
EthSim1	The 3PL has the same values as the outsourcing organisation with regard to concern for others
EthSim2	In general the outsourcing organisation's values and the 3PL's values are very similar
EthStd1	The 3/4PL takes the outsourcing organisation's ethical standards seriously
EthStd2	The 3PL and the outsourcing organisation agree on what is considered ethical
Ethical Culture Fit	
EthSim3	The outsourcing organisation is enthusiastic about pursuing collective objectives with the 3PL
EthSim4	The outsourcing organisation and the 3PL support each other's goals
EthSim5	The 3PL and the outsourcing organisation agree on how stakeholders should be treated
EthSim6	The 3/4PL and the outsourcing organisation deal with conflicts of interest with the same attitude
EthSim7	The 3/4PL and the outsourcing organisation agree on how confidential information should be treated
Formal System of Ethics	
EthStd3	Outsourcing organisation offers the 3/4PL ethics training
EthStd4	The outsourcing organisation sets rules and provides guidance to the 3/4PL on acceptable ethical behaviour

EthStd 5	The outsourcing organisation does not tolerate ethical lapses from the 3/4PL
EthStd6	The outsourcing organisation's code of conduct is well communicated to the 3/4PL
EthStd7	The consequences of breaching the outsourcing organisation's code of conduct is made clear to the 3/4PL
Corporate Reputation	
CorRep1	The outsourcing organisation having a good reputation
CorRep2	Outsourcing organisation is recognised for offering well known products
CorRep3	Outsourcing organisation is known for offering high quality products
CorRep4	The outsourcing organisation is recognised for offering high quality service
CorRep5	The outsourcing organisation is recognised for offering products that are good value for money
Financial Performance	
FP1Comp	How profit compared to main competitors has been impacted on by logistics outsourcing
FP2Comp	How return on assets compared to main competitors has been impacted on by logistics outsourcing
FP3Comp	How return on investment compared to main competitors has been impacted on by logistics outsourcing
FP1Past	How profit (before tax) has been impacted on by logistics outsourcing compared to the last two years
FP2Past	How return on assets has been impacted on by logistics outsourcing compared to the last two years
FP3Past	How return on investment has been impacted on by logistics outsourcing compared to the last two years
Corporate Brand Equity	
BrandI	Brand Image
BrandO1	The name of the outsourcing organisation is well known in their industry
BrandO2	Business buyers know what the outsourcing organisation's brand stands for
BrandO3	Business buyers have a positive opinion of the outsourcing organisation's brand
BrandO4	Business customers regard the outsourcing organisations brand as a strong trade partner
BrandO5	The outsourcing organisation's brand is well respected in their industry
BrandO6	The outsourcing organisation's brand image differentiates them from competitors
BrandO7	The outsourcing organisation's brand is known for looking after its trade partners

BrandO8	Business customers have a good impression of the outsourcing organisation's corporate brand
PercievedQ	Perceived Quality
BrandO9	The outsourcing organisation's brand being perceived as consistently delivering high quality*
BrandO10	The outsourcing organisation's business partners being able to reliably predict how they will perform
BrandO11	The outsourcing organisation is perceived as a leading brand in their industry, compared to competitors
BrandO12	The outsourcing organisation's brand is known for fulfilling customer promises
BrandO13	Overall business customers are satisfied with the outsourcing organisations brand
BrandO14	The outsourcing organisation's business customers have recommended their brand to other business buyers
BrandO15	The outsourcing organisation's brand has repeat business customers
BrandO16	The outsourcing organisation's business customers are willing to pay a higher price for their brand over other brands*

