Customer Relationship Value in the Business-to-Business Railway Market of Southern Africa

by

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submitted in accordance with the requirements for
the degree of

DOCTOR OF ADMINISTRATION

in the subject

Business Management

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: Prof Peet Venter

November 2019

DECLARATION

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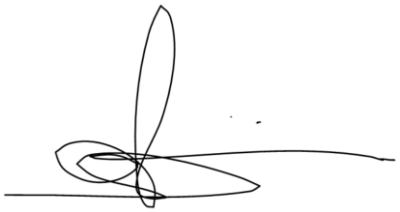
I declare that **Relationship Value in the Business-to-Business (B2B) Railway Industry of Southern Africa is** my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.



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ABSTRACT

This study involves establishing imperative customer relationship value antecedents and mediators within the business-to-business (B2B) railway industry of Southern Africa and determining whether these relationship value antecedents and mediators will achieve customer retention as an outcome. The goal is to create a conceptual model for the B2B railway industry of Southern Africa, which will be done through reviewing well-established theories and past literature on the topics of relationship marketing, relationship value, and retention within the B2B industry. After an examination of the existing literature, a proposed conceptual model will be developed and tested using confirmatory factor analysis (CFA) with a sample of 265 B2B supplier companies operating in the Southern African railway market. The CFA represents the measurement model of this research, which proposes the relationship value antecedents, mediators, and their influence on retention within the B2B railway industry of Southern Africa. Secondly, structural equation modelling (SEM) will be conducted, in order to test relationships with latent factors. The results indicate that the factors of service, supplier, relational, and financial performance are important antecedents, and that satisfaction and relationship value are significant mediators of customer retention in the B2B railway industry of Southern Africa.

KEY TERMS

Relationship marketing, Relationship value, B2B railway industry, trust, satisfaction, retention, Relationship value antecedents, Relationship value mediators

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1 Introduction to the Study

1.1 Background to the Study

On average, companies lose between 15 to 20 percent of their customer base each year, and half of their customers within five years of acquisition (Peppers & Rogers, 2017). Acquiring a new customer is anywhere from five to 25 times more expensive than retaining an existing one (Gallo, 2014). It is therefore not surprising that companies across various service industries are increasingly focusing on implementing customer relationship strategies within their operations.

Customer relationship value in business has attracted the attention of many academics and practitioners. Research within this field seems to focus on the benefits for organisations of enhancing customer service (Toman, Adamson & Gomez, 2017) and the overall realisation that comprehensive customer knowledge is required in order to build superior relationships with customers (Diffley & McCole, 2015). In the business-to-business (B2B) marketing environment, an increasing number of businesses are adopting customer-centric strategies, programmes, tools, and technology for efficient and effective customer relationship management (Parvatiyar & Sheth, 2002; Fotiadis & Vassiliadis, 2017).

Research by Lovelock and Gummerson (2004), and Nyadzayo and Khajehzadeh (2017) on relationship marketing and customer relationship strategies in practice reveals that it adds value to the relationship with, and services provided to, the customer. According to Stringfellow (2017), customer relationship strategies have the potential to increase value to the buyer, as well as to the supplier, whilst value adding at every stage of the relationship improves the relationship and increases profit.

Given the range of relationship strategies available to organisations for targeting the maximum percentage of customers in various types of industries (Grönroos, 1994; Reinartz & Kumar, 2003; Kotler & Keller, 2016), there is little information available, both in practice and theory, on the perceptions of customer relationship value in the B2B railway industry.

The railway industry is both capital-intensive and labour-intensive, and therefore seen as a significant performance indicator of a country's economic expansion (Andersson & Elger, 2007). A recent market analysis study of the railway industry indicated that globally, the railway industry is showing stable growth and is predicted to grow by 2.3% a year until 2020 (Leenen & Wolf, 2016).

This increase is a possible sign that railways might be important to the future of the global economy, supported through various technological improvements, including higher adhesion locomotives, re-engineered rails and cars, better maintenance of way equipment, and automated inspection techniques (McCullough, 2001). In essence, the railway industry might be lucrative, but it still faces serious challenges, such as on-going reputational issues relating to the lack of efficiency experienced by B2B rail customers (Topham, 2017).

B2B rail customers are, in most cases, multi-product companies that require different types of freight transport services (e.g. logistics or freight services), technologies, and products. In this B2B rail industry, the value of strategic relationship marketing can be important, due to the various challenges present in this industry. Challenges such as the dominance of strong, monopolistic incumbent rail operators (e.g. Transnet Group in South Africa), which suppress rivalry and the possible emergence of independent train operating companies (Renner & Gardner, 2010).

Other key challenges include, for example, that the rail industry in Southern Africa remains underdeveloped because of significant gaps in the passenger and freight equipment supply chains (e.g. rolling stock such as locomotives, wagons, and other vehicles). Another challenge is the lack of adequate infrastructure development (e.g. rail tracks, signalling and telecommunication systems, depots, and buildings), as well as skilled people to drive a productive railway operating company.

An underdeveloped railway will lead to unavailability and unreliability of rail transport, which in turn affects the customers' confidence using railways as a main source of transportation (Vromas, 2005). Figure 1 below illustrates this throuhg the basic components required for having an adequate railway system,

which are based on the balance between these elements: rolling stock, infrastructure and people (Löwer, 2013).

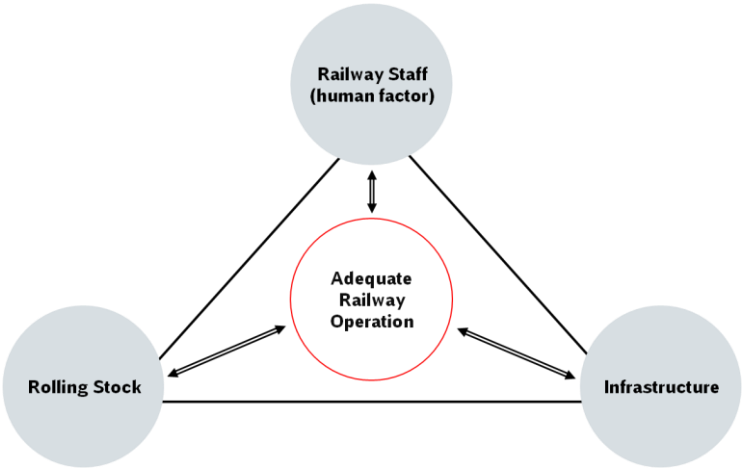

Figure 1: Basic Components for Efficient Railway Operations in Balance (Löwer, 2013).

If an essential element is out of balance in railway operations, for example, infrastructure, interaction between the elements will not be able to produce an efficient and effective railway operation, as illustrated in Figure 2 below.

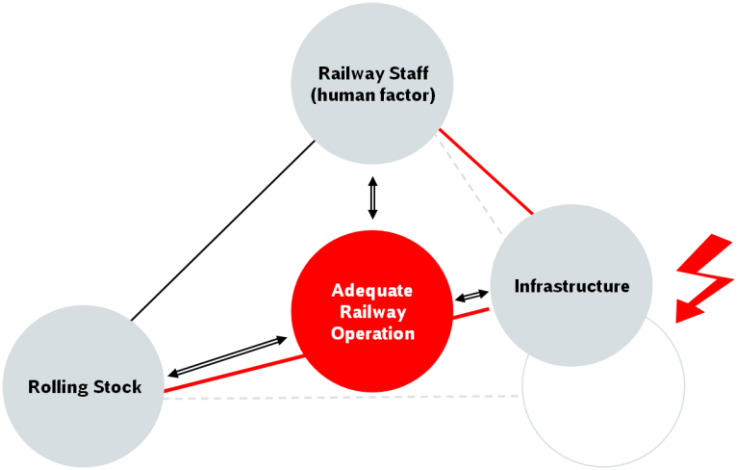

Figure 2: Basic Railway Components in an Unbalanced State (Löwer, 2013).

Railway operators (the company providing the actual rail services to customers) are constantly trying to amend an unbalanced state of operations, and to stabilise or improve any of the basic railway components that are unstable. Whether, for example, it is expanding the infrastructure component to match the rolling stock and human factor requirements, or training people to complement both

components, a balanced state is essential for adequate railway operations (Lö-wer, 2013).

In practice, these components are also fundamental to attracting business within the B2B railway industry, as this industry is constantly exploring ways to attract customers from other transportation modes with new and differentiated product and service offerings, such as the upgrading of rail infrastructure, rolling stock, and people to compete with the increasing usage of road freight services. The Organisation for Economic Cooperation and Development's (OECD's) July 2008 South Africa Economic Survey states that the rail freight market is losing market share to road haulage, as more than 80% of the increase in freight traffic between 2003 and 2005 was captured by road.

In 2015, the OCED Report stated that 85% of the containers are being hauled by road and the other 15% by rail. In order to reverse the rail to road migration, Transnet has expanded its capital expenditure budget to R300 billion over seven years, in order to allow for the upgrading of infrastructure and rolling stock, and the up-skilling of people in the railway industry of South Africa (Department of Public Enterprise, 2012) in order to move freight from road to rail.

It is therefore crucial that the B2B railway industry should be moving towards improved customer relationships and value-added services for customers to re-focus on utilising railway services for transporting goods, which might yield higher profits not only for these customers, but for the entire railway industry.

However, **not enough is known about customer relationship value within the B2B railway industry in Southern Africa.**

1.2 Rationale for the Study

The aim of this study will be to develop and explain a relationship value model for the B2B railway industry, by evaluating existing literature on popular relation-ship development models and test it empirically.

An insignificant amount of research on relationship value in the B2B railway in-dustry has been conducted thus far (refer to the literature review in Chapter 2), and this is an industry that is highly regulated and competitive. Furthermore, the

global railway industry comprises of numerous products and services, including manufacture and operates railway technologies, rail transportation (freight shipments and passenger service), rolling stock manufacturing and so forth – all contribute a vital role in the economy of many countries (Statista, 2017).

The continent of Africa has gone through an economic transformation in the last 10 years, witnessing the highest growth rate globally in excess of 7%. This high and steady growth requires building new infrastructures and upgrading of existing assets, which in turn will further generate growth (African Economic Outlook, 2017).

The global demand for Africa's natural resources and primary commodities is becoming increasingly important as a driver for growth (African Economic Outlook, 2018). Since 2000, as illustrated in Figure 3, the size of the economy of the southern-region of the African continent has more than quadrupled due to infrastructure investments (including railway development) and mineral production (IMF World Economic Outlook, 2017).

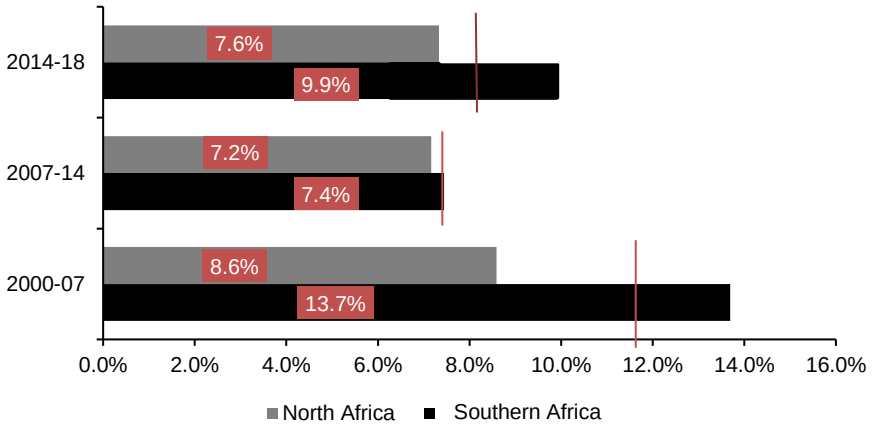

Figure 3: North and Southern Africa Gross Domestic Product (GDP) growth (IMF World Economic Outlook, 2017).

Figure 3 above represents the compound annual growth rate (CAGR) of North Africa and Southern Africa's GDP growth for the given period, as compared to CAGR of Africa's total GDP growth for the same period, represented by a red line.

Looking at the overall concentration of freight rail infrastructure, the southern-part of the African continent far outweighs the north, as capital investments were spent more astutely to develop rail corridors for export of bulk commodities and minerals and import of general freight, along the main ports within the southern-part of Africa as seen in Figure 4 below (Africa 50, 2017).

The main customers utilising freight rail in Africa are mining houses for the transportation of primarily bulk raw commodities for export. The challenge is that the demand required by these customers for rail capacity far exceeds what the national rail operators can manage (Africa 50, 2017).

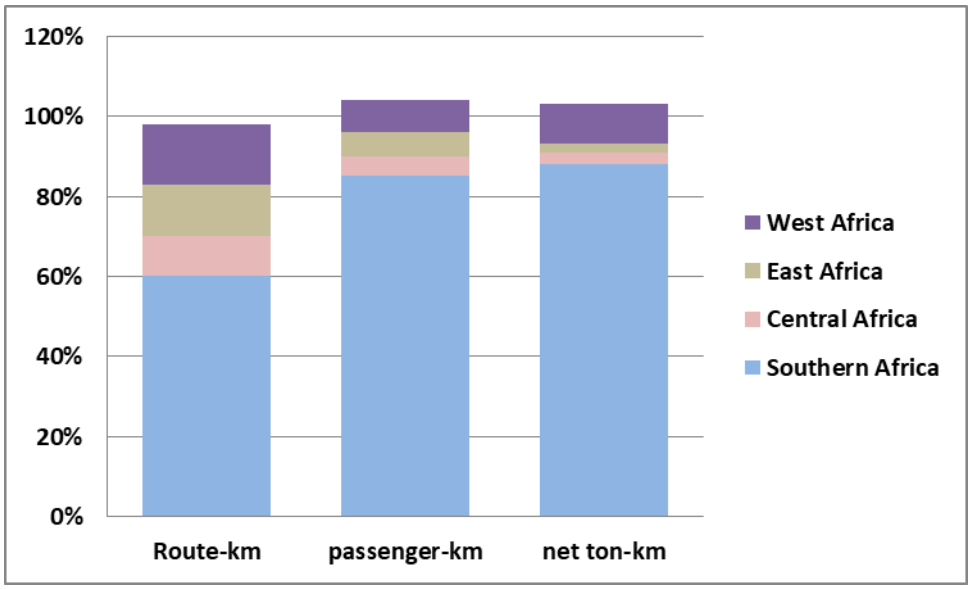

Figure 4: Rail Network Size and Traffic by African Region (World Bank, 2009).

Figure 4 also illustrate the importance of the southern African railway network, with the highest average network density of all African regions. The reason for focusing on the southern African region for this study is based on the overall freight usage of the network, compared to the other Regions (Northern, Western and Eastern African Regions). The World Bank (2009) also stated that due to the light usage of railway network in the other Regions, many railway operators and network owners struggle to generate enough funds to maintain or even renew the infrastructure.

The rationale behind investment into railway development is based on the net ton-km of rail freight trade in these regions, which continues to be primary bulk raw commodities for export, and processed good, oil and gas products for import.

Due the number of challenges, including deteriorated railway infrastructure, lack of proper funding solutions and aged rolling stock over multiple decades, it has created a gap in meeting market demands throughout these African regions (African Development Bank, 2015).

Currently the demand for railway capacity far exceeds what national rail operators in the Southern African region can manage, and although the most developed rail operator, Transnet is trying to manage this market demand backlog, investment to grow the railway system and infrastructure poses a big challenge (Ntuli, 2018).

The present demand for rail suitable cargo capacity is in excess of 400 million tons per annum, and Transnet only meets 44% on average per annum of this demand. As a result, the freight bottleneck is severe, with landlocked countries suffering the most, since access to major ports for imports and exports of goods are regulated and managed by those countries having access to ports – see Figure 5 below (IFC, 2013).

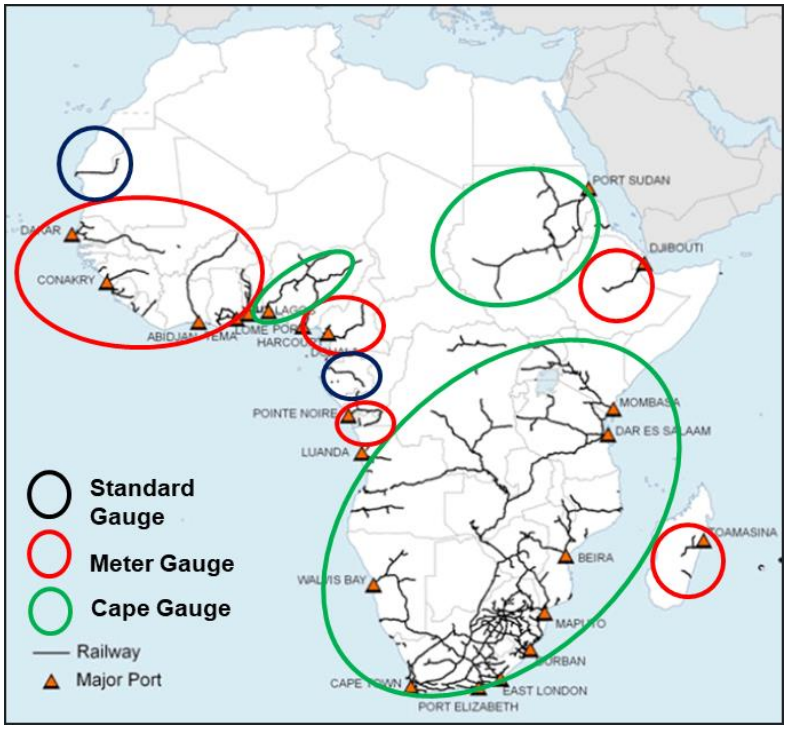

Figure 5: Africa Railway Network (IFC, 2013)

Besides the lack of capacity from rail operators to fulfil the demand of their customers, there are also the issue that the freight that is moved, are done so unreliably and with high cost (African Development Bank Group, 2015).

Therefore, taking into consideration the current service that rail operators in Southern Africa provide their customers, how can these operators improve on the capabilities they currently have to improve their service?

Analysis on improving customer service in the freight railway industry of southern Africa start with gaining insight into the value of customer relationships between the rail operators in southern African and its customers (e.g. mining and production clients).

This study refers to the Southern African Developing Countries (SADC), and Sub Saharan Africa, as several literature citation and research articles (Bullock, 2009; United Nations, 2009; African Development Bank, 2015) utilise different countries on the continent of Africa (for example, various literature exclude Madagascar as part of the Southern African region because of its cultural heritage and language).

In the context of this study, Southern Africa is defined as *"the southernmost Region of Africa"* (Africa Ranking, 2017) and include countries: Angola, Namibia, Zambia, Malawi, Mozambique, Zimbabwe, Botswana, South Africa, Swaziland, Lesotho and Madagascar. It is possible that existing frameworks or models for customer relationship value will not be suitable for a highly regulated, oligopolistic and competitive industry, such as the B2B railway industry. Therefore, the findings of this study will contribute towards the body of knowledge, by developing a customer relationship value framework contextualised for the Southern African B2B railway industry.

1.2.1 The Main Research Question

The overall research question to be answered in this study is the following: What are the key antecedents and mediators to develop a customer relatsionhip value framework for the Southern Africa B2B railway industry?

1.2.2 Objectives of the Study

The purpose of this study is to develop and test a framework for customer relationship value for the Southern African B2B railway industry.

The secondary objectives of this study include:

i. To identify the antecedents and mediating variables from existing literature that play a role in the southern African B2B railway industry;
ii. To propose a conceptual framework based on the literature, depicting the interrelationships between the variables identified above;
iii. To empirically test this conceptual framework to determine the strength of the proposed relationships outlined in the secondary objectives outlined above;
iv. To determine if customer retention is an outcome of relationship value in the B2B railway industry.

1.3 Summary of the Main Theoretical Foundations of the Study

Relationship marketing is a key foundation for this study, and the fundamental tenet of relationship marketing, namely stronger customer relationships, will lead to higher value for suppliers and customers alike. The main theoretical foundations of this study are highlighted in this section, followed by a detailed discussion in the literature review in Chapter 3.

1.3.1 Difference between Customer Value and Customer Satisfaction

This study focusses on the business-to-business customer base within railway industry, which means that distinction between business-expected customer value and customer satisfaction, should be discussed. The objective of this study is not to determine customer satisfaction in the B2B railway industry, but to determine its relevance as antecedent or mediator of relationship value in the B2B railway industry.

Customer satisfaction has gain prominence over customer value in literature (Gummerus, 2013), and different researchers explained customer value and satisfaction differently. Creating customer value is concerned with the total benefit a customer receives exceeding the perceived cost, where the benefit can be, for

example, product or service quality, reliability, delivery performance etc. (Kotler and Keller, 2012).

Since customers have established an expected value as a buying reference (Kotler, 2002) a business that fulfils customer value expectations is more likely to increase customer satisfaction and the chances of repeated sales (Tsai, Tsai ad Chang, 2010: 730 – 731). Woodruff (1997) considers that customer value comprises of customer preferences over service attributes, performance attributes, and results.

Researchers have different definitions for customer satisfaction (Tsai, Tsai and Chang, 2010: 731). In early literature, customer satisfaction was seen as the overall evaluation and the representation of a sum of subjective reactions from a customer towards products or services (Czepiel, Rosenberg, and Akerele, 1974). Literature that is more recent suggests that customer satisfaction is a subjectively feeling (positive or negative) arising from a comparison between pre-consumption expectation and post-consumption perception (Tsai, Tsa and Chang, 2010: 731).

Customer satisfaction is also defined as *"the customer expectation of a product / service and the actual performance of product or service"* (Anderson, Narus, and Rossum, 2006). Moreover, Singh (1991) states that customer satisfaction is a dimension of multiple items evaluated as a satisfaction measurement, which can vary from business to business.

In the railway industry, customer satisfaction is an important and measured key performance indicator by rail operators associated with passenger rail services. Laube and Mahadevan (2008) developed an example of a passenger-rail satisfaction model where it proposes a way of looking at passenger rail services that will contribute to satisfaction.

This model primarily focuses on service availability, punctuality, and reliability as key mediators of customer satisfaction in the passenger-rail service delivery context. In addition, the satisfaction of passengers, as rail customers is based on the relationship between the measured quality of the service (e.g. a punctual train)

and the expected quality of a service (e.g. an enjoyable ride to one's destination within the needs of one's daily schedule).