Appendix 4: Testing Assumption of Normality: Skewness and Kurtosis

Measure	N	Skewness		Kurtosis	
		Statistic	Standard Deviation	Statistic	Standard Deviation
CF1	242	-.034	.156	-1.291	.312
CF2	242	.029	.156	-1.083	.312
CF3	242	-.122	.156	-1.197	.312
CF4	242	-.233	.156	-1.154	.312
CF5	242	-.016	.156	-1.272	.312
CF6	242	-.136	.156	-1.200	.312
CF7	242	-.195	.156	-1.047	.312
CF8	242	-.048	.156	-1.029	.312
CF9	242	-.207	.156	-1.248	.312
CF10	242	-.306	.156	-1.251	.312
CF11	242	-.235	.156	-1.081	.312
CF12	242	-.247	.156	-1.093	.312
Coo1	242	-.854	.156	-.312	.312
Coo2	242	-.223	.156	-.767	.312
Coo3	242	-.747	.156	-.042	.312
Coo4	242	-.727	.156	-.202	.312
Coo5	242	-.057	.156	-1.200	.312
Coo6	242	.001	.156	-1.326	.312
Coo7	242	-.752	.156	-.369	.312
Coo8	242	-.188	.156	-1.209	.312
Coo9	242	-.058	.156	-1.203	.312
Coo10	242	-.650	.156	-.639	.312
Coo11	242	-.263	.156	-.986	.312
Coo12	242	-1.006	.156	.920	.312
LR1	228	-1.135	.161	1.127	.321
LR2	227	-.771	.162	-.024	.322
LR3	221	-1.448	.167	2.708	.326
LR4	172	-.587	.185	-.305	.368
LR5	219	-.725	.164	-.029	.327
LR6	219	-.492	.164	-.400	.327
LR7	193	-.557	.175	-.613	.348

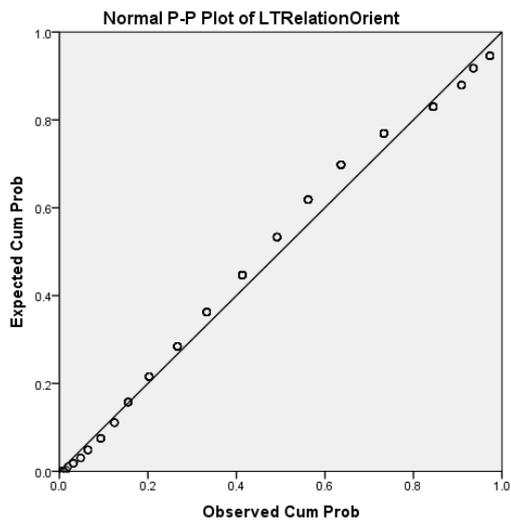
LR8	163	-.930	.190	.232	.378
LR9	157	-.927	.194	.559	.385
LR10	156	-.528	.194	-.435	.386
LR11	154	-.548	.195	-.527	.389
LR12	227	-.666	.162	-.623	.322
LR13	155	-.421	.195	-.858	.387
RelCap1	242	-1.200	.156	1.129	.312
RelCap2	242	-1.203	.156	1.228	.312
RelCap3	242	-.308	.156	-1.080	.312
RelCap4	242	-.186	.156	-1.210	.312
RelCap5	242	.014	.156	-1.383	.312
RelCap6	242	1.192	.156	1.765	.312
RelCap7	242	-.867	.156	.203	.312
RelCap8	242	-1.036	.156	1.256	.312
RelCap9	242	-.631	.156	-.437	.312
RelCap10	242	-.970	.156	.401	.312
GIR1	242	-.276	.156	-.806	.312
GIR2	242	-.027	.156	-.988	.312
GIR3	242	.005	.156	-1.074	.312
GIR4	242	-.449	.156	-.662	.312
GIR5	242	-.734	.156	.286	.312
GIR6	242	-.953	.156	.838	.312
GIR7	242	-.397	.156	-.249	.312
GIR8	196	-.564	.174	-.471	.346
GIR9	216	-.482	.166	-.554	.330
GIR10	242	-.684	.156	-.319	.312
GIR11	242	-.870	.156	.377	.312
GIR12	242	-1.446	.156	3.497	.312
GIR13	242	-1.028	.156	.524	.312
SAT1	242	-.912	.156	.176	.312
SAT2	242	-.751	.156	-.425	.312
SAT3	242	-.169	.156	-.911	.312
SAT4	242	-.904	.156	.472	.312

SAT5	242	-.615	.156	-.324	.312
SAT6	242	-.695	.156	-.172	.312
SAT7	242	-.793	.156	-.094	.312
SAT8	242	-.682	.156	-.413	.312
SAT9	242	-.994	.156	.538	.312
SAT10	242	-.915	.156	.365	.312
SAT11	242	-.772	.156	-.308	.312
SAT12	242	-.381	.156	-1.131	.312
EthSim1	242	-.507	.156	-.630	.312
EthSim2	242	-.536	.156	-.615	.312
EthSim3	242	-.701	.156	-.122	.312
EthSim4	242	-.341	.156	-.580	.312
EthSim5	242	-.686	.156	-.164	.312
EthSim6	242	-.594	.156	-.400	.312
EthSim7	242	-.888	.156	.200	.312
EthStd1	242	-.494	.156	-.679	.312
EthStd2	242	-.422	.156	-.881	.312
EthStd3	242	.957	.156	-.163	.312
EthStd4	242	-.093	.156	-1.308	.312
EthStd5	242	-.779	.156	-.044	.312
EthStd6	242	-.753	.156	-.345	.312
EthStd7	242	-.622	.156	-.657	.312
BrandO1	242	-.794	.156	.348	.312
BrandO2	242	-.975	.156	1.312	.312
BrandO3	242	-1.105	.156	2.204	.312
BrandO4	242	-.749	.156	.721	.312
BrandO5	242	-.852	.156	.988	.312
BrandO6	242	-.753	.156	.408	.312
BrandO7	242	-.583	.156	.240	.312
BrandO8	242	-.664	.156	1.121	.312
BrandO9	242	-.681	.156	1.388	.312
BrandO10	242	-.447	.156	.234	.312
BrandO11	242	-.825	.156	.577	.312

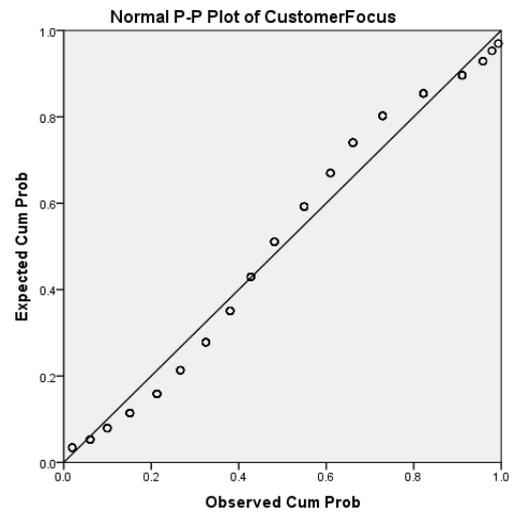
BrandO12	242	-1.077	.156	2.050	.312
BrandO13	242	-.758	.156	1.594	.312
BrandO14	242	-1.038	.156	1.529	.312
BrandO15	242	-.745	.156	.766	.312
BrandO16	242	-.620	.156	-.493	.312
FP1Comp	242	-.391	.156	.321	.312
FP2Comp	242	-.156	.156	.472	.312
FP3Comp	242	-.187	.156	.169	.312
FP1Past	242	-.301	.156	.875	.312
FP2Past	242	-.257	.156	.489	.312
FP3Past	242	-.191	.156	.256	.312
CorRep1	242	-.464	.156	.339	.312
CorRep2	242	-.177	.156	-.532	.312
CorRep3	242	-.396	.156	-.256	.312
CorRep4	242	-.585	.156	-.120	.312
CorRep5	242	-.201	.156	-.348	.312
Confid	242	-.628	.156	-.111	.312