Determining the satisfaction of railway freight customers is more ambiguous due to the lack of research available on this topic, and because customers are not seen as individuals consuming a rail service, but as a company or business with certain expectations measuring the overall value received from other railway companies (e.g. rail operator or rail product / service supplier).

Although a considerable amount of attention within transport economic research has been given to the value of reliability in railway freight services (Halse & Killi, 2012: 116), limited information is available on customer value concepts, as perceived by customers in the B2B railway industry, which this study aims to explore.

In addition, the terms *"customer value"* and *"customer satisfaction"* are interconnected and convey the importance of the customer to a business (Wamweta, 2016). But, understanding the differences between these two theoretical concepts is useful for the correct implementation within the framework of this study.

1.3.2 Relationship Value Antecedents and Mediators in Literature

Customer relationship value antecedents are variables that are always independent and usually precede other variables (Fuentes-Blasco, Moliner-Velázquez and Gil-Saura, 2014), whilst customer relationship value mediators are variables that cause mediation. This means that the relationship between the independent variable and dependent variable are explained using a third variable, called the mediating variable (Lani, 2018).

Figure 5 below illustrates the basic difference between the antecedent and mediator. This study aims to establish the main antecedents (independent variables) of customer relationship value.

In addition, to determine which variables are the key mediators to the extent that they account for the relationship between the independent and the dependable variable as illustrated in Figure 6 (Namazi and Namazi, 2016).

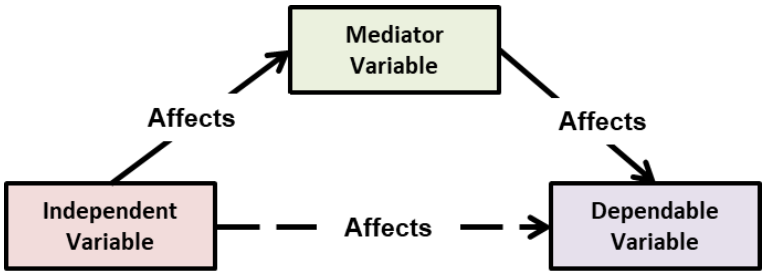

Figure 6: Relationship between independent and mediator variable (Valeri & VanderWeele, 2013)

In various literatures, antecedents of customer relationship value differ from study to study, since researchers have a different perspective of the main drivers (independent variable) of customer relationship value (Theron and Terblanche, 2010), same with customer relationship value mediators.

Therefore, in order to establish the most suitable predictors and mediators of customer relationship value in the B2B railway industry of Southern Africa, relevant models and literature needs to be reviewed.

In order to understand the value of customer relationships in the B2B railway industry, it is important to understand what the customers' expectations (antecedents) are when it comes to B2B services.

Woodruff and Flint (2003) further state that currently, organisations feel pressure to become more responsive to their customers, especially in B2B environments, where these customers have higher expectations in suppliers to provide quality products and services while remaining competitive.

According to this study, which sought to understand how B2B customers perceive value in the B2B environment, found that customers viewed many supplier-attributes as being *"benefits"*, in the sense of having a positive value to them (Flint and Woodruff 2003).

They listed the following relationship value benefits leading to customer relationship value in the B2B context, as customer-preferred characteristics of the seller's service offering: technical service quality; supplier product quality; on-time delivery; and competitive pricing (Flint & Woodruff, 2003: 519).

Similar to this study's attempt in establishing core antecedents for relationship value in a B2B environment (B2B railway industry), the study of Flint and Woodruff (2003) is a foundation for understanding the main elements valued by customers in the B2B environment, which are discussed in the following sections. Understanding that *"customer value"* could be approached from a company's perspective (supplier) or from a customer's perspective is an important theoretical differentor in defining customer value (Graf and Mass, 2008: 3).

It is for this reason, that the Flint and Woodruff study was used as a basis for delineating the railway customer's perceived preferences for evaluating and selecting attribute performances by railway suppliers and the consequences arings from consumption.

1.3.2.1 Technical Service Quality

Service quality relates to the customers' perceived *relationship value* stemming from the quality of the interactions between customer and supplier, such as the relationship between buyer and supplier (Dwyer, Schurr & Oh, 1987; Weitz & Jap, 1995; Wilson, 1995; Voss *et al.,* 2010). Therefore, customers want to trust that a supplier will follow through on its commitment (Flint & Woodruff, 2003: 521).

The Service Quality Model pioneered by Grönroos (1982) emphasises that the customer's perception of quality, and ultimately customer satisfaction, depends on his or her perception of two dimensions of the service: technical quality and functional quality.

According to Grönroos (1982), the technical quality dimension of the service concentrates on what the customer receives, focusing on the technical outcome of the process (e.g. the reliability of a B2B rail operator / supplier in terms of delivering based on its signalling technology; technical knowledge of the B2B rail supplier to maintain its infrastructure, in order to deliver goods safely).

The functional quality dimension concentrates on how the consumer receives the technical outcome (e.g. the attitude of the B2B rail supplier towards building a relationship with the customer).

1.3.2.2 Supplier Product Quality

Product quality from a relationship value perspective entails that a supplier engages in relationships with the manufacturers, in order to source reliable core products (Ulaga & Eggert, 2006). The quality of a product refers to *"its ability to fulfil the customer's needs and expectations"* (UNIDO, 2006). Quality needs to be defined primarily in terms of parameters or characteristics, which will vary from product to product. For example, in the case of rail products, these are performance and safety (Laube & Mahadevan, 2008), as well as reliability (Guo, 2010). The customer will develop trust if the product quality is credible (Meldrum & Milman, 1991). According to Miremadi, Yousefian, Babakhani and Fotoohi (2011: 148), perceived quality is defined as the customer's general opinion about the specific product or service's superiority.

In the context of B2B, Suh and Houston (2010) found that a supplier's reputation is a significant and positive antecedent to a buyer's effective commitment to a relationship, and to that buyer's willingness to invest in the future of the relationship. Otubanjo and Chen (2011) defined supplier reputation as a functional phenomenon arising from the creation of a variety of valuable attributes, which differentiate suppliers, foster relationships, and make business organisations famous over time, through the formal and informal lines of corporate communication.

1.3.2.3 On-Time Delivery

On-time delivery refers to the ability of the supplier to meet delivery schedules (Ulaga, 2003: 684) and delivery flexibility (Ulaga & Eggert, 2006: 123). It can also mean faster and completed cycle times by a supplier from the development stage to manufacturing and delivery of end-products to the customer (Ulaga & Eggert, 2006: 127).

Faster cycle times are increasingly economic and beneficial for customers, especially in the railway industry. Railway transportation is an example of a business, where the demand for freight and passenger transport driven by overall challenges in economic conditions, which are impacted by the delivery of volumes (Guo, 2010: 105). Other important aspects such as *"access, speed of delivery, service quality, regular consultation, privacy, being treated with dignity and*

respect are being weighted as the foundation of managing customer relationships" (Subban, Pillay, Bhowan, and Raga, 1997: 36).

1.3.2.4 Competitive Pricing

Committed customers, by definition, want to maintain valued relationships, hence they cooperate with sellers, even in the absence of a *quid pro quo* benefit, in order to strengthen and maintain their important customer–seller relationships (Morgan & Hunt, 1994). Research shows that trust, commitment, and relationship quality between exchange partners are critical for cooperation (Hewett & Bearden, 2001; Palmatier, Dant, Grewal, and Evans, 2006).

However, some scholars argue that switching costs can significantly influence customer loyalty through determinants such as customer satisfaction (Fornell, 1992; Lee, Lee & Feick, 2001) and perceived value (Zauner, Koller & Hatak, 2015). Switching costs are not only economic in nature (Morgan & Hunt, 1994), but can also be psychological and emotional (Sharma & Patterson, 2000).

The most recent survey conducted by Forestry South Africa (2010) on the modes of transport used to move timber among eight leading growers confirm that there has been a dramatic shift from rail to road over the past five years. The survey respondents gave a variety of reasons for switching over from rail to road, which include: High tariffs; Inefficient service rendered; Branch line closures; and Customers' operational changes. The study indicated that, for example, timber transported by rail requires freight tariffs to be reduced to realistic levels, in order to retain the current volumes.

1.3.3 Relationship Value Mediators

Existing literature proposes number customer relationship value mediators, however researchers disagree about which one best captures the characteristics of a relational exchange that influence performance between customer and supplier (Palmatier, Dant, Grewal and Evans, 6008: 136).

It has been viewed by various scholars that commitment and trust are customer relationship value mediators (Palmatier *et al.,* 2006: 137; Sohail, 2012), and central to relationship value (Morgan & Hunt, 1994: 23). Other scholars propose that customer satisfaction (Piening, Ehrmann & Meiseberg, 2013; Jemaa & Tournois,

2014) as part of trust and commitment is important in predicting exchange performances.

According to Bricci, Fragata, and Antunes (2016), trust is a fundamental element of most relationship models. The Key Mediating Variable model (KMV-Model) is one such model developed by Morgan and Hunt (1994). This model focuses on the commitment-trust mediating theory, which maintains that two fundamental factors, namely trust and commitment, must exist for a relationship to be successful.

Berry (1996: 42) offers, *"trust as perhaps the single most powerful relationship marketing tool available to a company",* and Spekman (1988: 79) suggests that trust is the *"cornerstone"* of long-term relationships. Trust is also an output of service quality, as shown by Cho and Hu (2009), which further increases the willingness of customers to build strong relationships. On the other hand, commitment plays a crucial role in creating a network or relationship with customers and suppliers (Wetzels, Ruyter & Birgelen, 1998). Commitment is an important part of long-term relationships (Morgan & Hunt, 1994).

It is important to understand that commitment and trust are not the only customer relationship value mediators, according to literature. Another key B2B relationship value mediator is identified in research as satisfaction (Mbango and Phiri, 2015: 82). According to Palmatier *et al,* (2006), satisfaction refers to a customer's affective or emotional state toward the relationship with a supplier. Although commitment and trust have critical roles as mediators in relationship value, other mediators might include relationship satisfaction, exchange efficiency, equity, relational norms, and reciprocity (Palmatier *et al,* 2006: 152).

Therefore, reviewing mediators leading to value creation within the B2B industry are further reviewed and analysed in Section 4.3 of this study.

In essence, understanding relationship value mediators within the B2B environment and its connection to customer retention will have a major impact on how relationships are developed and managed, and might therefore be significant concepts within the railway industry to be further evaluated.

According to an Accenture survey conducted in 2015 within the passenger railway industry, nearly eight out of ten senior marketing executives stated that

"growing profitably" was most important to their current marketing strategy. To support this renewed focus on growth and customer retention was seen as the most important business issue by seventy-nine percent of marketing executives.

The concept of retaining customers in the rail freight industry, however, has not been widely studied in the B2B context.

1.3.4 Retention as potential Customer Relationship Value Outcome

Customer retention is a primary objective of customer relationship management (Natataj, 2010: 44). The reason for this is that customer retention, as an outcome of relationship value, reduces acquisition and business activity costs, which are much higher attracting a new customer (Yoda & Kumakura, 2007). Empirical evidence indicates that retention contributes to the financial wellbeing of an organisation, and further assist practitioners identify how and why customers are satisfied with an organisation (Natataj, 2010: 46).

According to Sohail (2010: 238) customer retention also refers to the actions a selling organisation undertakes to reduce customer defections and is concerned with maintaining the business relationship between selling organisation and the customer (Gerpott, Rams and Schindler, 2001).

Gustafsson, Johnson and Roos (2005) identified the main drivers of customer retention as satisfaction and commitment - where satisfaction is concerned with the customer's evaluation of the service / product performance (Aksoy, Keiningham and Bejou, 2014) and commitment, a continuity of the existing relationship.

Retention is an important concept to explore for the purposes of this study since it is a potential outcome of relationship value, with satisfaction and commitment as main drivers.

1.4 Key Definitions

Certain terms related to this study, also especially within the Industry, must clearly be defined in order to understand the context in which it is used. The next section will focus on defining key concepts important to the foundation of this study.

1.4.1 *"B2B Railway Industry"*

While conducting the literature review for this study, it became evident to the researcher that there is a paucity of information on the specific meaning of the "*business-to-business (B2B) railway industry,"* and precisely what it entails.

According to Zimmerman and Blythe (2013), five basic modes of transportation are involved in the B2B marketplace. Goods are shipped by road, rail, air, water or, in some cases, via pipeline. This means that the transportation element within the B2B marketplace refers to the entire logistics process. Lambert, Cooper and Pagh, (1998) defined this as the "*part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption in order to meet customers' requirements."*

In other words, logistics are concerned with the storage of inventory and the movement of goods through distribution channels to meet customer requirements (Hübner, Holzapfel & Khun, 2016).

The focus of this study is on providing customer value through the management of an existing relationship, rather than the actual transportation of goods through channels to satisfy the customer.

In the context of this study, relationship management is also reviewed and can be defined as *"a strategy designed to foster customer loyalty, interaction, and long-term engagement. It is designed to develop strong connections with customers by providing them with information directly suited to their needs and interests and by promoting open communication"* (Olenski, 2013).

Railway freight transport is a part of the supply chain (Guo, 2010: 106), which consists of all parties involved, directly or indirectly, in fulfilling the customer request (Chopra, Dougan, and Taylor, 2004), and is a major contributor to the economic growth of a country (Button, 1993: 243). These customers operate in the B2B industry, which means that the end-customer is an organisation and not a consumer (Brennan, Canning and McDowell, 2011).

Since there is no universal definition of the *"B2B Railway industry"*, the various definitions relating to this topic are examined in Table 1 below according to the

classifications of: how researchers / practitioners view it; what is the purpose of this industry; and who is it with.

The B2B Railway Industry			
Is part of	**Viewed as**	**For the purpose of**	**With whom**
Supply chain	B2B marketplace	Value creation	All parties involved
Transportation	Transport cargo	Economic growth	Customers
Logistics	Freight rail		
Outcome: To satisfy the customer needs			

Table 1: Different definitions of the B2B Railway Industry (Author)

Based on Table 1 above, as well as the different definitions relating to the B2B railway industry, the author concluded that for the purpose of this study, the *'B2B railway industry'* can be defined as: ***Railway freight services that aim to create value by satisfying the needs of business customers.***

1.4.2 Defining Relationship Marketing

Based on the literature that was reviewed, no universal definition exists for the term *"relationship marketing."* However, it is important to review the available definitions of relationship marketing, in order to understand its position within the B2B railway industry of Southern Africa.

According to Gummesson (1997), searching for a universal definition of relationship marketing is a *'ghost-hunt'* and unnecessary. Nevertheless, he defined this concept as *"marketing seen as relationships, networks and interaction."*

As much as the practice of relationship marketing has evolved, so has its meaning. Relationship marketing has been used generically as a phrase to cover various activities, with a distinction being made between its philosophical, strategic, and operational dimensions (Berry, 1996).

Supporting the idea that relationship marketing is constantly mutating, Palmatier (2008) defined relationship marketing as "*a concept that consist of many facets, or multiple targets that occur simultaneously and have divergent effects on performance"*.

Buttle (1996) defined relationship marketing as *"a concept that promotes mutually satisfying relationships with customers, in such a way that cannot be duplicated by one's competitors."*

Grönroos (1997: 407) defined relationship marketing as: *"the process of identifying and establishing, maintaining, enhancing, and when necessary, terminating relationships with customers and other stakeholders, at a profit, so that the objectives of all parties involved are met, where this is done by a mutual giving and fulfilment of promises".*

Peck (2014) argued that the concept of relationship marketing originates in service marketing theory, which *"focuses on the construction of long-term relationships between the company and group of customers."*

Harker (1999: 16) proposed the following definition of relationship marketing: *"an organisation engaged in proactively creating, developing and maintaining committed, interactive, and profitable exchanges with selected customers (partners) overtime is engaged in relationship marketing".*

Most recently, Lilien and Grewal (2012) relied on and extended their perspectives to propose the following definition: *"relationship marketing is the process of identifying, developing, maintaining and terminating relational exchanges with the purpose of enhancing performance*."

As illustrated by the above, there is no universal definition of relationship marketing, and through these definitions, several questions are raised regarding the actions and interactions that are necessary to ultimately develop and manage such a relationship (Woodside, 2010: 34). This will be further explored during this study.

Furthermore, defining the purpose of relationship marketing will assist suppliers involved in the B2B railway industry in the identification, evaluation and benchmarking of relationship marketing performance against set objectives, such as financial, strategic, marketing and operational objectives (Parvatiyar & Sheth, 2000: 13).

Fournier, Dobscha and Mick (1998) also stated that relationship marketing builds relationships with customers that are more significant, and that this may be reflected in improved business performance (cited in Woodside, 2010: 33).

Parvatiyar and Sheth (2002) identified relationship marketing as a process for improving marketing productivity and enhancing mutual value for the parties involved in the relationship.

Battacharya and Sen (2003) confirmed that the ultimate goal of relationship marketing efforts for the organisation is to create an advocate who is loyal and recommends the company and its products (and services) to others.

Similarly, Liang, Wang and Wu (2006) were of the opinion that the main purpose of relationship marketing is to increase customer loyalty.

Andersson and Karlström (2014: 2) stated the following: *"relationship marketing is a strategically important tool to use to obtain and secure the result of customer's loyalty, which leads to higher competitiveness and also enhanced satisfaction among the customers."*

Furthermore, Gordon, McKeage and Fox (1998) claimed that relationship marketing is based on the following six propositions, including:

- Relationship marketing pursues value creation for customers; It recognises that value is created only with customers;
- It requires the company's business processes to be designed so that they provide value to customers;
- It involves continuous cooperative efforts between buyer and seller;
- It recognises the life-time value of customers and attempts to tighten bonds with them; and
- Relationship marketing seeks to build a chain of relationships, both within and between organisations.

The main purpose of relationship marketing, according to Harrison and Estelami (2014), is to attract, maintain, and enhance customer relationships in the long term.

Lastly, the locus of benefits derived from relationship marketing activities is another facet of relationship marketing (Palmatier *et al.,* 2006). For example, in order to be successful, both parties must benefit from the value to the seller and the buyer in a dyad. Dyadic relational constructs will be evaluated in the literature review chapters of this study.

The table below summarises the different definitions of relationship marketing discussed as part of the literature review of this study.

Relationship Marketing occurs:			
Through	**Viewed as**	**For the purpose of**	**With whom**
Establishing	Relationships	Profit	Customers
Enhancing	Exchanges	Enhancing performance	Stakeholders
Recognising	Interactions	Creating an advocate	Selected customers
Pursuing	Networks	Word-of-mouth	
Developing		Competitiveness	
Maintaining		Attracting Customers	
Securing		Retaining Customers	
Obtaining		Tightening bonds	
Identifying			
Committing			
Focusing			
Proactively creating			
Constructing			
Promoting			
Terminating where necessary			
Outcome / Objective: Mutually giving and fulfilment of promises as part of value creation			

Table 2: Different definitions of Relationship Marketing (Author)

Based on the different definitions reviewed and summarised in Table 2 above, relationship marketing can be defined, in the context of this study, as: *"To maintain relationships to retain customers, aimed at giving and fulfilment of promises as part of value creation"*.

1.5 Research Methodology

The discussion of the research methodology in this section is based on the *"Research Onion"* developed by Saunders, Lewis and Thornhill, (2012). This section provides an overview regarding the main research methodology decisions pertaining to this study. The research methodology will be discussed in detail in Chapter 5.

1.5.1 Research Philosophy

Saunders, Lewis and Thornhill (2012: 129) highlighted two major ways of thinking about research, namely ontology and epistemology. In this study of customer relationship value, the ontology is concerned with producing valid knowledge about value as an outcome of customer relationship value in the B2B railway industry.

The epistemology of this study is to gather evidence in practice of customer relationship values in the B2B railway industry, and to search for current themes and relationships, in order to make generalisations. The idea behind this study is to use existing theory to develop and test, in order to either confirm or refute the hypotheses, thereby leading to the further development of theory (Gill & Johnson, 2010). Relationship marketing is considered to be pragmatic, but it also incorporates a philosophical stance relating to positivism (Beverland & Lindgreen, 2010).

However, a comparison made by Saunders, Lewis and Thornhill (2012: 140) of all four research philosophies in business and management research suggests that positivism will be the most suitable epistemology for this study. This is based on the idea that data will be collected on an observable reality (e.g. customer relationships in the B2B railway industry), by creating and testing hypotheses based on existing theory.

1.5.2 Research Approach

The purpose of this study is to develop a conceptual framework whereby interrelationships between various constructs, leading to customer relationships within the B2B railway industry, are outlined. The use of a deductive approach, based on the objectives outlined for this study, will support the testing of the theoretical proposition of customer value perceptions of the B2B railway industry in Southern Africa. In addition, deductive post-positivism seems to be a predominant research approach in business, transportation and logistics, in order to test existing theory (Näslund, 2002).

1.5.3 Methodological Choice

A variety of methodologic approaches exists for individuals interested in conducting research. The methodological option allows us to establish a research

strategy that is appropriate for the problems that need to be solved, in order to achieve the aims and objectives of the study (Zait & Zait, 2009: 903). The critical element of a well-planned study is the consideration of whether a qualitative or quantitative approach, or a combination of both approaches, is best suited to the purpose and nature of the study (Patton, 2002).

Saunders, Lewis and Thornhill (2012: 161) mentioned the following methodological choices: mono method qualitative, mono method quantitative, multi-method qualitative, multi-method quantitative, mixed method simple, and mixed method complex.

This study will pursue survey research, which is defined as *"the collection of information from a sample of individuals through their responses to questions"* (Check & Schutt, 2012: 160), where the primary purpose of this type of survey research is to obtain information describing the characteristics of a large sample of individuals of interest relatively quickly (Ponto, 2015).

Furthermore, according to Ponto (2015), this type of research allows for a variety of methods to recruit participants, collect data, and utilise various methods of instrumentation, such as quantitative research strategies (e.g. using questionnaires with numerically rated items), qualitative research strategies (e.g. using open-ended questions), or both (e.g. mixed methods).

Based on the research philosophy envisaged for this study, a quantitative research is normally associated with a post-positivism paradigm, where the researcher will explore the relationship between the variables in the study, which are analysed through a range of statistical techniques (Saunders, Lewis and Thornhill, 2012: 162).