**Appendix 5: Testing Assumption of Linearity – Normal P-Plot of Regression
Standardised Residual**

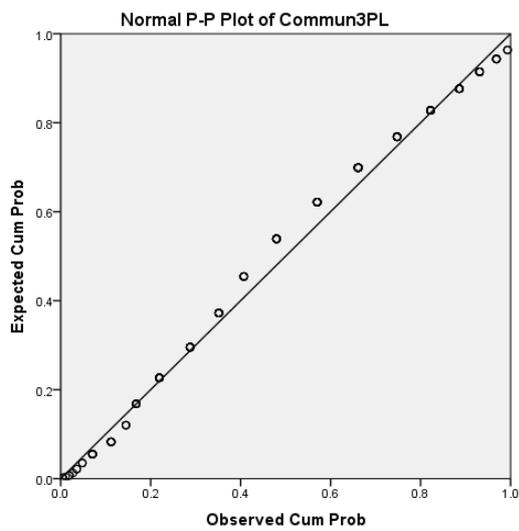
Long-Term Relationship Orientation



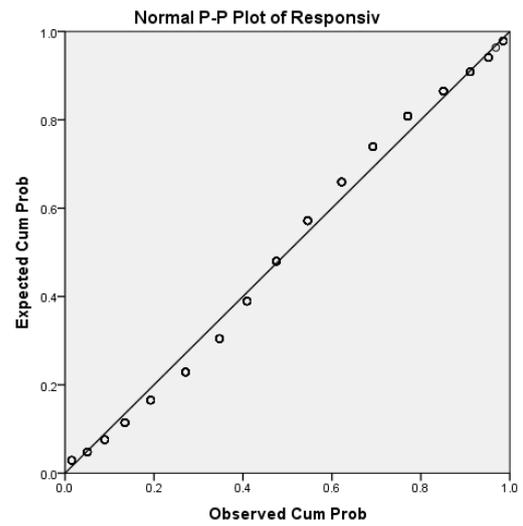
Customer Focus



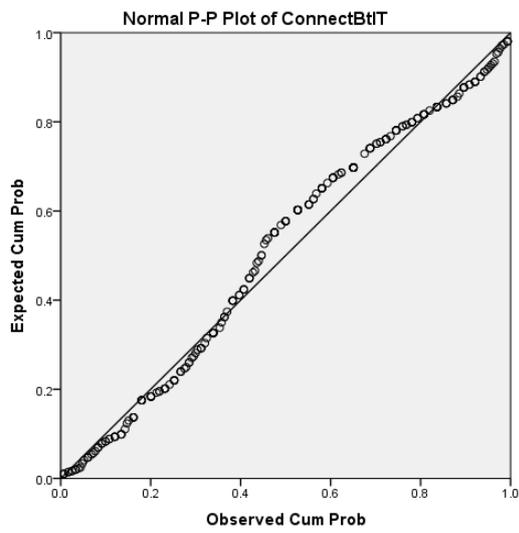
Communication with the 3PL



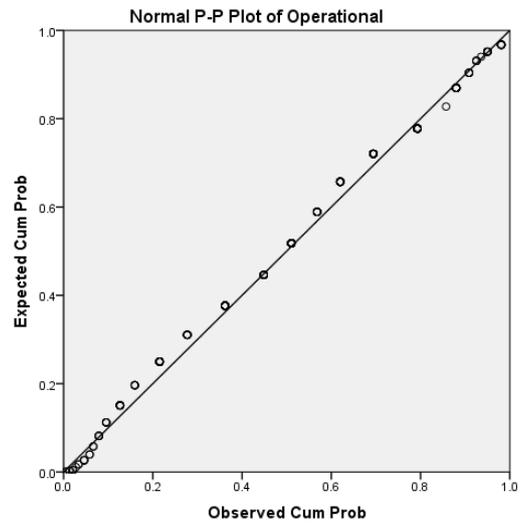
Responsiveness



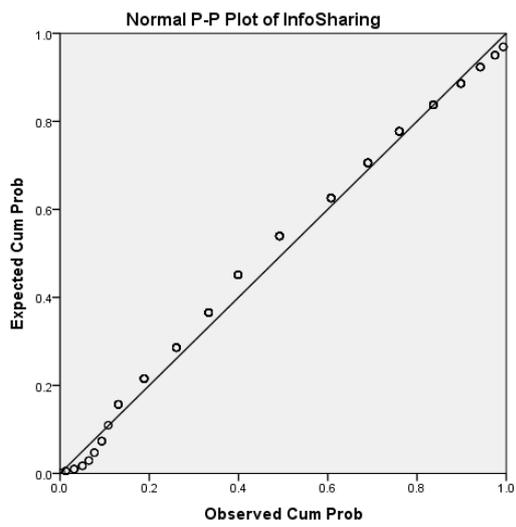
Connectivity between IT Systems



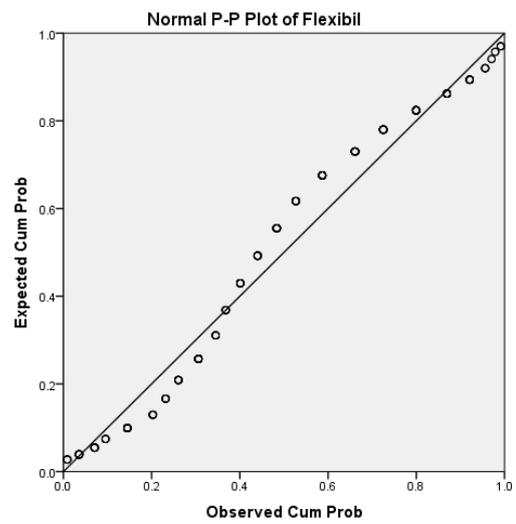
Operational



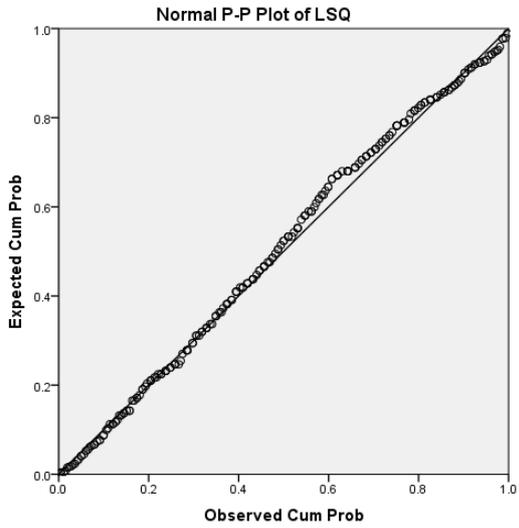
Information Sharing



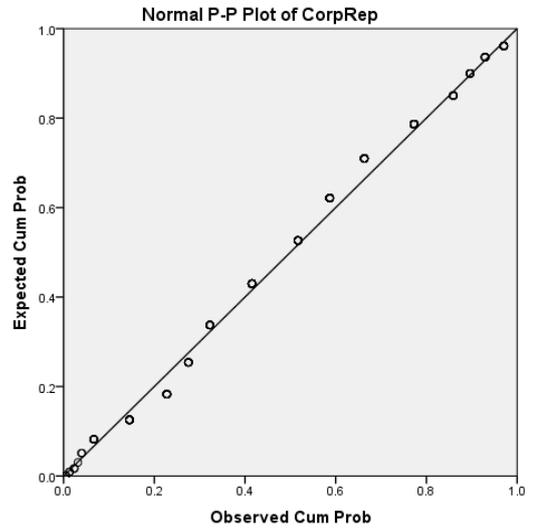
Flexibility



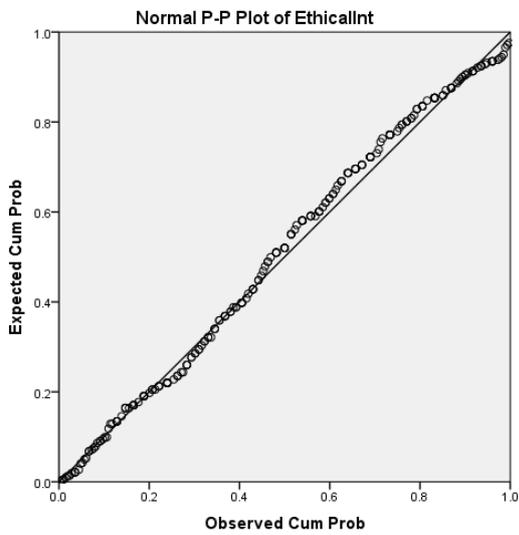
Logistics Service Quality



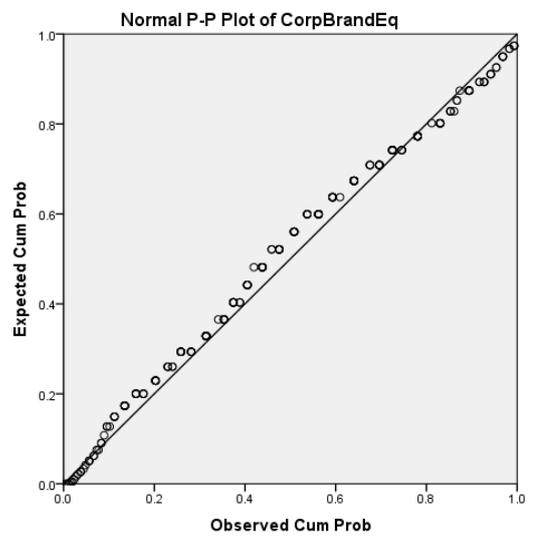
Corporate Reputation



Ethical Integration



Corporate Brand Equity



Financial Performance