1.5.4 Research Strategies

Saunders, Lewis and Thornhill (2012: 173) defined the research strategy as a plan of how a researcher will answer the research questions. In other words, the choice of a research strategy will be guided by the study's research questions and objectives.

A survey strategy, usually associated with a deductive research approach, will be used in this study to answer the research questions. This strategy therefore

tends to be used for explanatory research (Saunders, Lewis & Thornhill, 2012: 177).

According to Ponto (2015), survey research is used to quantitatively describe specific aspects of a given population. These aspects often involve examining the relationships among variables. Secondly, the data required for survey research is collected from people and is therefore subjective. Finally, survey research uses a selected portion of the population, from which the findings can later be generalised back to the population. Before conducting the survey, the researcher must predicate a model that identifies the expected relationships among these variables.

The survey is then constructed to test this model against observations of the phenomena (McIntyre, 2001).

Surveys can also be used to assess needs, evaluate demand, and examine impact (Salant & Dillman, 1994). Questionnaires, structured observations, and structured interviews are not the only data collection techniques that also belong to the survey strategy (Saunders, Lewis & Thornhill, 2012: 178).

This study will therefore adopt a survey strategy, with mainly quantitative research in the design, since the primary aim will be to analyse the data, statistically, describing numerical distributions of variables in the population.

1.5.5 Time Horizons

According to Saunders, Lewis and Thornhill (2012: 190), the time horizons for a research design will be either cross-sectional or longitudinal. Cross-sectional studies are normally employed by survey strategies, which seek to explore the relationship between variables of the study (e.g. customer value perceptions of B2B rail suppliers and technical service quality). This study will employ a cross-sectional time horizon in order to evaluate customer value perceptions of B2B rail suppliers.

1.5.6 Techniques and Procedures

Based on the amount of time available to execute this study, the following data col-lection techniques and procedures will be used to fulfil the research objectives and answer the main research question related to this study.

1.5.6.1 Universe and Sample

The universe will comprise of approximately B2B railway customers from different industry-based segments operating within Southern Africa, the southernmost region of the African continent. The type of organisations that this study aims to get access to, in order to collect data, will be B2B railway industry customers in industry-based segments that can also use road transport to move their goods from one point to another within Southern Africa (e.g. automotive, agricultural, fuel and chemical, timber, and mining segments).

The research sample will consist of 110 respondents within customer organisations, who are decision-makers able to provide an adequately representative view of their organisations' customer relationship value with B2B railway operators in Southern Africa. These respondents will be in senior management positions in the administrative, sales and marketing departments of their respective organisations, and responsible for continuously distributing goods to the B2B railway operators in Southern Africa.

Structured quantitative questionnaires, using primarily Linkert-scale measures, will be developed in line with the theoretical framework. Due to the sample size, it will be important to achieve a high response rate, in order to reduce the risk of non-response bias, and to ensure that the responses are representative (Groves & Peytcheva, 2008).

The possible risk related to non-response in this study will be the refusal to respond to questionnaires, inability to locate respondents for the questionnaires, and the failure of respondents to make contact with the researcher. It is therefore important to consider appointing a *"gatekeeper"* to assist with the data collection process, especially considering the geographic locations of respondents in Southern Africa. The researcher will apply for financial assistance from the University in order to appoint a gatekeeper.

The unit of analysis for this study relates to the objectives of the study, as well as the research questions. The main objective of this study is to determine the key relationship value antecedents in the B2B railway industry.

1.5.7 Data Analysis

Structural equation modelling (SEM) will be used to analyse the complex, if the data permits, to analyse the complex relationships amongst variables as an outcome of the data collection process. SEM is a series of statistical methods that allows complex relationships between one or more independent variables, and one or more dependent variables, to exist (Schreiber, Nora, Stage, Barlow and King, 2006).

Structural equation models (SEM) allow for both confirmatory and exploratory modelling, which means that SEM is suited to both theory testing and theory development. Confirmatory modelling usually starts with a hypothesis, which is represented in a causal model. The concepts used in the model must then be operational, in order to allow for testing of the relationships between the concepts in the model. The model is tested against the obtained measurement data to determine how well the model fits the data.

The causal assumptions embedded in the model often have falsifiable implications, which can be tested against the data (Bollen & Long, 1993).

Because SEM has the ability to model complex relationships between multivariate data, the sample size considered for this study will be an important factor. The research sample will consist of more than 100 observations, as a larger sample size is desirable for SEM.

The general steps in structural equation modelling are the following: Specification, Identification, Estimation, Testing, and Modification (Bagozzi & Yi, 2011). The detailed suggested approach to SEM analysis, according to Kline (2012), normally proceeds as follows:

- Reviewing relevant theory and research literature to support model specification;
- Specification of a model;
- Determining model identification - for example, deciding whether a set of unique parameter estimates can be computed for the regression equation;
- Selecting measures for the variables represented in the model;
- Collection of the data;

- Conducting a preliminary descriptive statistical analysis;
- Estimation of parameters in the model;
- Assessing model fit;
- Re-specification of the model, if meaningful;
- Interpretation and presentation of the results.

A statistician will be consulted regarding the reliability, validity and quality of the research instruments, in order to ensure that all the collected data will be functional and yield significant results.

1.6 Ethical Compliance

Ethical compliance is regarded as crucial for the purpose of this research. It is therefore important that in planning and executing this research, as well as in reporting the research findings, the researcher meets the ethical requirements set forth by the University of South Africa's (UNISA) Policy on Research Ethics and complies with the guidelines for UNISA's Ethical Review. This study has been planned in order to minimise the possibility of any misleading results, and therefore meets the standard for ethical acceptability.

Ethical clearance was granted to conduct the research, based on the informed consent of participants, in accordance with what this research implies. In other words, before collecting data through questionnaires and structured interviews, the researcher will present a non-disclosure agreement letter from UNISA to all the respondents, in which the background to the study is provided, as well as the fact that the researcher is a student at UNISA. The letter will also state that all the necessary information has been disclosed to the respondents, and that no deception is taking place. The required approval will be obtained from the Research Ethics Committee of UNISA.

1.7 Delimitations

This study focused only on the B2B railway industry of Southern Africa, and therefore did not take the passenger railway industry of Southern Africa into consideration, since the relationship value antecedents and mediators might differ from the B2B railway industry.

The aim of this study is not to compare different methods of freight transportation in Southern Africa, such as road freight. The *"road versus rail"* debate is discussed in this study to elevate the importance of a reliable, efficient, safe and cost-effective rail service that could meet the needs of customers.

The study took the *"benefits of relationship value"* into consideration, and although the "sacrifices" of relationship value are assessed during the literature review, these will not be included in the final structural model, because the model will not measure both relationship value *"sacrifices"* and *"benefits".*

It is important that rail relationship sacrifices be investigated in future research in order to enhance the understanding of relationship value sacrifices in the railway industry.

This study constituted a snapshot approach, which does not define relationship value in the long-term, since the research was undertaken with limited financial resources.

1.8 Chapter Outline

Chapter 2 provides an overview of the B2B Railway Industry.

Chapter 3 presents the theoretical foundations of the Study

Chapter 4 outlines the main Antecedents and Mediators.

In Chapter 5, the Research Methodology used in this study, which addresses the research questions and objectives

Chapter 6 presents the Research Results and Findings from the survey.

Chapter 7 concludes the study by outlining the research outcomes and highlighting recommendations for future research.

2 An Overview of the Southern African B2B Railway Industry

2.1 Introduction into Chapter 2

This chapter reviews the current business-to-business (B2B) railway industry of Southern Africa. The main topics covered in this Chapter include an overview of the quality of the Southern African rail infrastructure from an operating perspective, and the importance of customer relationship value in the railway industry. Lastly, a brief analysis of the road versus rail debate is discussed in order to outline certain challenges this industry face.

The layout of this chapter is illustrated in Figure 7 below.

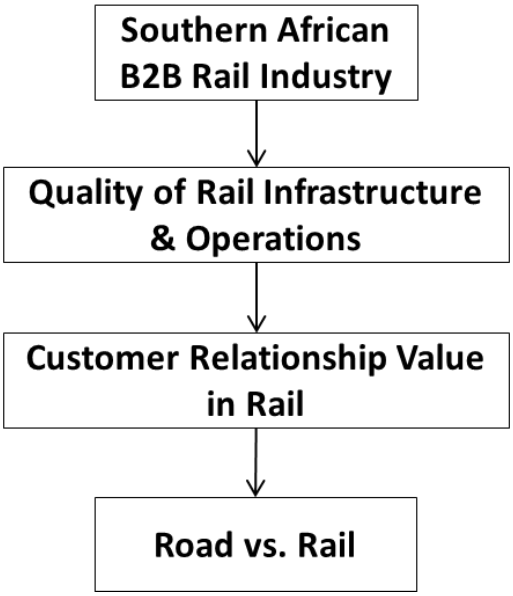

Figure 7: Layout of Chapter 2 (Overview of Southern African B2B Railway Industry)

Railways have been the backbone of public and freight transportation and are vital to any country's economic development (Wong & Ho, 2010: 8109; Clinnick, 2017).

However, this industry is marked by increasing competition from other transport modes (Piening, Ehrmann & Meiseberg, 2013: 1) and strict regulations (Wong & Ho, 2010: 8109).

2.2 The current context of the B2B Railway Industry in Southern Africa

According to an attractiveness survey for Africa 2015 by Ernest & Young, southern Africa attracts one-third of Foreign Directive Investment (FDI) projects in the entire African continent and has been growing at a CAGR of 10.8% since 2007, which offers an export market for natural resources and primary commodities transportable on existing rail network and infrastructure (Ernest & Young, 2015).

The region of the African continent south of the Congo and Tanzania is called *"Southern Africa", including* Madagascar, which is located to the east of the continent, in the Indian Ocean (Finlayson, 2016). The mainland region has extensive mineral deposits that provide resources for its countries to gain national wealth (African Development Bank, 2015: 29). The following countries make up *"Southern Africa"*: Angola, Namibia, Zambia, Malawi, Mozambique, Zimbabwe, Botswana, South Africa, Swaziland, Lesotho and Madagascar. All countries within Southern Africa, has a railway network linked to various ports and landlocked countries across the region (refer to Figure 8).

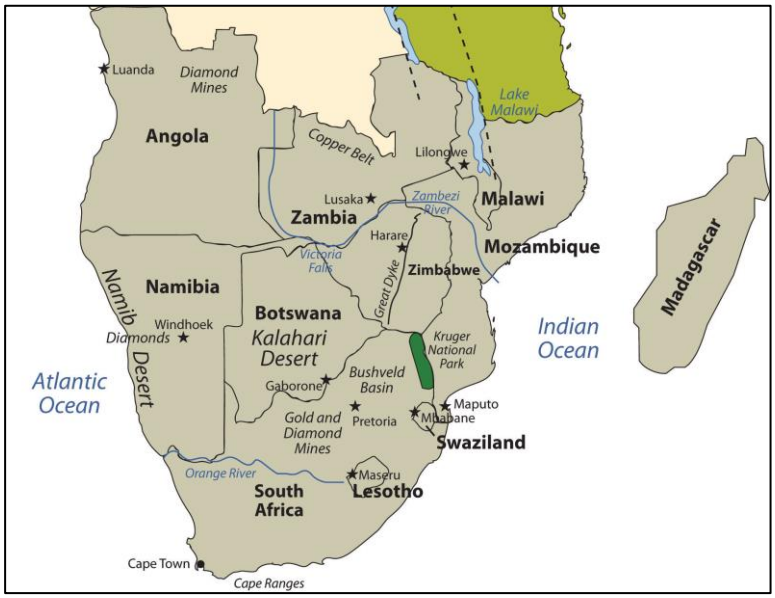

Figure 8: Southern African Continent (Finlayson, 2016)

Figure 8 illustrates the Southern African continent, on which this study focus since railway-operating data for research purposes are more readily available, due to its existing freight rail systems currently being used for freight transport through main corridors (African Development Bank, 2015: 25).

Although individual countries made up the southern-part of the African continent, this study focuses on the entire region. The reason for this decision is that freight trade surpasses a single rail network, line and operation in a country (Ntuli, 2018), and concentrate on corridors running through various countries, especially countries that are landlocked (e.g. Botswana, Zambia, and Malawi).

This is because landlocked countries will financially benefit from a well-operated, maintained, serviced railway corridor that allows its commodities to be transported out and container goods into the country (African Development Bank, 2015).

2.2.1 Railway Activity in each Southern African Country

Even though individual countries constitute for the southern-part of Africa, the relevance of railway in each country is summarised in Table 3 below, in order to get an understanding of the actual situation and need for future railway development.

Country	**Rail Network Total**	**Freight Rail Operators**	**Freight in million ton-km via Rail (World Bank, 2016)**	**Main Commodities Transported via Rail & Condition of the Road Infrastructure**
Angola	2,761 km	Caminho de Ferro de Benguela	398	**Commodities:** Oil represents about 1/3 of Angola's GDP and over 95% of its exports. Much of the Angola railway network has been damaged due to civil war and not operational since the last 20 years (World Bank, 2009). **Road Infrastructure:** Roads are one of the main bottlenecks for the development of the road transport industry. The condition of the roads ranges between fair and bad therefore, increasing the freight cost and the difficulty in getting access of foreigner currency for imports (Styles, 2017).
Namibia	2,382 km	TransNamib	654	**Commodities:** Uranium, Copper, Coal, Zinc, machinery for mining, and other exporting mining products. **Road Infrastructure:** Currently, according to Saruchera (2017) the most commonly preferred mode of transport is road transport (94%) compared to rail (6%). According to the Global Competitiveness Report (Schwab, 2017), Namibia currently has some of the best quality roads infrastructure globally and the best in Africa.
Zambia	1,237 km	Zambia Railways	512	**Commodities:** Zambia is the second largest producer of copper in Africa and the industry relies heavily on the roads for shipping exports and mine inputs overseas through eight neighbouring countries.

				Road Infrastructure: In the approximately 37,000 km road structure, 6,476 km are surfaced to class 1 standard and are bituminous. The earth and gravel roads account for almost 8,478 km and 21,967 km respectively (Zambia Transport, 2016).
Malawi	797 km	Malawi Railways	238	**Commodities:** Malawi is land-locked and importer of fuel, therefore relatively high transport costs. Export traffic consists of sugar, tobacco, tea and pigeon peas. **Road Infrastructure:** Principal highways in Malawi poses safety hazards include the lack of road shoulders, frequent potholes, pedestrians, bicyclists and livestock. Secondary roads are not maintained and in poor state (Country Report, 2018).
Mozambique	3,116 km	Caminhos de Ferro de Moçambique	1,193	**Commodities:** The ports of Maputo, Beira and Nacala are used by its neighbouring countries to export and import a substantial part of their commodities. As such, Mozambique is a transit country (Meere, 2004). Mozambique is responsible for 70% of goods transit in the Southern African Development Community (SADC), with logistics corridors linking the deep-water coastal ports with the neighbouring countries (PwC, 2017). **Road Infrastructure:** Mozambique has one of the least developed road transport infrastructures in the Southern African region, with unpaved and underdeveloped road network (PwC, 2017).
Zimbabwe	2,759 km	National Railways of Zimbabwe	1,580	**Commodities:** The railways in Zimbabwe are a critical transportation mode for the mining, agricultural and manufacturing industries in the country. The main mining products are coal, chromium ore, asbestos, gold, nickel, copper, iron ore, vanadium, lithium, clay, tin, platinum group metals and numerous metallic and non-metallic ores; the main agricultural products are maize, cotton, tobacco, wheat, coffee, sugar cane, peanuts, sheep, goats and pigs; and the main production industry products are steel, wood products, cement, chemicals, fertilizer, clothing and footwear, foodstuffs and beverages (Mbohwa, 2008). **Road Infrastructure:** There are 88,100 km of classified roads in Zimbabwe, 17,400 km of which are paved. About 5 percent of the network is classified as primary roads and has some of the most trafficked arterials that link Zimbabwe with its neighbours (African Development Bank, 2011)
Botswana	888 km	Botswana Railways	674	**Commodities:** Botswana is in an advantageous position when it comes to its untapped coal deposits and the subsequent trade that this could bring. In 2013, it was reported that reserves at Mmamabula, near Mahalapye, were estimated at 2.4 billion tonnes, with an extractable tonnage of 1.5 billion; while reserves at Morupule exceeded five billion tonnes, with a potential export capacity of approximately 100 tonnes a year (Jarvis, 2015).

				Road Infrastructure: Botswana Transport and Infrastructure Statistics Report stated that the total road network equalled 30,275.64 kilometres, with bitumen and gravel roads comprising the majority of the roads at 33 and 35 percent respectively (Botswana Transport & Infrastructure Statistics Report, 2015).
South Africa	12,801 km	Transnet Freight Rail	214,000	**Commodities:** South African's freight rail network is the largest in Africa and the Middle East. Commodities railed across the network, of which approximately 1 500 kilometres comprise heavy-haul lines, includes export of coal, iron ore and manganese, chrome steel and cement as well as agriculture and bulk. In addition approximately 4,500 ('000 TEUs) port containers are being transported across the network per year, including 17,000 (Million Litres) of petroleum (Transnet Freight Rail, 2016). **Road Infrastructure:** South Africa's road network is the longest of any African country and approximately 89% of the country's freight relies on road transport. Whilst 90% of the roads are in good condition, the paved provincial road network has deteriorated significantly due to huge backlogs in maintenance (PwC, 2017).
Lesotho	2,5 km	Transnet Freight Rail	Part of South African Network	**Commodities:** The nation of Lesotho has a single railway station, located in the capital city Maseru. It is the terminus of the Maseru branch line, which connects to the railway network of South Africa, operated by Transnet Freight Rail. Two freight trains run every day, carrying mainly cement, maize, and fuel and freight containers and making up about one third of Lesotho's international trade in bulk goods (Lesotho Review, 2018). **Road Infrastructure:** Lesotho is connected to South Africa's well-developed regional road network via a total of 11 border posts. As a landlocked country, Lesotho faces specific transport challenges which include infrastructure bottlenecks along major corridors, poorly maintained roads and sub-optimal logistics, which resulted in high transport cost and long transportation times (Lesotho Review, 2018).
Swaziland	301 km	Swazi Rail / Eswatini Railways	654	**Commodities:** The Swaziland rail system is essentially serving South African transit traffic to Richards Bay and Durban. A variety of commodities are being hauled including petroleum products, wheat, coal, cement, sugar, cars, canned fruit, household effects, ethanol, citric acid, phosphoric acid, refrigerator components, textile and apparel, malt, caramel colour, fertilizers, books and general goods (Eswatini Railways, 2018). **Road Infrastructure:** Currently the road network comprised approx. 1500 km of main roads and approx. 2268.64 km of district roads. The main motorways in Swaziland are tarred, but in poor condition due to lack of maintenance (Eswatini Ministry of Public Works & Transport, 2018).

Madagascar	763 km	Madarail (Northen Railway Network); Fianarantsoa Cote Est (Southern Railway Network)	326	**Commodities:** The railway network in Madagascar in recent years has significantly increased transportation of goods such as cement, agricultural products, containerised traffic, chrome and petroleum (Railway Gazette, 2008). **Road Infrastructure:** The majority of roads in Madagascar are unpaved, with many becoming impassable in the rainy season. Largely paved national routes connect the six largest regional towns to Antananarivo, with minor paved and unpaved routes providing access to other population centres in each district (Sodikoff, 2012).

Table 3: Summary of Railway Activity in each country of Southern Africa (Author)

As outlined in Table 3, it is clear that South Africa has the largest railway network, which also includes the short railway line in Lesotho, as Transnet Freight Rail is the railway freight operator on the line (Lesotho Review, 2018). It is also understood that the Swaziland rail system is essentially serving South African transit traffic to Richards Bay and Durban, transporting various commodities, including cement, sugar and coal (Eswatini Railways, 2018).

As summarised in Table 3, there has been little rail freight activity on the network of Angola due to damaged tracks and suspension of operations from the civil war for as long as 20 years (Bullock, 2009). Currently the Angola Transport Ministry together with Chinese Railway Construction Corporation is rebuilding important railway freight corridors for exporting petroleum and importing of containerised goods (Railways Africa, 2018).

Because of its contact with the Atlantic Ocean, Namibia has been earmarked as the *'Logistics Hub'* of Southern Africa (National Planning Commission, 2012). Currently the most preferred method of freight haulage in Namibia is road due to the good quality of road infrastructure over the lack of upgrade and modernisation of railway by the Government of Namibia (Saruchera, 2017).

The Zambia National Railways stated that it intends to be an important part of the economy of the country. Currently, the Government of Namibia intends to expand its railway network within the country in which new statutory instruments (to be passed by the Government in 2018) that would require industries to move 30% of their carriage by rail (Catala, 2018). In general, the Zambian Railways operate well below its original design capacity, but with significant investment

from private sector expected in 2018, there will be an increase in volumes through investing in track conditions, increase locomotive and wagon availability and increase operating capital (Catala, 2018).

Malawi is currently operating a very under-utilised railway infrastructure with only one block train of approximately 25 wagons departing at Nacala (Port in Mozambique) bi-weekly, pulled by two CDN locomotives in tandem. At Nayuchi on the Malawi border the interchange takes place where CEAR locomotives take over from CDN locomotives. At Liwonde, the block train is then split per destination; south to Blantyre and north to the Capital of Malawi, Lilongwe (Styles, 2018). Currently, there is a new railway line being constructed to connect two pivotal points of mining activities in the Western and Eastern Mozambique through Malawi, ensuring that over 18million tons of coal gets transported more cost-effectively (Masamba, 2017).

Mozambique is one of the most aid-dependent economies in the world, and is highly dependent on natural resources such as coal and iron ores and other minerals (PwC, 2017). Currently, there are three major railway corridors in Mozambique, which is all functional and has been attracting private investment in recent years. The main challenges for railway development in Mozambique include increasing demand due to growing trade with neighbouring countries and increase in domestic coal production (PwC, 2017).

The railway sector of Zimbabwe has gained recent attention due to the significant investment from South African banks, putting up funding letters worth USD 1,76 billion for the development of the railway system in Zimbabwe. The funds are intended for the upgrade of existing tracks, construction of new lines and modernisation of rolling stock and the overall system, increasing trade amongst neighbouring countries (Blom, 2018).

Lastly, the World Bank (2008) described the northern railway network of Madagascar as a national asset because of the way it connects strategic points, such as the 371 km main line that links the capital Antananarivo with Toamasina, the largest port in Madagascar. Currently, numerous railway improvement projects have been launched to ensure export of large volumes of cement (45% of the rail freight tonnage) are being exported (Railway Gazette, 2018).

Railway development and progress towards cross-border trade are seen within these countries comprising of the southern-part of African (refer to Table 3). Evidence shows that these African countries with longer transport corridors attract a larger density of trade (African Development Bank, 2014). Therefore, more efforts should also be established by rail operators to improve their efficiency in transporting goods and eliminating obstacles to transit (African Outlook, 2017).

2.2.2 Freight Rail Transportation is Cost Effective

There is no dispute that rail transportation is a cost-effective method for moving freight across land, especially over a long distance (Brogan, Aeppli, Beagan, Brown, Fischer, Grenzeback, McKenzie, Vimmerstedt, Vyas, and Witzke, 2013). In addition, according to the Africa Competitiveness Report published by the World Economic Forum (2016), an integrated transport system continues to be crucial to the optimal development of the continent. However, the rail sector and railway companies in Africa have suffered losses over the last two decades.

The main causes of the rail business deterioration include the low quality of service, poor maintenance, and the shortage of public investment due to a curtailment of the national budget allocated for railway facility investment (ICA Gruppen Annual Report, 2016: 130).

According to an attractiveness survey by African Development Bank (2017), the annual financing need for railway infrastructure is estimated at US$ 50bn per annum. The main sources of funding presently, is from government budgets and donor-backed development finance institutions, with relatively small investments from the private sector. However, this funding model is not sustainable for the future.

African governments simply do not have financial resources to pay for railway developments (Ntuli, 2018). This leaves a gap, which constitutes an exciting opportunity for investors to participate at an early stage in a sector offering high growth with relatively low risk (African Development Bank, 2017).

In addition, African governments are urgently reforming and regulating infrastructure sectors to attract private investors for partnership, and this reinforces the

compelling opportunity for investors with the right combination of infrastructure, investment and emerging market experience (African Development Bank, 2017).

Between 1995 and 2005, According to the De Charles Report on African Infrastructure (2013), the rail network within Sub-Saharan Africa was predominantly used for transporting freight, as opposed to passengers.

Of all the continents in the world, Africa transports the lowest volume of goods by rail, although it is the largest continent, and in 2012, the continent had only a fifth of Europe's total freight traffic and transported the equivalent of only 1% of global railway goods traffic, as illustrated in Figure 9 below.

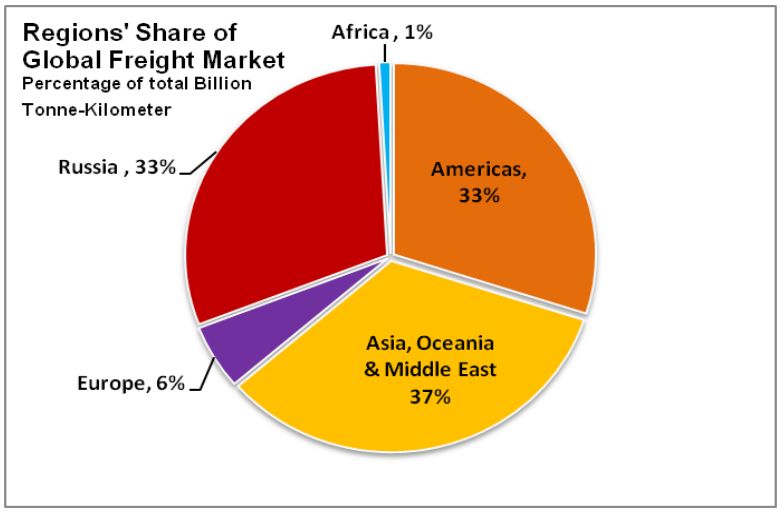

Figure 9: Region's Share of the Global Freight Market (UIC Rail Database, UN World Population Prospect, 2012).

Regarding rail density, Africa has a similar rail density to Asia, if Russia is excluded from the Asian continent (refer to Figure 10). Nevertheless, in comparison to Asia, Africa has low freight traffic, which is an indication of a system that is currently too underdeveloped to be economically feasible for a suite of freighters.

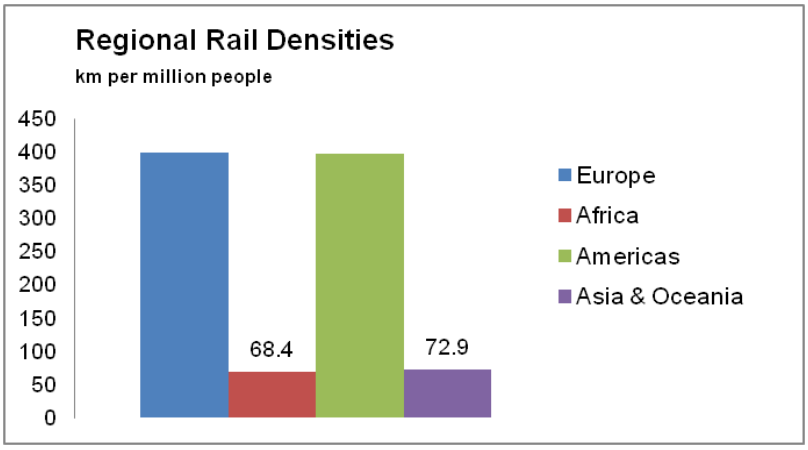

Figure 10: Regional Rail Densities (UN World Population Prospect, 2012).

Most African countries face significant costs associated with transportation in general. In accessing foreign markets, on average, Africa's transport and insurance costs represent thirty percent of the total value of exports, which compares unfavourably with 8.6 percent for all developing countries.

Although most countries share the problem of high transport costs, landlocked countries face the most exorbitant transport costs recorded on the continent (UN and Social Council of Africa Review Report on Transport, 2009: 2).

Rail transport in Africa is underutilised. Van Meulen (2010: 5) states that in the case of underutilisation and competitiveness, freight rail burdens society by spilling its natural traffic onto roads, with concomitant congestion and pollution.

The road versus rail debate is a topic that has been frequently revisited by South African academics and practitioners over the last decade (Van der Mescht, 2006; Pienaar, 2010; van Meulen, 2010; Havenga, Simpson and De Bod, 2014; Ruppel & Althusmann, 2016). Stander and Pienaar (2002) conducted a study, which examined the choice between long-distance road and rail transport of manufactured goods in Southern Africa. The study was conducted five years after the deregulation of the freight transport market, and indicates the five most important choice criteria, which are ranked (according to percentages) as follows: customer needs (flexibility), service reliability, loss and damage (goods security), total transport time, and lastly, freight rates (as seen in Figure 11).

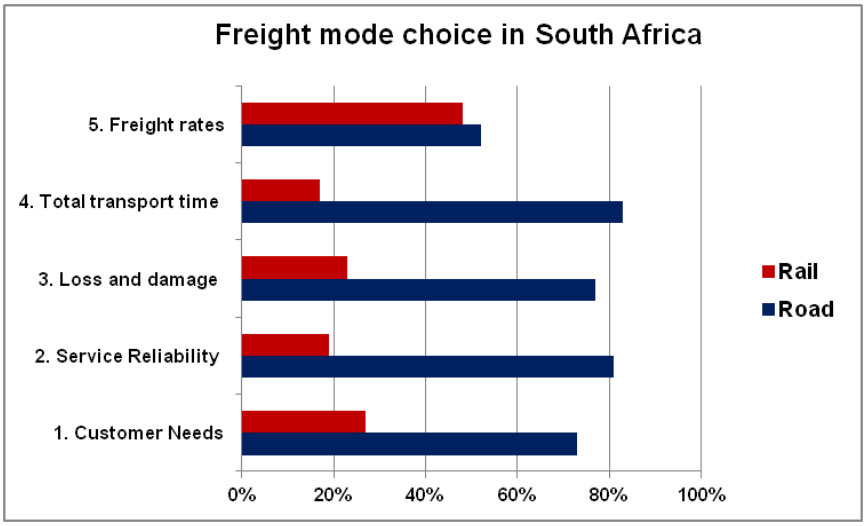

Figure 11: Comparative weights and ranking of modal choice criteria

The figure above also illustrates that in an industrialising and logistics-oriented market, freight transport customers give preference to good quality of transport services (transport cost is of less concern to them), and regard road transport service quality as being superior to that of rail transport (Stander & Pienaar, 2002: 10).

According to the South African Department of Transport's National Freight Logistic Strategy (2005: 14), the five most important issues faced by Spoornet (now referred to as Transnet Freight Rail or TFR) freight customers in South Africa are the following: Reliability; Equipment availability; Price structure; State and reliability of rolling stock; and Rolling stock availability.

Improving customer relationships, according to Shaw and de Villiers (2006), will assist in enhancing efficiency and reliability on dominant corridors, and will result in regained market share, as well as the further evaluation of the road versus rail freight transport debate.

Since these abovementioned studies, no other studies have been conducted on improving customer relationships between rail operators and rail customers.

2.3 Quality of the Southern African Rail Infrastructure and Operations

Transport infrastructure is a prerequisite for the viable economic development of any country (Khamis, 2012). The importance of investments in transport

infrastructure has been recognised in Southern Africa and the entire continent for many years. However, the problem with the rail transport infrastructure has been the lack of proper maintenance, which seems to be the case in most Southern African countries.

The deteriorating rail lines and the safety component associated with this have become a common sight. Most rail signals are not maintained and have been out of order for many years, either due to the unavailability of spare parts or the lack of finance for repair works (National Rail Policy of SA, 2015).

In South Africa, for instance, freight transport requirements are forecasted to grow by 108% in ton-kilometre terms between 2009 and 2040. This additional freight will not be serviceable by the current network, irrespective of modal balance, which means that significant infrastructure investment decisions are required (Havenga, 2012: 5).

Investment in railway infrastructure within the Southern African railway industry is beneficial for various reasons. For example, public spending on infrastructure construction and maintenance can be a valuable policy tool to provide economic stimulus during recessions, or it can be used as a strategy for the transfer of skills (Negota, 2001: 4; Bullock, 2009).

In essence, the rail infrastructure requires upgrading and maintenance because of its deterioration over many years, which is the leading cause of the loss of competitiveness and productivity (Ranganathan & Foster, 2011: 25).

The B2B railway industry certainly plays a critical role in Southern African supply chain management, despite the region's inefficient and inadequate terminal and rail systems.

As a percentage of logistics costs, Southern Africa's freight transport costs are the highest worldwide, whilst the region faces other challenges, including high demand, high fuel costs, limited collaboration, process inefficiencies, and skills shortages (Patel, Minyuku, van Der Bank, Mohan, and Ogra, 2014).

Road and rail transport are the dominant modes of transporting goods and people They handle the bulk of imports and exports in the respective countries,

thereby providing a vital transport link for the countries' diverse import and export commodities (Mashiri & Chakwizira, 2016). The Southern African rail sector has the most complete railway network in Africa, although existing lines need to be upgraded in order to ensure future economic development emanating from the rich import and export possibilities.

Most of the Southern African countries are surrounded by land, making road and rail networks very important in linking countries to the main ports in South Africa, Mozambique, Angola, and Namibia (Mutambara, 2008: 1). The national road and rail systems provide links to all major centres in each country, as well as to neighbouring countries. Unsatisfactory network conditions are due to the increased diversion of rail freight to road transport, which places more demand on roads, as well as resulting in overloading by transporters, which reduces the economic life of the road infrastructure (SADC, 2018: 54).

Most African railways outside South Africa and North Africa still operate at the standard according to which they were originally constructed, and now face major problems due to competing modes of transport. Most lines can only accommodate relatively lightweight and slow-moving trains, and poor maintenance over a long period has caused many sections of the track to deteriorate, in some cases almost beyond repair, resulting in a loss of competitiveness and rolling-stock productivity (Bullock, 2009: 2).

While this can be tolerated on low-volume feeder lines and may be the only way in which some can be viably operated, it is a significant handicap when competing against the modern roads being constructed in major corridors.

The rehabilitation of existing networks will be expensive, and finding a sustainable way to do this, given the low traffic volumes and revenues that exist today, is a key challenge being faced by the Southern African railway industry. However, increasing the volumes of traffic is not sufficient to make a railway system financially viable - it is also important to make it competitive.

This means that the railway industry needs to provide quality transport services (price, speed, availability, punctuality, etc.) to its customers. It is only then that railway systems can become an attractive option for shifting part of the existing

road traffic to rail, or for putting the new volumes of freight generated by the economic development of countries onto rail (Olievschi, 2013: 31-32).

The railways, from an infrastructure and operational perspective, thus continue to decline and lose customers, and are unable to attract the necessary funding to return to competitive levels of reliability according to the Transport Sector Plan, (SADC, 2012: 22). According to various sources, the provision of quality services by the railways depends on numerous factors, such as the quality of infrastructure (Olievschi, 2013: 32), condition of rolling stock and human factor productivity (Löwer, 2013); superior operational performance; compliance with various regulatory frameworks (Pienaar, 2007), and so forth.

Therefore, finding a suitable solution to reverse the negative trend of railways in Southern Africa over the last decade requires an accurate assessment of the actual positioning of the railways in the structure of the entire transport system, and identifying a realistic approach for development and improvement (Olievschi, 2013: 32).

2.3.1 Quality of Operational Performance

Besides the poorly maintained infrastructure, economic performance also has a significant impact on the limited availability of locomotives and other rolling stock, which have been among the main causes of the decline in service levels of the Southern African railways. Rail speed restrictions over long sections have dramatic effects in reducing railway competitiveness and rolling stock productivity.

It is also becoming very difficult for the railways to compete with modern road networks, which are increasingly developed on major corridors (Olievschi, 2013: 9). It is clear that Southern African railways suffer because of out-of-date rolling stock. However, considering the current market uncertainties, the financial risks of acquiring a new rolling stock fleet that is supposed to last 20 years are currently too high.

Given the asset-intensive nature of the railway industry, high utilisation of railway assets (e.g. rolling stock and track infrastructure) leads to efficient railways (Beck, Bente & Schilling, 2013: 12). Studies have shown that higher utilisation of assets through freight operations has a positive impact on efficiency (Directorate

General for Internal Policies Report, 2016). In any railway operation, high utilisation of rolling stock and high fleet availability for operations are also key indicators for improved quality services and enhanced market responsiveness, according to Sub Saharan African Transport Policy Programme, (2013).

A skills-led strategy for growth and competitiveness poses many practical challenges in the context of the Southern African B2B railway industry. In South Africa, the Railway Safety Regulator, (2017) mentioned their concern about the lack of consistency in the strengths of technical skills throughout the rail network. This transpired after recent freight rail accidents and incidents, which were primarily due to the errors and violations of staff, with contributing factors including shortfalls in the actions of more senior staff, such as safety-related decisions or assurances.

2.3.1.1 Punctuality

In most countries, punctuality and reliability are seen as important measures of railway operations' performance. These indicators are also two of the most important factors contributing to the satisfaction of railway customers (NEA, 2003).

Van Oort (2014) indicated that the enhancement of punctuality and consistency is the main task in improvement programmes of public transport systems, because both are measures of unreliability, and therefore have a strong impact on the opinions of passengers. Bates, Polak, Jones and Cook (2001) investigated rail passengers' valuation of punctuality. They concluded that punctuality and reliability are behaviourally important, as they affect both their perceptions and level of use of different modes of transport.

Railway systems are diverse in the services that they offer, and this will have an effect on how punctuality is evaluated. This applies to the relative share of passenger versus freight traffic, the network scope (e.g. mixed vs. dedicated operations, densely knit networks, corridor operations), and the mix of market segments (e.g. long distance, high-speed, urban agglomerations).

Another important factor in this regard is the concentration of traffic throughout the system (Bente, Beck & Schilling, 2013: 9). According to a Sector Diagnostic Report on the SADC Regional Infrastructure Development Master Plan (SADC,

2016) which focused on operational performance, the fundamental problem is fleet availability relating to punctuality, with many railways having figures of fewer than 40 %. This means that the utilisation of the available fleet in terms of hours is often very high, particularly in the case of locomotives, as shortage of rolling stock will often mean intensive use of what is available.

2.3.1.2 Reliability

The reliability of railway operations is often expressed through the measurement of punctuality and regularity (Veiseth & Bititci, 2003: 5; Landex, 2016). Punctuality is related to the difference between the actual and predefined departure or arrival times of a train, while regularity is a measurement of how many departures or arrivals actually took place, compared to the predefined schedule (Olsson & Haugland, 2004, Landex, 2016).

Many of the railway systems in Southern Africa are not functioning properly due to many factors, including poor reliability resulting in unsustainable operations according to the Transport Sector Plan (SADC, 2012: 20). The initial loss of volumes and income from road transport deregulation, followed by lack of investment and deferred maintenance, led to a decline in reliability in B2B rail and further traffic losses.

Thus, the railway operators are losing customers, and are unable to attract the necessary funding to return to competitive levels of reliability.

2.3.2 Regulatory Framework in Southern Africa

Regulations must be designed to take the industry structure into account, since this determines what needs to be regulated - the interfaces within the railway industry, such as ensuring fair competition among operators and appropriate access charges, or the price to the end-consumers of services (PPIAF, 2017).

As previously discussed, the freight rail system in Southern Africa is burdened with inefficiencies at system and company level. With the infrastructure shortfalls and mismatches, it is clear that the institutional structure of the freight sector in Southern Africa is inappropriate, and the regulatory frameworks designed to

assist with these challenges are incapable of resolving problems in the industry (Thompson, 2009: 5).

For example, according to the National Freight Logistics Strategy (Thompson, 2009: 5), in South Africa, Transnet (formally known as Spoornet) develops the rail policy, by default, due to its dominance, conducts economic and safety regulation, provides and maintains infrastructure, and is also responsible for freight transport operation.

Since the national agencies in most Southern African countries control the rail infrastructure and operations, railway operators are effectively holding the monopoly in freight- and passenger rail transportation and are therefore not open to the privatisation of railways or vertical separation.

Vertical separation is understood as the de-merging of infrastructure and delegation of control over it to an independent manager banned from operating in downstream markets, which are subject to liberalisation (Król, 2009: 2).

One of the conditions for the success of vertical separation is the formation of a close cooperative relationship, based on loyalty and trust, between the infrastructure manager and its clients (e.g. rail operators). Building such a relationship should be supported by the implemented regulatory policy.

2.4 Relationship Value in the B2B Railway Industry

In general, although academics and practitioners recognise the importance of the customer relationship between the parties involved, there is little empirical evidence regarding the perceived value of the relationship in the B2B or freight railway industry from a service perspective.

The relationship value information that is available relates mainly to the passenger railway industry since passengers, as customers, are more likely to evaluate and voice their perception of a service directly back to the operating company (Agrawal & Perrin, 2008; Vanniarajan & Stephen, 2008; Geetika, 2010).

It is noted that satisfaction can be examined at a service encounter / transaction-specific and relationship-specific (emotional, attitude) level, and that railways are

concerned with technical machineries, but fail to perform financially unless they have a thriving customer base (Laube & Mahadevan, 2008: 1).

Therefore, without satisfied customers railways will cease to exist, especially in today's competitive environment.

The awareness of the importance of service quality and customer satisfaction to rail operators in Southern Africa has started to grow. To deliver higher value-added services and compete successfully in the transport industry in Southern Africa, rail operators must increase their level of service capabilities and service quality, as mentioned by Mathabatha (2015).

In the delivery of higher value-added services, Southern African railway operators will need to overcome the challenges outlined in this study, as these challenges, namely increased customer dissatisfaction and deteriorating customer relationships, are evident. Improved service delivery will result in greater customer satisfaction, enhanced customer relationships, and ultimately customer retention (Govender, 2004: 4).

By determining customer expectations of service from the B2B railway industry in Southern Africa, it can be demined whether the service provided is of high quality, thereby attracting and potentially retaining customers preventing them from employing the services of road hauliers in the future, which poses a major challenge in the rail service context of Africa.

2.5 The Road versus Rail Debate

The reason why customers use road haulers rather than railway as form of transportation is clear - the freight rail industry is facing heavy competition from road freight transportation (Barone, 2013), and the *'road versus rail'* debate is increasingly gaining attention from practitioners due to congested and unsafe roads for public transport users (Spekman, 2013; Winston & Mannering, 2014; Litman, 2017).

Compared to most regions worldwide, the African road network are in a poor condition attempting to carry large volumes of cargo from one point to another, increasing cost to its customers (African Development Bank, 2015: 26).

In South Africa alone, 89% of the freight relies on road network (PwC, 2013: 72). This translates to approximately 3,000 trucks per day on the National Highway (N3) in 2014, which will grow exponentially to about 13,000 trucks per day by 2045 (Havenga, 2015).

In Africa, freight rail transportation is underdeveloped and underutilised (van der Mescht, 2006; Mutambara, 2008; Tancott, 2014), making road freight an obvious alternative. Havenga, (2012: 2) suggested that the main reasons for customers using road rather than rail are based on the shift in demand patterns, as well as policies and investments that favour road over rail.

In Europe, according to an article about *"Issues and Initiatives Surrounding Rail Freight Transportation in Europe,"* freight rail failed to evolve along with the integrated European economy that it is supposed to support (Lewis, Semeijn & Vellenga, 2002: 23).

For example, in Sweden, a furniture firm called IKEA moved 60 percent of its products by truck, and 20 percent by water. When IKEA put out bids for transportation from its distribution centre in Lyon (France) to its retail stores around Milan (Italy), trucking companies got all the business. The reason for this decision by IKEA, according to Hou and Liu (2011), is that the road-freight companies were all able to guarantee deliveries of a container load of furniture in eight hours, in comparison to forty-eight hours by train.

The following question then arises: *'How can freight rail compete with road freight transportation?'* Both transportation methods contribute both positively and negatively towards society, the economy, and the environment (Behrends, 2016). The development of the road sector, to the detriment of rail, has neglected the serious externalities that the road industry incurs. In particular, the mortality rate on roads in Africa is extremely high and brings serious social concern. Environmental issues such as high emission of greenhouse gases and particles or noise pollution are increasing the total external cost of the road industry. Furthermore, road maintenance is consuming large portions of state budgets and road funds (African Development Bank, 2015: 116).

Comparing the two modes of freight transportation is not the aim of this study. The *"road versus rail"* debate in this study elevates the importance of a reliable, efficient, safe and cost-effective rail service that could meet the needs of customers.

On the road versus rail debate in Africa an article by Road Freight Association's technical and operations manager, Gavin Kelly said that *"if there was a reliable, efficient, safe and cost-effective rail service that could meet the needs of customers, then goods would travel by rail. There is not (such a service). That is why more than 80% of goods are transported on the road — for efficiency, cost, reliability, tracking and door-to-door service. In most countries in the world where rail is successful, bulk long-distance commodities are transported, and there is a comprehensive, well maintained and well operated rail system"* (Doke, 2015).

In conclusion, future research should continue to investigate the impacts of freight rail and road freight transportation on society, the economy, and the environment in Southern Africa.

The aim of this study is not to focus on the *"road versus rail"* debate but is outlined in this study to elevate the importance of a reliable, efficient, safe and cost-effective railway service in Southern Africa that could meet the needs of customers.

2.6 Conclusion

Although rail transportation has been the subject of increasing research in recent years (Batley, Dargay and Wardman, 2011; Litman, 2017), due to its far-reaching economic, social, and environmental impacts (Piening, Ehrmann & Meiseberg, 2013: 1), surprisingly little academic research exists on customer relationship management within this particular industry.

The research that exist, and that is related to customer orientation and relationship management, is aimed solely at the passenger rail market (Chou & Yeh, 2013), and how relationship determinants (e.g. customer behaviour, demographics, retention and pricing) affect customer satisfaction (Piening, Ehrmann & Meiseberg, 2013: 2).

Consequently, this study focuses on the B2B rail industry and aims to contribute to the body of knowledge in various ways. Firstly, additional research is required to determine the impact of customer relationships value, both in theory and in practice (Parvatiyar & Sheth, 1997: 249; Reinartz, Krafft & Hoyer, 2004; Fazlzadeh, Fatemeh & Pegah, 2011).

Secondly, conceptualising customer relationship value in the B2B railway industry is based on the growing need to be devoted to customer orientation and customer relationship management within the transportation industry (Piening, Ehrmann & Meiseberg, 2013: 1), in particular the Southern African region, seeing that freight rail shows poor service performance (Mutambara, 2008: 4; van der Mescht, 2006; Tancott, 2014).

Thirdly, this study aims to theorise antecedents of customer relationship value, and theorising mediators in the railway industry.

Lastly, this study will contribute to existing theory by establishing the outcome of relationship value in the South African B2B railway industry.

3 Theoretical Foundations of the Study

3.1 Chapter Introduction

This study aims to explain how relationship marketing results in relationship value, with customer retention as an outcome. In this chapter, particular attention is given to the underlying literature, which supports the study in providing a conceptual foundation for the development of a theoretical model for customer relationship value in the B2B railway industry of Southern Africa.

The underlying literature includes the conceptual framework of relationship marketing in the context of the B2B environment. The theoretical history of relationship marketing and the evolution of its philosophy are also reviewed, in an effort to understand the broader relationship marketing concepts. Relationship marketing is defined in the context of this study, since it is apparent that definitions in the literature are not consistent. It is also important to determine how relationship marketing results in value.

Secondly, the theoretical foundation of customer relationship value is discussed in the context of the B2B environment, before evaluating the literature relating to the perceived benefits and sacrifices of value in the B2B environment.

Thirdly, retention is discussed as an outcome of relationship value.

Lastly, this chapter will proceed to analyse theoretical dimensions of relationship marketing that reinforce customer relationship value constructs. Based on these theoretical dimensions, relationship marketing mediators of value creation are evaluated.

3.1.1 Main Theoretical Concepts of the Study

The main theoretical concepts of this study are discussed in detail in this chapter. However, a brief outline of these concepts is given below.

3.1.1.1 Relationship Marketing within the B2B Context

The evolution of marketing elements, relationship marketing theories and the overall B2B market has brought about continuous transformation in business

practices. A large body of knowledge is dedicated to determining the outcomes of relationship marketing that will lead to superior supplier performance and financial benefit for both suppliers and customers (Nagurney, Yu and Qiang, 2010; Zielinski, 2013; Matevž, Maja & Makro, 2013).

Due to these rapid changes, marketing exchange theories are evolving from traditional economic or transactional exchanges to relational and service-dominant logic (SD-Logic) exchanges. The reason for this is to retain long-standing and intimate customer relationships as far as possible (Ulaga & Chacour, 2001; Razavi, Safari & Shafie, 2012).

In essence, the main goal of relationship marketing in the B2B environment is the creation of value for all stakeholders (Tolmay, 2012: 9). In the context of this study, customer relationships in the B2B railway industry become more important for suppliers, in order to achieve a competitive advantage, due to the intense road-versus-rail debate within the transportation industry.

3.1.1.2 Relationship Marketing resulting in Value

Achieving customer value is a major building block of relationship marketing, according to Ulaga and Eggert (2006).

Relationship marketing results in various positive outcomes, such as trust (Morgan & Hunt, 1994; Ulaga & Eggert, 2006; Theron & Terblanche, 2010; Sohail, 2012). Commitment (Dwyer, Schurr & Oh, 1987; Morgan & Hunt, 1994; Sohail, 2012), effective communication (Ndubisi, 2007; Abdullah & Kanyon, 2013). Cooperation (Palmatier *et al.,* 2006; Theron & Terblanche, 2010), and supplier know-how (Ulaga & Eggert, 2006; Mesquita, Anand & Brush, 2008; Carrizo Moreira, 2009).

Fundamentally, the ability to provide superior value to customers is a prerequisite when trying to establish and maintain long-term customer relationships (Ravald & Grönroos, 1996; Oplatka & Hemsley-Brown, 2012).

Value, deriving from relationships, is crucial to ensure competitive advantage and increase customer retention (Tolmay, 2012: 10).

3.1.1.3 Perceived Value Benefits and Sacrifices

Perceived value by a customer is defined *"as a trade-off between the benefits (what is received), and the costs incurred or sacrifices (what is given) in a relationship between two parties"* (Ulaga & Eggert, 2002, 2006). Within the B2B environment, value trade-off is a complex concept, since it considers many different aspects that constitute *'benefits'* and *'sacrifices'* (Jemaa & Tournois, 2014: 6).

Therefore, within the supplier-customer relationship, an optimal relational value proposition is required, which is meaningful for targeting customers, and focuses on suppliers' efforts in creating superior value (Anderson *et al.,* 2006: 2). In essence, suppliers operating in the B2B environment must ensure that the value proposition benefits surpass the sacrifices.

3.1.1.4 Customer Retention and Economic Benefits

Retention suggests that suppliers should strive to develop and maintain good relationships with customers (Rüdiger, Peris-Ortiz & Blanco-González, 2013) for the purpose of increasing profit share from existing customers, and reducing acquisition costs, amongst other benefits (Mostert & De Meyer, 2010: 10).

However, it is also important for suppliers in the B2B railway industry to understand why customers leave them in the first place. Customer retention and economic benefits will be discussed in detail later in this chapter.

3.1.1.5 Antecedents and Mediators of Relationship Value

Antecedents and mediators of relationship value are explained in detail in Chapter 4 of this study.

Various scholars have studied and developed different relationship value antecedent and mediator models (Morgan & Hunt, 1994; Ulaga & Eggert, 2003, 2006; Ndubisi, 2006; Palmatier, 2008; Theron & Terblanche, 2010; Sohail, 2012). Some studies have investigated whether certain antecedents can act as mediators, such as trust and commitment (Theron & Terblanche, 2010; Alrubaiee & Al-Nazer, 2010). Consensus regarding various constructs of relationship value does not exist, and it is therefore crucial to understand the role and measurement

of key antecedents and mediators of relationship value in the context of this study.

3.2 Conceptual Review of Relationship Marketing

3.2.1 Introduction to Relationship Marketing

Researchers and practitioners continue to proclaim that a key objective of marketing is to create and sustain customer relationships (De Wulf, Odekerken-Schröder & Iacobucci, 2001; Surujlal & Dhurup, 2012).

According to Palmatier, Jarvis, Bechkoff & Kardes, (2009: 1), a large body of knowledge in business-to-business (B2B) markets has established empirically that relationship marketing investments enhance both customer trust and commitment. In turn, these relational mediators influence customer behaviours, and lead to exceptional supplier performance (Matevž, Maja & Makro, 2013).

Within the B2B context, as market changes increase, so does the number of exchange partners, which means that business transactions also become more fast-paced, and as the situation grows more uncertain, relationships become increasingly important as a means to secure business partners and protect against business risk (Lilien, 2016).

The evolution of relationship marketing is an important concept to consider in theory and in practice, since *"the cost of attracting a new customer is estimated to be five times the cost of keeping a current customer happy"* (Kotler, 1997; Gallo, 2014), and will continue to get more costly. The reason for this is that as markets expand and new marketing platforms emerge through technology, the science and practice of relationship marketing is being transformed daily (Wang & Kim, 2017). The fastest way to reach customers today might be obsolete tomorrow. Therein lies the revolution of relationship marketing, which is change.

During the 1990's, Grönroos (1994) stated that marketing is facing a new paradigm, which is called *'relationship marketing.'*

In recent years, it became clear that there is a paradigm shift, not only in marketing, but also in relationship marketing. In the 1980's, very little research referred to the idea of *'relationship marketing'*, as stated by Palmer (2000).

Furthermore, during the 1990's, relationship marketing became a buzz-word, possibly due to the changes that occurred in the business environment, such as shorter product life cycles, due to technology improvements (Kaur, 2016), an increased focus on competitive advantages (Nagurney, 2010), and rapid decision-making (Zhang & Bernard, 2014).

Christopher, Clark, Payne & Peck (2004) broadened the scope of relationship marketing, suggesting that it represents the convergence of marketing, customer service, and total quality management (Woodside, 2010: 33).

Presently, relationship marketing in the B2B environment is mutating, and becomes stronger by shifting its focus towards relationships (Palmatier *et al.,* 2009; Nagurney, 2010: 200; Ramabulana & Purushottam, 2013; Blythe, 2013), and dividing itself into numerous individual interest subjects, such as customer retention (Sheth, 2002: 591).

According to Ramos (2013), the role of B2B-marketers is bigger than ever due to fast global changes in the marketplace. Most scholars and practitioners believe that technology advancements and business change largely contribute to the rapid pace of global marketplace change (Palmatier, 2008; Tang & Musa, 2011: 25). This results in a growing demand for quality products and services, which in turn leads to increased supplier competition (Ramabulana & Purushottam, 2013: 563).

Murray and Kotabe (2005) indicated that the management of supplier-buyer relationships is a primary driver of both customer and shareholder value in B2B. Payne and Holt (2001: 159) also stated that relationship marketing and the value thereof (Li, 2010: 313) have been a crucial advance, and represent a paradigm shift in modern marketing science (Tolmay, 2012: 100).

3.2.1.1 Relationship Marketing in the B2B Context

The development of the B2B theory has also undergone an evolution over the last few years, and is seen throughout the literature (Dwyer *et al.,* 1987; Hadjikhani & LaPlaca, 2013), in areas such as the development and importance of relationships.

The evolution of relationships has occurred in such a way that it actually serves as a means to distinguish between consumer and business markets. As Anderson and Narus (2004: 21) maintained, an organisation's success in business markets depends directly on its working relationships. Because working relationships are more critical in B2B markets, relationships have a greater impact on exchange outcomes in these contexts, than in business-to-consumer (B2C) markets.

It is important to define the characteristics of the B2B market for the purpose of this study, because the B2B railway industry does not involve individual consumers, but rather suppliers or organisations, and is generally characterised by a higher concentration of demand than consumer markets (Brennan *et al.,* 2011).

According to Kotler and Keller (2016), B2B in relation to marketing is defined as: *"understanding and meeting the needs of other organisations".*

This above statement involves creating and delivering superior value and is therefore regarded as one of the cornerstones in B2B relationship marketing (Lindgreen, Xu, Maon & Wilcock, 2012; Ulaga, 2011; Zieliński, 2013; Keränen & Jalkala, 2014).

Due to the current intensely competitive global environment, especially in the B2B railway industry, the nature of buyer-seller relationships has changed, forcing the establishment of more strategic networks and partnerships with other organisations, in order to stay competitive in the market (Hutt & Speh 1995: 84).

Grönroos (1994), and Morgan & Hunt (1994) also stated that relationship marketing, which focuses on approaches to building, developing, and maintaining successful relational exchange, is changing due to marketing orientation, from attracting short-term, discrete transactions to retaining long-lasting, intimate customer relationships.

Therefore, for relations to exist in this competitive environment, as discussed by Zieliński (2013), three conditions must be present. These include: (1) Interaction is mediated through human actors, which means that their perceptions, beliefs, attitudes and behaviour are central; (2) Interaction implies mutual dependability, problem-solving and adaptation; and (3) Relationships evolve over time and include present situations, future goals and past histories.

Mendonça (2014: 1031) indicated that there are different types of supplier-customer relationships in B2B, based on the dynamic nature of the market environment and the characteristics of the exchange. This is dependent on customer needs, as well as the type of relationship that they might require, which can range from a purely transactional to a more collaborative type of relationship.

It is important to position the types of transactions that take place between supplier and rail operator within the B2B railway industry of Southern Africa, in order to determine at which, point value is created for both parties to retain their relationship.

Originally, Hutt and Speh (1995) developed the spectrum of buyer-seller relationships, in which the types of relationships are classified as either transactional or collaborative exchanges (see Figure 12):

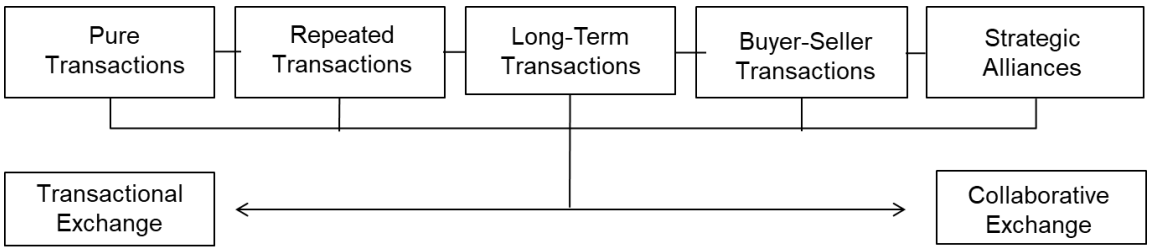

Figure 12: The Spectrum of Buyer-Seller Relationships (Hutt & Speh, 1995)

Transactional exchanges (also known as economic exchanges), as illustrated in Figure 9 above, refer to a one-time exchange between parties, with no subsequent interaction between them, normally for highly competitive prices. While collaborative exchanges (also known as relational exchanges) focus on strong relationship management over a period, in order to lower costs and increase value, thereby achieving mutual benefits (Anderson & Narus, 1990; Anderson *et al.,* 2006).

Many scholars (Kotler, 1972; Bagozzi, 1975; Day, 2000; Johnson & Selnes, 2004; Ulaga & Eggert, 2006; Li, 2010) are of the opinion that the exchange perspective of relationship marketing is based on the concept of value.

Johnson and Selnes (2004: 2) defined an exchange relationship within the context of B2B as *"a mechanism for creating value through the coordination of*

production, consumption, and related economic activities between a customer and a supplier."

Kotler (1972: 48) also referred to the significance of value, in that it involves the exchange of value between B2B parties. The relationship is viewed as an exchange between suppliers and customers (Kotler 1972), where the purpose of an exchange relationship is ultimately to connect the customer's needs with the supplier's resources and offerings (Johnson & Selnes, 2004: 2).

This exchange of value between the supplier and customer must be evaluated from both sides. From the supplier's perspective, according to Johnson and Selnes (2004: 2), value creation is a process of understanding the heterogeneity of customer needs and developing products (goods and services) to meet these needs. This also involves matching customers to products through marketing activities, in competition with other suppliers.

From the customer's perspective, this means that the customer selects the suppliers that will inevitably offer the highest probable benefits, with the least associated costs and risk, where benefits encompass a bundle of qualities, processes, and/or capabilities (Johnson & Selnes, 2004: 2).

Dwyer *et al.* (1987: 11) referred to the four conceptual benefits that exist as part of the exchange theory. Firstly, the *exchange* serves as a central occurrence between two or more parties. Secondly, it provides an important frame of reference for identifying the social network of individuals and organisations that participate in its formation and execution.

Thirdly, the *exchange* affords the opportunity to examine the domain of objects or psychic entities that get transferred (e.g. money). Finally, as a central occurrence in the marketplace, it allows the careful study of antecedent conditions and processes for buyer-seller exchanges.

3.2.1.1.1. Different Types of Exchanges

According to the literature that was reviewed, it is evident that there are three dominant schools of thought in the discipline of Marketing:

Economic-exchange theory, which dominated the research environment between 1950 and 1980 (Drucker, 1954; McKitterick, 1957; Levitt, 1960; Kotler, 1967);

Relational-exchange theory, which was introduced in the 1970's, and is still relevant now (Parasuraman, Zeithaml & Berry, 1985; Grönroos, 1994; Gummesson, 1994; Sheth & Parvatiyar, 2000; Jemaa & Tournois, 2014); and

Service-dominant logic (SD-Logic), which has been active since 2004 (Vargo & Lusch, 2004; 2007; Lusch and Vargo, 2011; Grönroos & Gummerus, 2014).

Furthermore, it seems that economic-exchange theory interprets an exchange as a transaction, while relational-exchange theory and service-dominant logic consider an exchange as relational. The differences between these exchanges are discussed below.

3.2.1.1.2. Economic Exchange

An economic exchange is synonymous with the concept of marketing mix or the 4P's (product, price, place, and promotion), which entered the marketing sphere in the 1960's (Kotler, 1967). Since then, more *"P's"* have been added, but each *"P"* was viewed in isolation (Grönroos, 1997).

According to Kotler (1967), consumers passively receive products, are mainly concerned with price and technical quality, and respond to the best product for the lowest price. This push strategy from the marketer leads to competition with other marketers, who behave in an opportunistic and short-term manner (Safari, 2014: 16).

This model was criticised by the following researchers:

- Grönroos (1997) stated that although additional variables were added to the marketing mix, they could never predict or use every relevant element. Therefore, the marketing mix involved a list of *"P's"* without any roots.

- Safari, (2014) and Hadjikhani and LaPlaca (2013) stated that the transaction-exchange theory suffered due to its prediction of

numerous purchase decisions that were not based on rational decision-making.

- Dwyer *et al.* (1987) stated that only two parties are involved in a transactional exchange.
- According to Tolmay (2012), the transactional exchange (or economic exchange) is also characterised by minimal personal relationships, and simple obligations.

Due to continual developments in the marketplace, as well as important dyadic exchange variables that determine the flow and outcomes of supplier-customer negotiations and interactions in the exchange process, which are not represented in the economic exchange theory, this principle does not conform to the B2B railway industry and exchange.

The differences between the two types of relational exchanges are discussed below.

3.2.1.1.3. Relational Exchange

Although Dwyer *et al.* (1987) refer to the benefits of the relational exchange theory, what is the framework within which it exists?

The figure below illustrates the Exchange Relationship Framework developed by Johnson & Selnes (2004). The idea behind this framework is the nature of the exchange relationship mechanism, where the value created in an exchange relationship is a direct function of both the customer and supplier's capabilities and strategies.

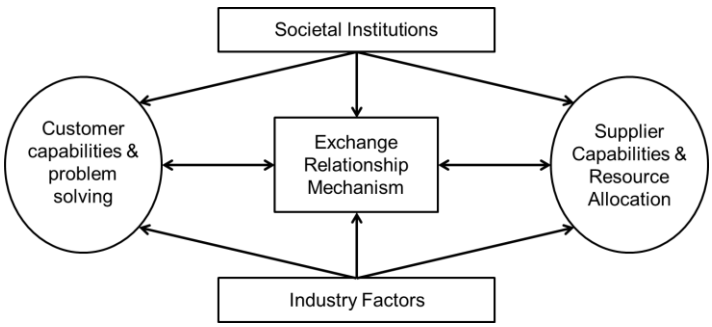

Figure 13: Exchange Relationship Framework (based on Johnson & Selnes, 2004).

Hunt & Morgan (1994) cited in Johnson & Selnes (2004), suggested that an organisation's efforts to assess the relative value of different exchange relationships occur within a dynamic competitive environment that is in a state of constant change.

The Exchange Relationship Framework represented in Figure 13 above illustrates the nature of different forces that have an influence on the exchange relationship, where a change in any of the forces normally requires a business unit to re-assess the marketplace, given the overall change in industry information.

The Exchange Relationship Framework of Johnson & Selnes (2004) also shows the indirect effects of industry factors and societal institutions on exchange relationships, and describes the factors that influence the benefits, costs, and risks of customers and suppliers entering or maintaining a relationship.

Bagozzi (1975) studied the relational exchange theory and discussed three broad categories of exchange relationships, in order to determine the manner in which relationship value adds value. These categories are: restricted exchange; generalised exchange; and complex exchange.

The *restricted exchange* refers mainly to the *'give-to-and-receive-from'* in a dyadic relationship (Dwyer *et al.,* 1987: 11), where little information is required to make the decision, for example, buying a commodity item (Bagozzi, 1975: 33).

The *generalised exchange* indicates that an exchange relationship exists between at least three parties, where the value is distributed by each party, and then distributed on to the next (Bagozzi, 1975: 33).

Lastly, the *complex exchange* refers to the mutual relationships between at least three parties, where each party is engaged in at least one exchange, thereby creating a system that is organised by an interconnecting web of relationships (Bagozzi, 1975: 33).

According to Hutt and Speh (2004: 66), within the B2B environment, this exchange is complex and can be referred to as *'a modified re-buy, where specialised information constantly required, and it is most applicable in a market driven by cost, quality or product / service improvements*.*'* In this case, social exchange

theory becomes a very important concept in consummating the relationship over time.

The social exchange theory states that trust breeds trust, which ultimately increases commitment and results in a shift from short-term exchanges to long-term relationships (Johnson & Selnes, 2004). Social exchange variables such as trust, commitment, interpersonal attraction, and so forth become the impetus to continue with the relationship, and in this process develop value.

The next type of relational exchange theory, Service Dominant Logic (SD-Logic), is based on value creation as a co-sharing input and output variable from all parties involved. It is important to review this theory, since the literature on relational exchanges in business is evolving and becoming more complex over time.

3.2.1.1.4. Service Dominant Logic (S-D Logic)

Various scholars recognised the significance of the S-D Logic principle to B2B (Ballantyne & Varey, 2006; Grönroos, 2006, 2009; Vargo & Lusch, 2011).

The S-D Logic does not dispute that there is an exchange of value between a customer and supplier but argues that customers participate in the co-creation of value, which they assess through service experiences gained in the co-sharing and integration of resources with suppliers, especially skills and knowledge (Vargo & Lusch, 2004).

The traditional view of marketing relates to goods-dominant (G-D) logic, which is based on the value-in-exchange principle (Vargo & Lusch, 2004; Vargo & Morgan, 2005).

According to Lusch & Vargo (2011), G-D Logic is where value is created by the organisation and distributed to the market, usually through the mutual exchange of other goods and/or money. From this perspective, the roles of *'producers'* and *'consumers'* are distinct, and value creation is often thought of as a series of activities performed by the organisation.

On the other hand, the S-D Logic is service-centred, which represents the idea that value creation is a function of a *'service-for-service'* exchange, and value co-creation represents the notion that value creation is always a co-creation

process. The service-for-service exchange implies that all parties are both value-creators and value beneficiaries (Lusch & Vargo, 2011).

In light of S-D logic (see Figure 14), the *'service'* refers to the use of competences for the benefit of another entity, and co-creation of value refers to value-in-use, which is determined through the integration of resources (Vargo & Lusch, 2004; 2007).

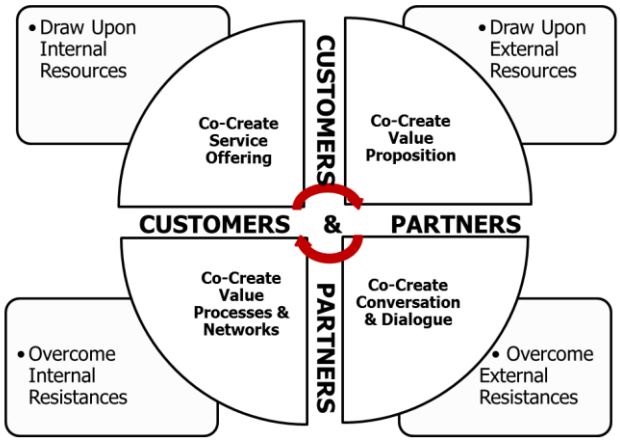

Figure 14: S-D Marketing Framework (based on Vargo & Lusch, 2007).

Although S-D logic is about aligning with relational models of exchange, and not eliminating its connection with exchange (Lusch & Vargo, 2011), the difference between S-D Logic and the relational exchange theory is based on the fact that the S-D Logic insists that in terms of value creation, service is more fundamental than relationship.

Vargo (2009) stated that service is a process of the co-creation of reciprocal value, where the output of an entity is viewed as an input into a continuing process of resource integration. Value is co-created by this reciprocal and mutually beneficial relationship, as seen in Figure 14 above (Vargo & Lusch, 2007; Vargo, 2009). For example, in the case of an automotive manufacturer, the company will apply its knowledge, skills, and capabilities to transform raw materials (e.g. metal, plastic, rubber etc.) into a vehicle.

According to S-D logic, the vehicle is only an input into the value creation that occurs as a customer uses it (e.g. in transportation, self-actualisation, etc.) and integrates it with other resources. Therefore, if no one knew how to drive, or had

access to fuel and maintenance, and did not function in social networks, among other things, the vehicle would have no value.

It is only when the customer uses the vehicle that it has value. Figure 14 illustrates that in this case, customers and manufacturers co-create value, the automotive manufacturer by applying their knowledge and skills in the production and branding of the vehicle, and customers by applying their knowledge and skills in the use of the vehicle in the context of their own lives.

At the same time, customers integrate and apply their own resources to provide service (e.g. money), which the automobile manufacturer can use for their own value- creating activities (e.g. growing their business).

According to Vargo and Lusch (2007), ten foundational premises (FP's) were developed, which form the initial basis of S-D logic, and which become conditions for value co-creation. These FP's are listed in the table 4 below.

Premises Nr.	**Foundational Premises**
FP1	Service is the fundamental basis of exchange.
FP2	Indirect exchange masks the fundamental basis of exchange.
FP3	Goods are a distribution mechanism for service provision.
FP4	Operant resources are the fundamental source of competitive advantage.
FP5	All economies are service economies.
FP6	The customer is always a co-creator of value.
FP7	The enterprise cannot deliver value, but only offer value propositions.
FP8	A service-centred view is inherently customer oriented and relational.
FP9	All social and economic actors are resource integrators.
FP10	Value is always uniquely determined by the beneficiary.

Table 4: Foundational premises of S-D logic (based on Vargo & Lusch, 2007)

In conclusion, within the B2B environment, such as the B2B railway industry, the type of exchange between supplier and customer has an impact on the relationship between the parties.

A summary of the different exchange theories is presented in the table below, according to the literature that was reviewed.

3.2.1.1.5. Summary of differences between Exchange Theories

Economic Exchange	Relational Exchange in B2B Markets	Service-Dominant Logic
Short-term or once-off exchange (Lambe, Spekman & Hunt, 2000).	Focus on long-term exchange (Selnes & Johnson, 2004).	Foster long-term associations (Vargo & Lusch (2007).
Purely economic exchange (Safari, 2014).	Economic and social exchange (Safari, 2014).	Economic and social exchange (Safari, 2014).
Single sale focus (Bardauskaitė, 2012).	Focus on customer retention (Bardauskaitė, 2012).	Focus on value co-creation (Bardauskaitė, 2012).
Marketing mix / Four P's (Payne, 1993).	Relational interaction between parties (Manna, 2011).	Co-creation of services and value propositions (Lusch & Vargo, (2004).
Low customer service focuses (Payne, 1993).	High customer service focuses (Palmatier, 2008).	Value creation networks (Lusch & Vargo, (2004).
Customer trust and commitment is limited (Payne, 1993).	Dyadic bonds represented by trust and commitment (Morgan & Hunt, 1994; Palmatier, 2008).	Reciprocal relationship, service-for-service nature of exchange (Vargo, 2009).

Table 5: Summary of differences between Exchange Theories (Author)

The following sections of the relationship marketing literature review will look at the evolution of relationship marketing, prominent relationship marketing theories, and the role of business relationships.

3.2.2 Evolution of Relationship Marketing

The evolution of marketing has become a multi-faceted science over time, based on the advancements in technology, intense markets, and demanding customers, as explained below.

The intensity of scholars' interest in this topic opened a floodgate of knowledge, allowing diverse perspectives of this growing phenomenon. Although new marketing perspectives have emerged over the years, the creation of value remains a core purpose and central process of economic exchange (Vargo and Lusch, 2007: 145).

Figure 15: Evolution of Marketing (Vargo & Lusch, 2007).

Marketing in this context, as defined by Kotler and Armstrong (2008), is the *"process by which companies create value for customers and build strong customer relationships in order to capture value from customers in return."*

With reference to Figure 15, the former development of marketing, and the role of the customer in the development of products and services had been limited. In recent years, customers have taken centre stage in product development and service delivery decisions (Keelson, 2012: 35). In addition, the evolving concepts of marketing that emerged over the years are a manifestation of different business philosophies aimed at addressing customer needs at different times (Kotler & Armstrong, 2008; Keelson, 2012; Kotler & Keller, 2016).

Presently, the *'new'* marketing philosophy is aimed at creating and retaining satisfied and profitable customers (Keelson, 2012). It therefore seeks to obtain a holistic perspective on marketing (Kotler & Armstrong, 2008), through the integration of all marketing activities that affect customers, such as relationship marketing (Keelson, 2012:39). The output of this *'new'* marketing philosophy or concept is to yield profit by creating lasting relationships with the right customers, based on customer value satisfaction (Kotler & Armstrong, 2008).

In essence, relationship marketing is central to marketing philosophy, by creating customer value and customer retention (Ulaga & Eggert, 2005; Palmatier *et al.,* 2006; Kotler & Armstrong, 2008; Keelson, 2012; Jemaa & Tournois, 2014).

In addition, as defined in Chapter 1 of this study, relationship marketing within the B2B railway industry aims to *"proactively create and maintain relationships through the consistent delivery of value to all stakeholders involved, aimed at enhancing performance and increase profits"* (Author).

3.3 Benefits and Sacrifices of Relationship Marketing in Value Creation

The study of relationships is now a well-developed stream of thought in the literature from both a buyer and supplier perspective (Zieliński, 2013), and applies to the mutual, involved supplier-customer exchanges, as discussed in Chapter 3 of this study.

As mentioned in Chapter 1, this study focuses on customer benefits and sacrifices. However, it is also important that benefits and sacrifices be investigated from the rail operator's perspective (as supplier of railway services and operations to freight customers) in future research, in order to enhance relationship value benefits and sacrifices in this field of research.

This means that, on the one hand, benefits and sacrifices are perceived in the process of value creation from the rail operator's perspective, and on the other hand, benefits/sacrifices are perceived in the process of value creation from the rail user's perspective. Both of these perspectives suggest different key drivers of exchange performance (Zieliński, 2013).

The literature review aims to ask the following question*: What relationship benefits / sacrifices can influence individual suppliers and customers' performance?*

Relationships are seen as having positive links to performance, but little is known about the nature of this performance (O'Toole & Donaldson, 2002: 197), which will be elaborated on in the next section of this chapter.

3.3.1 Relationship Performance in B2B

Some researchers excluded the performance dimension of relationships in theoretical models, or performance was viewed from limited dimensions, for example:

- Morgan & Hunt's (1994) classic contribution to relationship theory failed to include a performance dimension in their commitment-trust model (cited in O'Toole & Donaldson, 2002: 198).

- Dwyer *et al.'s* (1987) model of relational development disregarded a performance motivation, even though it recognised the importance of performance.
- Anderson and Narus' (1990) model of distribution and manufacturing as a working partnership focused on limited performance dimensions.

However, in the context of the B2B railway industry, the value of a B2B relationship will have little meaning, without reflecting the drivers of performance in such a relationship.

What is relationship performance? Relationship performance considers the overall relationship behaviour, and includes customer satisfaction, loyalty, brand awareness and overall performance compared to competitors (Shahzad, 2016).

Different authors have measured the performance of the B2B relationship in different ways (Jagodič, 2014). Lages, Lages & Lages, (2005) developed a multidimensional scale to measure relationship performance, which consists of factors such as an amount of information sharing, communication quality, long-term orientation, and satisfaction with the relationship. Jayachandran, Sharma, Kaufman & Raman, (2005) measured relationship performance via an organisation's self-assessment of customer satisfaction and customer relations, using CRM technology.

Other researchers have measured relationship performance in terms of economic and non-economic benefits from both customer and supplier perspectives (Geyskens & Steenkamp, 2000). Medlin (2013: 5) also states that relationship performance is the economic measurement of parties cooperating relative to expectations in that network.

Moreover, B2B relationship performance has an impact, depending on the outcome of the performance, on relationship value (Jääskeläinen, Thitz, Heikkilä, & Nenonen, 2017).

Within the parameters of this study, suppliers and customers in a B2B relationship need to perform based on a set of key *'drivers of performance'* (Medlin, 2013) The drivers of performance might determine the impact (positive or

negative) on perceived relationship value benefits or sacrifices, which will ultimately contribute to relationship value, as illustrated in Figure 16 below.

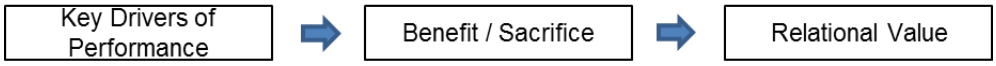

Figure 16: Understanding the performance evaluation process in B2B Relationship based on existing literature (Author)

3.3.2 Rail Operators as Suppliers of Rail Services: Benefits and Sacrifices in B2B Relationships

Although this study aims to focus mainly on the perceived relationship benefits and sacrifices of the B2B relationship from the railway customer's perspective, the concept of relational benefits proposes that both the railway customer and railway operator must benefit from the relationship, in order for it to continue in the long run and create value (Hennig-Thurau *et al.,* 2002: 234).

There are different types of benefits (Biggemann & Buttle, 2007; Jemaa & Tournois, 2014), hence there is no real uniformity existing in the literature in relation to the most important set or type of benefits for suppliers in a B2B relationship.

It is therefore important to review the literature on perceived supplier benefits resulting from relationship value, in order to understand the most important benefits for suppliers.

3.3.2.1 Economic Benefits

If rail operators, as rail service suppliers, want to increase their profits and gain market shares, long-term relationships with customers are crucial, since economic benefits are the *'lifeblood'* of a B2B transaction. Biggemann and Buttle (2007) stated that a B2B relationship allows a supplier to achieve higher prices to reduce their costs of dealing with the customer. This type of benefit is what the authors called *'Financial Value'*, which is linked to economic satisfaction within the customer-supplier relationship and is therefore important within the B2B railway industry.

Other authors have also indicated that satisfaction has been linked to the economic performance of relationships and to relationship profitability (Storbacka & Nenonen, 2009; Suchánek, Richter & Králová, 2015).

Based on the literature review, it can therefore be assumed that economic performance has a positive impact on economic benefits, and that economic benefits have a positive impact on satisfaction.

In addition, there appears to be a general agreement amongst researchers that economic benefits lead to retention. Grönroos (1997); Woodruff & Flint (2003); Ang and Buttle (2006: 85) and Roberts-Lombard, Mpinganjira & Svensson (2017) agreed that retention, enhanced by supplier-buyer relationships, leads to increased sales and reduced costs for suppliers, compared to those of selling to new customers, resulting in a decrease in the cost of maintaining relationships with customers.

Ang and Buttle (2006) and Al-Rabayah, Khasawneh, Abu-shamaa, & Alsmadi (2017) also stated that retained customers are less likely to receive discounted prices, which are often used to acquire new customers, thereby resulting in an increase in the net present value of retained customers.

Therefore, it can be assumed that economic benefits perceived by the supplier will lead to customer retention.

3.3.2.2 Trust and Commitment Benefits

Some researchers see trust and commitment as antecedents of relationship value, whilst others view them as mediators (Jemaa & Tournois, 2014). Chapter 4 of this study discusses relationship value antecedents and mediators in detail, as well as investigating whether trust and commitment are seen as antecedents or mediators of relationship value within the B2B railway industry of Southern Africa.

In discussing trust and commitment as potential benefits of a mutual relationship, it has been said that *'trust'* is regarded as one party's reliability and integrity in the eyes of the other (Roberts-Lombard & Nyadzayo, 2014). It is therefore necessary for enhancing the performance of a business relationship (Abdullah,

Wasiuzzaman & Musa, 2015). Commitment is the extent to which one party is dedicated to the maintenance of a relationship with the other (Ki, Kim & Ledingham, 2015).

It can therefore be assumed that trust is important for initiating a relationship, and commitment is important for the maintenance of the relationship.

Trust and commitment are strongly related to customer retention, and this could result in higher profitability from the supplier's perspective. Furthermore, when suppliers act in a way that builds customer trust, the perceived risk is reduced, thereby enabling the customer to make confident predictions about the supplier's future dealings. In the railway industry, trust is also a determinant of long-term relations between supplier and customer (DB Schenker, 2013). In this regard, the supplier performs in such a manner that the customer commits to the supplier over a long-term period.

Therefore, it is evident that trust and commitment, from the supplier's perspective, lead to customer retention.

3.3.2.3 Summary of Relationship Benefits for Suppliers

Based on the literature review, a summary of the perceived supplier relationship benefits is presented in Table 6 below:

Author	Relational Benefit	Key Performance Driver
Gwinner, Gremler & Bitner (1998)	Confidence Benefits	Operational and Service Performance
Gwinner *et al.* (1998); Sweeney & Webb (2002); Anderson *&* Sullivan (1993).	Social Benefits	Service Performance
Gwinner *et al.* (1998); Sweeney & Webb (2002); Anderson & Sullivan (1993).	Special Treatment Benefits	Operational and Service Performance
Sweeney and Webb (2002); Anderson & Sullivan (1993); Jemaa & Tournois (2014); Biggemann and Buttle (2007)	Economic Benefits	Financial, Operational and Service Performance

Sweeney and Webb (2002)	Strategic Benefits	Service and Financial Performance
Sweeney and Webb (2002); Ulaga (2003); Ulaga and Eggert (2006).	Operational Benefits	Financial, Operational and Service Performance
Anderson & Sullivan (1993); Ulaga (2003); Ulaga and Eggert (2006); Woodruff and Flint (2003).	Technical Benefits	Financial, Operational and Service Performance
Morgan and Hunt (1994); Arnett (2006); Jemaa and Tournois (2014); Sohail, (2012); Hacker, Israel & Couturier (1999); Kuppelwieser, Grefrath & Dziuk (2011); Ulaga (2001); Ulaga and Eggert (2006); Palmatier *et al.* (2006); Theron and Terblanche (2010); Liang, Wang & Wu (2009); Gounaris (2005)	Trust and Commitment	Financial, Operational and Service Performance
Ford and McDowell (1999); Jemaa and Tournois (2014)	Reputational Gains	Financial, Operational and Service Performance
Zhao, Iacono, Lari & Levinson (2012)	Knowledge Transferring as exchange-of-value	Financial, Operational and Service Performance
Morgan and Hunt (1994); Biggemann and Buttle (2007). Abdullah and Kanyan (2013); Anderson and Narus (1990); Ndubisi (2007); Lambert *et al.* (1996); Lages *et al.* (2005).	Communication	Financial, Operational and Service Performance
Christopher, Payne & Ballantyne (1991); Biggemann and Buttle (2007).	Access to networks	Mainly Financial and Service Performance

Rahman & Masoom (2015); Hunt, Arnett & Madhavaram (2006).	Competitive Advantage	Financial, Operational and Service Performance

Table 6: Summary of the Supplier (Rail Operator) Benefits of Relationship Value (Author)

3.3.2.4 Perceived Sacrifices of the Supplier (Rail Operator) in the B2B Relationship

According to the value equation, value is achieved when the perceived benefits are greater than the sacrifices (Lapierre, 2000; Ulaga, 2003: 678; Baines & Fill, 2014).

Surprisingly, there is a paucity of literature on perceived sacrifices within a B2B relationship from the supplier's perspective. Although the value equation is similarly constructed for both customer and supplier, because benefits differ from supplier and customer perspectives, so do sacrifices (Glowik & Bruhs, 2014: 75).

It is understood that amongst the important sacrifices that have to be made, the incurring of costs in order to provide the customer with a value offering has an impact from the supplier's perspective (Glowik & Bruhs, 2014: 75). These costs related to the implementation or maintenance of a relationship can be indirect (such as price negotiations, increased service support), direct (such as sales personnel) or general overhead costs (such as costs of developing sales personnel).

From a traditional economic viewpoint, the supplier would be compensated for its sacrifices, but costs to the supplier are weighted far less heavily than the benefits to the customer. Powelson, (2015: 117) stated that any supplier will supply (goods or services) if the cost (sacrifices) of not supplying is equal to the value of the sacrifice that must be made in supplying.

There is a gap in the literature regarding the perceived sacrifices from the supplier's perspective, which can potentially have an impact on the understanding of value in a B2B relationship. Further research on this topic is required to gain insight into the supplier's perceived sacrifices.

3.3.3 Customers' Perceived Benefits and Sacrifices in the B2B Relationship

3.3.3.1 Perceived Customer Benefits in the B2B Relationship

Understanding and measuring the perceived benefits is an important concept for scholars and practitioners, to improve the management of customer relationships in the marketplace (Kim & Moon, 2009).

The benefits of a close relationship with suppliers include the improvement in the quality of products and services, which reduces cost and lead-time / service completion times (Inayatullah, Narain & Singh, 2012: 74).

Since a conceptual model will be developed for the B2B railway industry, evaluating both the benefits and sacrifices of developing and maintaining the relationship will be identified, further evaluation is required.

Agrawal and Rahman (2015) indicated that the customers of today consider both the costs and benefits that they receive from suppliers as important factors in determining value.

Furthermore, as markets change, customers become more affluent and demanding, and are seeking to maximise value and minimise cost (Kontsas & Lazarides, 2012). This is even more reason to focus on customer relationship management strategies, in order to be more customer centric (Kumar & Reinartz, 2012: 12).

Lapierre (2000) identified 13 value-based drivers as benefits, and divided them into three main value categories, namely product, service and relationship (see Figure 17 below).

	Product	Service	Relationship
Benefits	▪ Alternative Solutions ▪ Product Quality ▪ Product Customization	▪ Responsiveness ▪ Flexibility ▪ Reliability ▪ Technical Competence	▪ Image ▪ Trust ▪ Solidarity
Sacrifices	▪ Price		▪ Time/ effort / energy ▪ Conflict

Figure 17: Total value proposition (adapted from Lapierre, 2000)

Under product benefits, Lapierre (2000: 125, 137) listed the following benefits related to product value: (1) Alternative solutions refers to the alternatives offered by the supplier; (2) Product quality focuses on the reliability and durability of the products bought by the customer; and (3) Product customisation signifies the ability of the supplier to meet unique product specifications.

Under service value benefits, Lappiere (2000: 125, 137, 138) listed the following:

- Responsiveness, which refers to the ability of the supplier to provide quick and efficient feedback to queries or answers;
- Reliability, which refers to the overall competency, or ability, of the supplier to meet the demand accurately and to keep its promise;
- Flexibility, which refers to the ability of the supplier to respond to unforeseen demands by the customer for products and services); and
- Technical competence, which refers to the supplier's expertise in the customer's operating environment / business.

Under relationship value benefits, Lappiere (2000: 125, 138) listed the following: Image, which refers to the reputation and credibility of the supplier's works; Trust, which is confidence in the supplier that what is said and provided are correct and true; and Solidarity, which refers to the assistance given to a supplier when the customer experiences problems.

Similar to the benefits listed by Lapierre (2000), many other researchers have highlighted the benefits of relationship value in the B2B context, as presented in the table below.

Unfortunately, limited attention was paid by Lapierre (2000) to the key performance drivers of relationship value in the context of benefits and sacrifices, and since performance is crucial for a stable, long-term relationship (Palmatier *et al.,* 2007) this study aims to evaluate the key performance drivers.

Two other important frameworks for determining perceived customer relationship value in the B2B context will be used as a basis for developing and explaining the conceptual model in this study. These two frameworks include Menon, Homburg and Beutin's (2005) Conceptual Framework for Customer Value in the B2B

Relationship, and Ulaga and Eggert's (2006) Framework for Value Drivers in Key Supplier Relationships.

The benefits and sacrifices of these two models are outlined in the table 7 below, and will be discussed in detail in the *'relationship marketing antecedents'* section of this study.

Author	Benefits	Key Performance Drivers
Anderson & Sullivan (1993); Anderson, Narus & Rossum (2006);	▪ Economic Benefits ▪ Technical Benefits ▪ Service Benefits ▪ Social Benefits	No performance drivers in the research
Grönroos (1997)	▪ Core Solution ▪ Additional Services	No performance drivers in the research
Gwinner *et al.* (1998)	▪ Confidence Benefits ▪ Social and ▪ Special Treatment Benefits	Relational Performance
Lapierre (2000)	▪ Product Benefits ▪ Service Benefits ▪ Relationship Benefits	No performance drivers in the research
Menon, Homburg and Beutin (2005)	▪ Core Benefits ▪ Add-On Benefits	▪ Operational Performance ▪ Service Performance ▪ Relational Performance
Ulaga and Eggert (2001)	▪ Product Benefits ▪ Personal Benefits ▪ Strategic Benefits	▪ Product Performance ▪ Relational Performance
Ulaga and Eggert (2006)	▪ Product Quality ▪ Delivery Performance ▪ Service Support ▪ Personal Interaction ▪ Supplier Know-How ▪ Time-to-Market	▪ Operational Performance ▪ Service Performance ▪ Relational Performance
Biggemann and Buttle (2007)	▪ Personal Benefits ▪ Financial Benefits ▪ Knowledge Benefits ▪ Strategic Benefits	▪ Financial Performance ▪ Operational Performance ▪ Service Performance
Sun, Pan, Wu & Kuo (2014)	▪ Core Benefits ▪ Sourcing Benefits ▪ Operations Benefits	No performance drivers in the research

Table 7: Summary of the Customer's Perceived Benefits of Relationship Value (Author)

Relationship value can be achieved by increasing value benefits (Ulaga & Eggert, 2006), as seen in the literature review. However, it can also be said that relationship value can decrease through value sacrifices.

The next section of this study reviews the customer's perceived sacrifices, since this study aims to include value sacrifices in order to develop a complete conceptual model for the B2B railway industry. In addition, although certain researchers do not include sacrifices in their research frameworks, in order to gain value, there is a trade-off between benefits and sacrifices (Lapierre, 2000; Payne & Holt, 2001: 161).

3.3.3.2 Customers' Perceived Sacrifices in the B2B Relationship

Unlike the paucity of available research on the supplier's perceived sacrifices, there is ample literature on the importance of understanding the customer's perceived sacrifices in the B2B relationship.

Numerous scholars (Grönroos, 1997; Lapierre, 2000; Menon, Homburg & Beutin, 2005; Eggert, Ulaga & Schultz, 2006; Woodside, 2010; Ali *et al.,* 2015) have given their own perspectives on perceived customer sacrifices, and why it is important for suppliers to limit these sacrifices in their value-offerings.

The two core models that will form the basis of this study are those developed by Menon, Homburg and Beutin (2005), and Ulaga and Eggert (2006). These two models will be discussed in detail within the *'relationship marketing antecedents'* section of the study, which includes related benefits ad sacrifices. However, in the context of perceived sacrifices, Ulaga and Eggert (2006) suggested three sacrifices in their integrated model of relationship value, namely: direct costs; acquisition costs; and operating costs.

Similarly, Menon, Homburg, and Beutin (2005) developed a conceptual model for Customer Value in a B2B Relationship. In this framework, the authors differentiate between various sacrifices, which include: purchase price; acquisition costs; and operating costs.

In the railway industry, rail operators are under pressure to keep sacrifices (or costs) to customers to a minimum, due to market pressures or the unavailability of public funds because of competing national priorities. Another reason for railways to reduce related costs is to improve service levels to customers (Beck, Bente & Schilling, 2013: 5).

A key question that needs to be answered here is the following: '*What are the main sacrifices that have a possible impact on a railway operator's relationship with its customers?'* According to Beck, Bente and Schilling (2013: 8), rail costs (both passenger and freight) are classified according to operating costs (costs associated with and required for the operation of rail services), and infrastructure-related costs (costs associated with the way in which railway infrastructure owners enhance the functionality and/or lifetime of infrastructure).

Wu, Lin & Hsu (2011) classified the costs in passenger rail as operating direct costs (costs associated with moving the train). High operating costs prevent rail from becoming a credible competitor among other modes of transport; commercial costs of customer services (not classified as direct costs but related to costs to attract and maintain passenger customers); and infrastructure costs (costs arising from payments for the use of the infrastructure).

For the purposes of this study, it is assumed that the greater the operating costs, the lower the perceived relationship value in the B2B railway industry. It is also assumed that the higher the infrastructure costs, the lower the perceived relationship value in the B2B railway industry.

In most B2B relationships, sacrifices are not only associated with the economic dimensions (costs) incurred by the firm (Ravald & Grönroos, 1996; Ford & McDowell, 1999), but can also have deleterious effects on a business relationship. Furthermore, in the railway industry, an important factor to consider is that costs vary between countries (based on culture, skill, religion etc.) and can evolve differently over time (Schröder, 2017).

These deleterious effects can include lock-in effects, where lock-in will hamper customers from changing suppliers in the case of predictable or unpredictable changes. This will give suppliers market power over the same customer in the case of switching costs or over others with network effects (Farrell & Klemperer, 2007: 1970).

Other deleterious effects include damaging effects on party A's reputation (Anderson *&* Sullivan, 1994) based on their relationship with party B. According to Gadde and Snehota (2000: 207), in some relationships, the outcomes are easier

to measure and quantify, whereas other relationships are less obvious, more indirect and more difficult to measure, but no less important.

A critical factor associated with relationship benefits and sacrifices in B2B is that meaningful relationships are founded on the creation of emotional value (Biggemann & Buttle, 2007: 1). Barnes (2003) stated that customer relationships are emotional constructs, in which value is reflected in ways that extend beyond retention and repeated buying.

Further empirical evidence suggests that customers' positive perception is important in determining long-term relationships, and customers' own value systems, such as status in society, which are shaped by motivation, determine the desire to have long-term relationships (Deb & Lomo-David, 2014).

Since organisations are normally managed and operated by people, the chance of *'personal values'* Biggemann & Buttle, 2007: 2) for example: shared cultural history, values, goals, interests, beliefs, sense of commitment, reliance, social support, intimacy, interest, respect, and trust, being crucial factors in relationship value creation is very high. It is also assumed that personal value will lead to higher satisfaction and longer-term relationships (Anderson & Narus, 1984; Voldnes & Grønhaug, 2015).

Profit-related sacrifices, as outlined by authors such as Menon *et al.* (2005) and Ulaga and Eggert (2006), may diminish personal values, which can lead to the dissolution of a relationship (Biggemann & Buttle, 2007: 7).

Given that, sacrifices have a reduced value perspective from the customer's viewpoint (Zeithamel, 1988; Wilson, 1995; Menon *et al.,* 2005; Shanker, 2012) it is assumed that an increase in sacrifices, as indicated by the above authors, will result in a reduction in perceived customer value. Nevertheless, it can be assumed that the higher the involvement of parties in a B2B relationship, the greater the sacrifices.

The next chapter of this study will discuss the key antecedents of relationship value within the B2B context. For relationships to be used as an instrument of strategy, business managers must understand these antecedents (Werani, 2001), so that they can fully capitalise on this value.

3.4 Conclusion of this Chapter

The main theoretical concepts of this study have been discussed within this chapter, which includes an overview about the evolution of marketing elements, and the need of researchers to determine the outcomes of relationship marketing (Zielinski, 2013; Matevž, Maja & Makro, 2013).

It is understood that relationship value within the B2B environment is a value trade-off that constitutes of differences in value benefits and value sacrifices (Jemaa & Tournois, 2014: 6). These relationships are linked to performance (O'Toole & Donaldson, 2002: 197) and characterised by researchers in different ways.

For example, Jayachandran *et al.* (2005) characterised relational performance as customer satisfaction, whilst Medlin (2013: 5) perceived it as an economic measurement of cooperation.

Relationship performance also has an impact (either positive of negative), depending on the outcome of the performance, on relationship value (Jääskeläinen *et al.,* 2017).

In the context of the railway industry, various potential relationship value benefits and potential sacrifices have been discussed and summarised in Table 6. The outcome of this summary concluded that certain relationship value benefits and sacrifices overlap and should be further analysed within the next Chapter of this study.

Lastly, the research of Lapierre (2000) was discussed based on customer perceived value drivers in a B2B relationship in which 13 value-based drivers as benefits of B2B relationships were divided into value categories, namely: product, service and relationship (refer to figure 15). The outcome of this Chapter was to understand the broader relationship marketing concepts through analysis and evaluating the theoretical foundation of customer relationship value in the context of the B2B environment. Emphasis was also given to retention as a possible outcome of relationship value. The next Chapter will examine relationship value antecedents and mediators for the B2B railway industry of Southern Africa.

4 Relationship Value Antecedents and Mediators

4.1 Introduction to Relationship Value Antecedents

This study aims to understand the customer relationship value antecedents, in order to determine how value is created in the B2B railway industry. It is therefore important to gain knowledge about different antecedents, since they contribute to the establishment and maintenance of customer relationships (Theron & Terblanche, 2010: 384) within the B2B context.

Numerous studies have focused on the various antecedents of relationship value, which means that it is a well-researched topic (Gummesson, 1994, 1997, 2002; Morgan & Hunt, 1994; Wilson, 1995; Grönroos, 1997, 2004; Ulaga & Eggert, 2006; Palmatier *et al.,* 2006; Menon, Homburg & Beutin, 2008; Theron & Terblanche, 2010; Sohail, 2012; Jemaa & Tournois, 2014, Das & Sharma, 2017).

Some authors regard certain antecedents (e.g. product and service quality) of relationship value as being more prominent (Dwyer *et al.,* 1987: 11; Theron & Terblanche, 2010: 389). In addition, it seems that research is contradicting in terms of some relationship antecedents, which can also be viewed as mediators, for example trust and commitment (Palmatier *et al.,* 2006; Alrubaiee & Al-Nazer, 2010; Theron & Terblanche, 2010).Therefore, no uniformity exists regarding which relationship value antecedents are most important, and whether they are definitely *"relationship value antecedents."*

Vargo and Lusch (2015) stated that research in the area of relationship value should adopt a multi-dimensional viewpoint, since there is no single or best dimension that is able to capture the full essence of the relationship phenomenon.

A significant criticism in most research on relationship value seems to be based on a single dimension that is intended to capture the nature of complex relationships between buyers and suppliers. Other studies in this field indicate the existence of more than one dimension in important relationship models (Gummesson, 1994, 1997, 2002; Wilson, 1995; Palmatier *et al.,* 2006). In this study, the essential antecedents for creating customer relationship value within the B2B railway industry will be elaborated on in the following section.

4.2 Existing Conceptual Models for Relationships Value in B2B

One of the key objectives of this study is to develop a conceptual model for relationship value within the B2B railway industry of Southern Africa. Although there are several existing conceptual frameworks, whose common aim is to enrich the relationship value body of knowledge, this study attempts to fill potential gaps in these conceptual models and improve the understanding of the relationship marketing dimension and its effect on relationship value, since no single model is a fit for all.

Therefore, this study reviewed prominent conceptual frameworks on customer relationship value within the B2B environment (Menon, Homburg & Beutin, 2005; Ulaga & Eggert, 2006; Biggemann & Buttle, 2007; Woodruff & Flint, 2003), and combined the key elements of these models in order to develop a single relationship value model for the B2B railway industry.

The rationale for discussing these conceptual models in this study, which include the models of Ulaga and Eggert (2006), Menon, Homburg and Beutin (2005), and Woodfuff, and Flint (2003), is that they provide a comprehensive explanation of relationship value in the manufacturing context, which might be similar to the B2B railway industry. Manufacturing forms part of a bigger supply chain process, one in which the B2B railway industry is an active participant (Guo, 2010: 106).

Secondly, the conceptualisation of customer value in a B2B relationship, where core benefits and add-on benefits of customer value are explained through these models, is important for this study, since the aim of this study is to determine the factors (benefits and sacrifices) of value in the B2B railway industry.

Lastly, within the context of this study, which focuses on the Southern African B2B railway environment, personal value within the B2B relationship is often not included in relationship value models. It is therefore important to include it in this study, since relationship value is concerned with social or personal values (Anderson and Sullivan, 1993), and should be evaluated within the B2B railway context.

These conceptual frameworks will be discussed in detail below.

4.2.1 Menon, Homburg and Beutin (2005): Conceptualising Value in B2B

Building on Menon, Homburg, and Beutin's (2005) conceptualisation of value in a B2B relationship, this study aims to develop an integrated conceptual model of relationship value in the B2B railway industry.

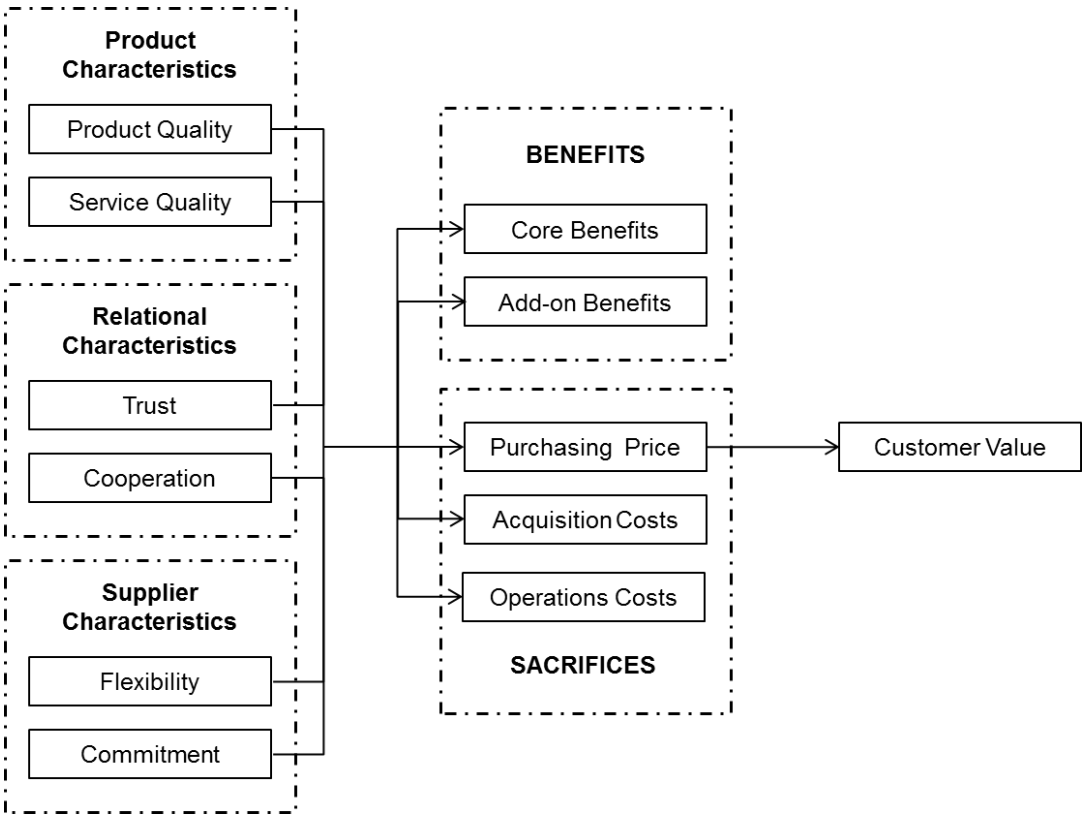

Figure 18: Conceptualising Customer Value in B2B Relationships (Menon, Homburg & Beutin, 2005)

This framework explains how Menon, Homburg and Beutin (2005) conceptualise customer value in a B2B relationship, with the antecedents of core benefits and add-on benefits. As indicated in the conceptual model of Menon, Homburg and Beutin (2005: 8), the customer's perceptions of benefits and sacrifices are influenced by several characteristics that have an indirect effect on customer value. These characteristics will be discussed in the following sections.

4.2.1.1 Product Characteristics

The authors stated that the characteristics of the product would have a strong influence on customer value, as perceived by the customer (Menon, Homburg & Beutin, 2005). Under product characteristics, Menon, Homburg and Beutin

(2005) mentioned product quality and service quality as two important dimensions that have an impact on customer value (Al-Hashedi & Abkar, 2017).

Product quality refers to the durability of the products that customers buy (Lapierre, 2000: 137), or the extent to which it meets the customer's product requirements. In B2B, product quality received from a supplier has an important impact on the customer's product, and consequently on their business, and is therefore an important factor in the evaluation of perceived value.

Service quality is critical in measuring performance and has a strong link to customer retention (Kumar Rai, 2013). It can also be defined as *'how well the delivered technical and business process service matches the customer's expectation'* (Menon, Homburg & Beutin, 2005). Many researchers have included service quality as an antecedent or dimension within their frameworks (Zeithaml, Berry & Parasuraman, 1996; Gounaris, 2005; Rauyruen, Miller & Barrett, 2007; Janita & Miranda, 2013), especially within the B2B context, because of its strong link to value through re-purchasing.

In this model, it is indicated that service quality has a positive impact on the customer's perception of the core benefits, which lead to value creation (Menon, Homburg & Beutin, 2005), since service quality has become a critical part of a customer's selection criteria. In addition, in the railway industry, service quality is seen as very important, because it benefits existing customers, reduces risk (accidents, energy consumption, operational costs), increases revenue, and provides scale economies (Lingaitis & Sinkevicius, 2014; Pojani & Stead, 2015).

It is further assumed that the greater the service quality, the greater the core benefits in the B2B railway industry.

A study on rail freight users in the United Kingdom by Aecom (2012) revealed that the lack of overall service quality is the second biggest factor preventing customers that use road transportation from switching to rail.

Therefore, the assumption is that service quality is an important performance factor in the B2B railway industry.

Service quality also reduces both infrastructure and operational costs (Campos & Cantos, 1999). For example, the Brazilian railways, based on their improvement in service quality (OECD Report, 2013) have achieved a substantial recovery in levels of investment in rail infrastructure and operations.

It can therefore be argued that a high level of service quality will reduce operational costs in the B2B railway industry. Furthermore, a high level of service quality will reduce infrastructure costs in the B2B railway industry.

4.2.1.2 Relational Characteristics

Menon, Homburg and Beutin (2005) described two sub-dimensions of relational characteristics in their model, namely trust and joint working. This is a good example of researchers who use trust and joint working as antecedents of relationship value benefits and sacrifices.

Trust, as discussed by Menon, Homburg and Beutin, (2005), is referred to as *'the perceived credibility and benevolence of the supplier as viewed by the customer'*. Value creation is the process of mutual trust and benefit, and customers have the tendency to evaluate the overall relationship based on trust and benefit (Jianhua & Mingli, 2013: 4353).

According to Du Plessis (2010: 4), before a customer will conduct business with an organisation, they must be able to trust the supplier. Trust reduces the risk that is associated with certain transaction costs, and increases confidence in the supplier (Ganesan, 1994). Trust is also an important factor in relationship commitment and retention. If there is trust, there will be a positive intention to commit to the relationship (Van Vuuren, Roberts-Lombard & van Tonder, 2012: 85).

According to Menon, Homburg and Beutin (2005: 12), the greater the trust, the greater the perceived core benefits will be for the customer. Customers need to feel safe in their dealings with suppliers, and to be assured that their interaction is confidential, in that they are able to trust their suppliers (Parasuraman *et al.,* 1985).

In addition, trust reduces costs, since there is less necessity to establish expensive control measures (Walter, Helfert & Mueller, 2000). Menon, Homburg and

Beutin (2005: 12) also stated that the greater the trust in the supplier, the lower the acquisition costs, because customers who trust suppliers are likely to have lower costs associated with monitoring supplier performance.

4.2.1.2.1. Trust and Cooperation

Menon, Homburg and Beutin (2005) discuss two main relational characteristics, trust and cooperation. Trust in inter-organisational relationships enables each entity in the relationship to focus on the long-term benefits of the relationship (Ganesan, 1994). Within the context of the research of Menon, Homburg and Beutin (2005: 12) they state that trust-based relationships with within the B2B environment are central to a firm's ability to compete effectively in today's highly competitive marketplace, concluding that trust has a positive impact on the core benefits.

Some researchers see trust, as mentioned in section 3.1.1.2, not as an antecedent of customer relationship value but as a mediator (Theron & Terblanche, 2010; Albrubaiee & Al-Nazer, 2010). According to the model of Menon, Homburg and Beutin (2005: 12), trust is an antecedent, which positively influences the core benefits and lower acquisition costs. Consequently, more relationship value literature will be reviewed to determine whether trust is a relationship value antecedent or mediator in the B2B railway industry of Southern Africa, as per the objectives of this study.

Cooperation is also discussed according to the model of Menon, Homburg and Beutin (2005: 12), and refers to parties in a relationship engaging in combined decision-making and problem solving and has prominence in the B2B environment.

Looking from a relational characteristic perspective, cooperation increases when a in a long-term customer relationship with supplier through the efforts and behaviours of the supplier (Lussier and Hall, 2018: 220).

The model of Menon, Homburg and Beutin (2005: 13) discuss that cooperation will allow the supplier to anticipate the customer's needs better and deliver products to the customers in appropriate quantities and specifications thus reducing the customer's acquisition costs. Menon, Homburg and Beutin (2005: 13)

therefore conclude that cooperation increases the customer's add-on benefits and reduce acquisition costs, or customer sacrifices.

In conclusion, Menon, Homburg and Beutin (2005) state that trust and cooperation form part of relational characteristics in a B2B environment, having positive effects on customer value.

4.2.1.3 Supplier Characteristics

Menon, Homburg and Beutin (2005: 14) included flexibility and supplier commitment as part of their conceptual model. According to them, within a B2B relationship, flexibility is an important dimension of supplier characteristics. They also defined flexibility as the *'extent to which the supplier is willing and able to make adaptations to accommodate the customer changing needs'*.

Due to the competitive nature of the B2B environment, being flexible in meeting the changing needs of customers is important for creating relationship value (Kale & Barnes, 1992). Maintaining a degree of flexibility will further develop the industry, and is a *'competitive weapon used in today's competitive markets'* (Kayis & Kara, 2005: 734).

In addition, flexibility enhances the customer's organisational performance, in order to adapt to changes in markets (Dunford, Cuganesan, Grant, Palmer, Beaumont & Steele, 2013). It can therefore be stated that flexibility is important for customers in the process of selecting key attributes that add to relationship value (Kotler & Keller, 2016).

The assumption is therefore that the more flexible the supplier, the greater the perceived core benefits. This is because the supplier's flexibility stimulates the deepening of the partnership between suppliers and customers throughout the customer network, ending with the final consumer (Lostakova & Pecinova, 2014: 569).

Within the railway industry, according to Cantos and Campos (2005: 21), the aspects of service quality and flexibility are closely linked. This means that higher quality will lead to greater flexibility within scheduled services, and flexibility allows new services to be introduced in response to the change in demand.

These researchers further stated that the railway industry has always been in a disadvantaged position in relation to road transport, because of the lack of flexibility due to the lack of alternative routes between points (Cantos & Campos, 2005).

It can therefore be assumed that flexibility is an important performance factor in the B2B railway industry.

Menon, Homburg and Beutin (2005: 15) illustrated that the greater the flexibility of a supplier, the greater the perceived add-on benefits. The reason for this is that flexibility allow suppliers to *'make life easier'* for customers, by supplying according to their changing needs. It therefore has a positive impact on add-on benefits.

It can therefore be expected that the greater the supplier's flexibility, the greater the perceived add-on benefits in the B2B railway industry.

Menon, Homburg and Beutin (2005: 15) also showed that flexibility reduce operations costs. The reason for this is that it avoids downtime, based on a hike in customer demand. In the railway industry, flexibility is created through various means, such as the improvement of information technology systems. This flexibility will benefit the customer by reducing costs (Gillen & Levinson, 2004: 321). Therefore, the higher the flexibility, the lower the operational costs in the B2B railway industry.

The last point under supplier characteristics is the commitment of the supplier, according to Menon, Homburg and Beutin (2005: 15). Like trust, which forms part of relational characteristics in their conceptual model, commitment is viewed as an antecedent of relationship value benefits and sacrifices, as perceived by the customer.

In this context, commitment is defined as *'an enduring desire and effort on the part of the supplier to maintain a valued relationship with the customer'* (Morgan & Hunt, 1994: 23). Trust and commitment are two main criteria for the establishment and maintenance of a long-term relationship between supplier and customer. According to Hunt and Morgan (1994), commitment reduces the customer's operational costs.

In the conceptual model of Menon, Homburg and Beutin (2005), reference is also made to the positive impact of commitment on add-on benefits. Since these researchers view commitment as a behavioural trait, it becomes a desirable attribute in the buyer's decision-making process and serves as a criterion for customers' selection of a supplier over other potential suppliers (Menon, Homburg & Beutin, 2005: 15).

Although trust and commitment are used in this conceptual framework as antecedents of relationship value and benefits (Menon, Homburg & Beutin, 2005), this study will use trust and commitment as mediators of relationship value in the B2B railway industry. The reason for this is that trust, satisfaction and commitment play the role of a mediator between relationship benefits and value creation.

Therefore, trust, satisfaction, and commitment will be discussed as mediators of relationship value in this study.

4.2.1.4 Benefits and Sacrifices

Menon, Homburg and Beutin (2005: 5) also distinguished between core benefits, which are defined as the *'basic features required and viewed as a "must" for a relationship to exist',* and add-on benefits, which refer to the *'attributes, typically not required, that assist the customer in selecting a supplier from among a qualified set of potential suppliers*'.

A core benefit is also referred to in the literature as a *'core value'* (Grönroos, 1997), or *'core offering'* (Kleinaltenkamp *et al.,* 2016), as well as a *'basic requirement'* (Thompson, 1998).

In a B2B relationship, the *'core offering'* from the supplier to the customer must hold a certain amount of value, since it is the minimum requirement for the exchange. Since customers expect suppliers with whom they are in a relationship to continuously improve their core offering, suppliers can do so by providing a core offering that is superior (Kleinaltenkamp *et al.,* 2014: 131).

It can be concluded that the greater the core benefit, the greater the perceived relationship value in the B2B railway industry.

Add-on benefits are also referred to in the literature as a *'value-added service'* (Hennig-Thurau & Hansen, 2000: 114);

Since the customer is the reason for the transaction and the main recipient of the performance by the supplier (Kleinaltenkamp *et al.,* 2014: 131), add-on benefits have the potential to prolong (transactional exchange) and intensify (relational exchange) the B2B relationship and are a prerequisite for customer satisfaction (Kleinaltenkamp *et al.,* 2014: 131). In addition, according to the causal chain of satisfaction, add-on benefits increase customer retention and therefore organisational profitability (Kumar *et al.,* 2011).

Therefore, it can be assumed that the greater the perceived add-on benefits, the greater the perceived relationship value within the B2B railway industry***.***

4.2.2 Ulaga and Eggert (2006): Value Drivers in Key Supplier Relationships

The research conducted by Ulaga and Eggert (2006) is reviewed here, in order to investigate the value drivers in key B2B relationships. Ulaga and Eggert (2006) divided relationship value drivers into three main categories, namely: (1) core offerings, (2) sourcing process; and (3) customer operations (see Table 8 below).

Value Drivers in Key Supplier Relationships		
Drivers	**Benefits**	**Costs**
Core Offering	Product Quality	Direct Costs
	Delivery Performance	
Sourcing Process	Service Support	Acquisition Costs
	Personal Interaction	
Customer Operation	Supplier Know-how	Operation Costs
	Time-to-Market	

Table 8: Measures of Relationship Value Benefits (Ulaga & Eggert, 2006)

4.2.2.1 Value Creation through Core Offerings

According to Ulaga and Eggert (2006: 122), the core offering (or core benefit) driver exists because of product quality and delivery performance and leads to the reduction of direct costs.

Product Quality – Various researchers (Gummesson, 1998; Ulaga & Eggert, 2001; 2006; Flint & Woodruff, 2003: 519; Čater & Čater, 2010) are of the opinion

that product quality is a direct antecedent of value, which is in turn a direct driver of purchase or repurchase intentions.

Delivery Performance – According to Ulaga and Eggert (2006: 123), suppliers create value by consistently meeting delivery schedules (on-time delivery). On-time delivery, according to Woodruff and Flint (2003), is a customer-preferred characteristic of supplier service, and involves faster and completed cycle times by a supplier from the development stage to manufacturing and the delivery of the end products to the customer (Ulaga & Eggert, 2006: 127).

In the railway industry, a key customer expectation, according to Laube and Mahadevan (2008: 1), is delivery performance. Ratshilingano (2013) conducted a study on satisfying customers by improving and controlling service quality at Transnet in South Africa. He indicated that due to the inefficiency in delivery performance by Transnet Freight Rail (TFR), trains were not delivering on time, due to high variations in cycle time, which resulted in customer dissatisfaction and made it difficult for TFR to retain their customers (Ratshilingano, 2013: 21).

According to a rail freight customer survey conducted by Booz and Company in 2009 on European rail freight operators, on-time delivery was found to be the most important selection criterion for customers' choice of a rail freight operator (CER - Rail Freight Status Report, 2013: 12). Delivery performance has a direct impact on a customer's core business. For example, if a B2B supplier, utilising freight rail, has poor delivery performance, it will have a direct impact on the customer's ability to deliver to their customers on time.

It is therefore expected that the greater the delivery performance, the greater the perceived core benefits by the customer.

According to a recent study conducted by the Department of Environmental Affairs in South Africa, together with the *Deutsche Gesellschaft für Internationale Zusammeenarbeit (GIZ),* on shifting freight from road to rail, the average infrastructure and operating costs of moving freight per annum are estimated at R 4 billion and R 47 billion respectively for rail (Department of Energy, 2014: 12). Therefore, customers who require freight to be moved will evaluate the supplier in detail in terms of their ability to deliver on time, inventory-holding costs to be

charged, and other cost factors affecting the decision regarding whether to use rail or road (Department of Energy, 2014: 12).

According to the CSIR ScienceScope (2010: 8), when suppliers transport goods on roads of a deteriorating quality, the transport operator must increase transport tariffs due to the higher operating costs. Therefore, the price of products increases, and the increased transportation costs are absorbed either by the supplier or by the customer. In freight rail, a *"performing railway"* is one in which the goods being transported are *'on time, all of the time',* in order to ensure the optimal utilisation of operating costs (UN Publication: Development of Trans-Asian Railway, 2001: 71).

It is therefore anticipated that the greater the delivery time of a supplier, the lower the operational costs.

Although reliability is not discussed as part of the Ulaga and Eggert's (2006) model, it is often mistaken as being synonymous with delivery performance. Reliability is defined by Lapierre (2000: 137) as simply a supplier's *"ability to do things right the first time."* Reliability is an essential part of a supplier-customer relationship, since it is based on trust and commitment, and results in value (Lapierre, 2000).

In the railway industry, reliability is probably the most important customer satisfaction criterion in both passenger and freight rail services (Vromans, 2005; Vanniarajan & Stephen, 2008; Geetika, 2010; Rajeshwari & Elangovan, 2014; Maruvada & Bellamkonda, 2017), since the higher the reliability of freight or passenger system, the more it sells (Marinov Lima, Kuhl, Bogacki & Onbasi, 2014: 47).

According to the ORR Freight Customer Survey conducted by Aecom (2012: 29), 22% of the respondents stated that a lack of reliability was a prevailing factor preventing the use of rail in Europe.

The study of Marinov *et al.* (2014: 52) on light rail in the UK also found that the most important factor influencing customer satisfaction with this service is reliability (82% of respondents). The reason for this is that a supplier is perceived as reliable when delivery performance is constant, when relevant information is

provided timeously and accurately, and when members of the supplier's organisation are knowledgeable about their product, services, and so forth (Selnes & Gønhaug, 2000; Kumar *et al.,* 2011).

According to Zimmerman and Blythe (2013), reliability is a core benefit for the customer. This is because it adds value to a transaction and a relationship (Lapierre, 2000).

Therefore, it is expected that the higher the reliability of the supplier, the more the perceived core benefits by the customer in the B2B railway industry will be.

In the railway industry, reliability of service will lead to a reduction of infrastructure-related costs. According to Jamshidi, Faghih-Roohi, Hajizadeh, Núñez, Babuska, Dollevoet, Li, & De Schutter (2017) railway infrastructure failures influence the reliability of the operations, and therefore cost the rail operators more.

Furthermore, Niculescu, Golgojan, Bednarz, Ivanova, & Maly (2014: 110) stated that the optimal utilisation of infrastructure has the potential to transform rail transport management, by providing a better understanding of the interconnectivity of systems and the implications of events resulting in improved reliability, safety and efficiency.

Therefore, greater reliability of rail service suppliers will reduce infrastructure costs in the B2B railway industry.

Direct Costs – Direct costs have a negative impact on relationship value (Sun *et al.,* 2014: 82). Ulaga and Eggert (2006) used direct costs, which are normally associated with sacrifices of relationship value, as a means for creating value by reducing the costs in commercial exchanges. It is therefore assumed that the lower the direct costs on the supplier's side, the higher the value that is created for a customer.

4.2.2.2 Value Creation through the Sourcing Process

The sourcing process is classified in terms of service support and personal interaction, according to Ulaga and Eggert (2006: 123), and has the effect of reducing acquisition costs.

Service Support – In previous customer relationship research, service support was viewed as separate from core services (Roos & Edvardsson, 2008). However, Ulaga and Eggert (2006: 123) included service support as part of the sourcing process, which defines the supplier's capacity to provide value-added services to the buyer, since buyers look for complete solutions rather than individual products (Ulaga & Eggert, 2003).

Personal Interaction – Interaction is, according to Grönroos (1997, 2004); Palmatier (2006) and Li (2010), an antecedent of relationship marketing that will lead to value. Developing interpersonal ties improve problem solving and communication, and lead to a better understanding of each partner's goals. These benefits are regarded as contributing to the growth of a relationship as a whole (Ulaga & Eggert, 2006: 125).

Acquisition Costs – Acquisition cost is seen in this context as the *"supplier's willingness to take costs out of the sourcing process"* (Ulaga & Eggert, 2006), and lowering acquisition costs is the main objective of supply chain managers. A sacrifice of customer relationship value, acquisition costs include expenses to the customer related to the ordering, delivery, and storage of products, as well as the expense of monitoring supplier performance, and coordinating and communicating with the supplier. Therefore, the assumption is that reducing acquisition costs will lead to higher relationship value.

4.2.2.3 Value Creation in Customer Operations

The improvement of customer operations is achieved through customer know-how and time-to-market and has an impact on reducing operational costs for the customer (Ulaga & Eggert, 2006: 126), which in turn leads to increased relationship value.

Supplier Know-How - According to Ulaga and Eggert (2006: 126), a supplier's thorough understanding of a customer's operations and long-standing experience with a customer's products create opportunities for suppliers to add value in the improvement of existing products.

Time-to-Market - Time-to-market refers to reduced cycle times, as suppliers are constantly faced with increased pressure to develop products faster (Ulaga &

Eggert, 2006: 127). It is also stated that cost and lead-time are intimately connected to each other, both on the supplier side and the customer side (Ray & Jewkes, 2004). In an industrial environment, long lead times result in either over- or under-production, and inaccurate inventory levels (Lee *et al.,* 2004).

Both supplier know-how and time-to-market positively influence the degree of customer satisfaction, according to Căter and Căter (2009: 587).

Operational Costs –Supplier know-how and time-to-market lead to a reduction in operational costs, which are associated with a business's primary activities (Cannon & Homburg, 2001). Lowering operational costs through supplier know-how and shorter lead times will ultimately lead to increased relationship value.

The framework presented by Ulaga and Eggert (2006) focuses on relationship marketing antecedents that lead to value. The framework highlights the customer-preferred dimensions of the supplier's offering in a B2B manufacturing environment.

Although the B2B railway industry can relate to some elements of the model (e.g. delivery performance and service support), other elements in the study are specifically suited to the manufacturing industry.

As defined in Chapter one of this study, the B2B railway industry is concerned with the movement of freight services through rail as part of the B2B marketplace. Although railway freight transport is itself a part of the supply chain (Guo, 2010: 106), this study does not focus on specific parts of the supply chain or manufacturing operations, as with the research conducted by Ulaga and Eggert (2006).

4.2.3 Biggemann and Buttle (2005, 2012): Conceptualising B2B Relationship Value

Within a B2B relationship, value is created in various forms (Biggemann & Buttle, 2005; Sun *et al.,* 2014).

In the previous models of Ulaga and Eggert (2006) and Menon, Homburg and Beutin (2005), more emphasis was placed on antecedents of relationship value benefits and sacrifices from a functional perspective (e.g. service and product quality, flexibility, and time-to-market).

Although both these models clearly include elements from relational dimensions (e.g. trust and commitment), the model of Biggemann and Buttle (2005; 2012) focuses on personal value as an antecedent of relationship value, which leads to satisfaction and customer retention.

On the other hand, the models of Ulaga and Eggert (2006) and Menon, Homburg and Beutin (2005) only focus on creating customer value as an outcome of key sources of value creation. These models do not evaluate customer satisfaction and retention as an important part of the value creation process (Roberts, Liu & Hazard, 2005).

The conceptual model below was developed by Biggemann and Buttle (2005: 7), who identified four dimensions of relationship value, with each dimension having different outcomes.

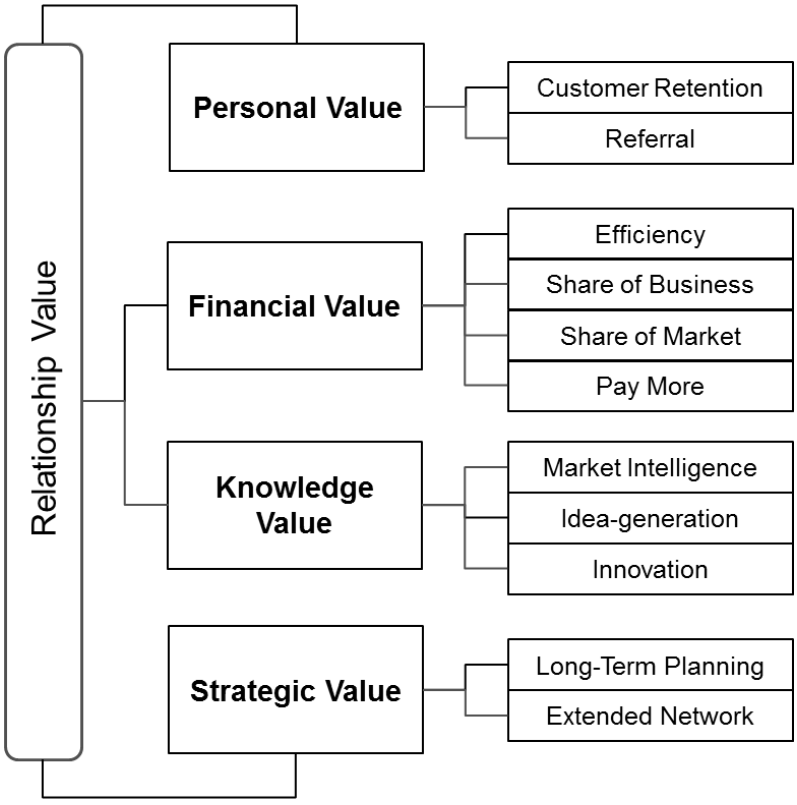

Figure 19: Appraising Total Relationship Value (Biggemann & Buttle, 2005)

The entire conceptual model of Biggemann and Buttle (2005), as illustrated in Figure 19 above, is centred around different classes of relationship benefits,

which include the most frequently cited benefit (financial value) and the less researched benefit (personal value). This model will be discussed in this section.

4.2.3.1 Personal Value

Since personal value is considered a soft attribute, it becomes difficult to quantify it (Richards, 2015). However, researchers have previously stated that relationship value is strongly linked to social or personal values (Anderson and Sullivan, 1993; Biggemann & Buttle, 2005; Richards, 2015). In addition, according to Biggemann and Buttle (2005: 4), personal value becomes important in relationships with customers, based on their personal values and interpretation of the relationship as an event.

Ford and McDowell (1999) also defined personal value as *'the value connected to an individual's personal beliefs'*. However, according to Barnes (2003), these definitions are associated more with emotional value than personal value.

Some researchers also refer to personal value as *'social value'* (Hennig-Thurau *et al.,* 2002; Fiol, Bigne Alcañiz, Moliner Tena, & García, 2009), or *'emotional value'* (Barnes, 2003).

However, there is clear difference between social value and emotional value in perceived customer relationships. According to Sheth *et al.* (1991), social value is determined by the benefit perceived through customer identification with reference groups. On the other hand, emotional value is determined by the emotions perceived by the customer, such as comfort, passion, security, and so forth.

In the context of their research, Biggemann and Buttle (2005: 4) described personal value as *'value in which one of the parties legitimates or accepts the actions of others those in different circumstances would be prohibited or disapproved'*. In other words, it is a set of personal value criteria in which one party is willing to tolerate the other under challenging circumstances, simply because the parties value their relationship. This can be due to shared cultural history, goals, beliefs, interests, sense of commitment etc.

An important characteristic of personal value is that it leads to higher satisfaction and retention (Anderson & Narus, 1984; Voldnes, 2015), and according to Reichheld and Sasser (1990), this will lead to an increase in financial value.

Van Hagen and Bron (2014) conducted a study within the passenger railway industry on the personal value gained from a train journey and looked at how it enhances customer satisfaction.

They further stated that railway companies are unable to offer a service that has a positive effect on customers' personal values (Van Hagen & Bron, 2014: 254). Therefore, more attention needs to be paid to the personal value of the customer (Van Hagen, De Bruyn & Ten Elsen, 2017).

It can therefore be assumed that personal value is an important performance factor in the B2B railway industry.

The decision to use a passenger train as a mode of transport meets one of the customer's core needs (Van Hagen & Bron, 2014: 255), namely transport from point A to point B. However, the creation of extra value through attempting to improve the expectations of the customer (e.g. comfort, reliability, flexibility) would be an added-benefit to the customer (Van Hagen & Bron, 2014: 260).

The assumption is therefore that the greater the personal value, the greater the add-on benefits in the B2B railway industry.

Both passenger and freight rail market segments have specific customer needs, which are mainly associated with customer expectations. In order to satisfy these needs, the relevant market segments would require specific cost-intensive design, construction, manufacturing, operations, and maintenance systems (Foster Rail Report, 2014). However, the known expectations of customers (e.g. comfort, reliability, flexibility) in these rail market segments assist these markets to reduce both operational and infrastructure-related costs, in order to provide value-added service.

It is therefore assumed that personal value will lower the operational costs in the B2B railway industry. It can also be assumed that personal value will lower the infrastructure costs in the B2B railway industry.

Their argument was that if a rail carrier aims for more and happier customers, any improvements to the service should particularly appeal to those potential customers who use cars as a transport mode. This is especially true if the passenger expects the carrier to be aware of his/her most important needs, such as safety, reliability, speed (travel time), ease, comfort and experience (van Hagen & Bron, 2014: 254).

Since existing research has not yet proven this in the case of freight rail customers, further research should be conducted on this topic.

4.2.3.2 Financial Value

Numerous researchers have included financial or economic value as part of their relationship value conceptual models (Lapierre, 2000; Walter & Ritter, 2003; Ulaga, 2003). The reason for this is that customer value leads to profit (Ravald & Grönroos, 1996; Kumar & Reinartz, 2012). The lifeblood of any business, whether it is for the supplier or the customer, is profit.

Biggemann and Buttle (2005: 5) identified four forms of financial value, namely (1) Efficiency; (2) Share of the Market; (3) Share of the Business; and (4) Pay More. In this study, the focus is on efficiency and share of the market, since these two financial performance indicators are very relevant to the railway industry.

Biggemann and Buttle (2005: 5) stated that close relationships lead to increased business opportunities and improved efficiency, particularly because of better planning. The importance of efficiency is described by Reilly (2014), who poses the following question: If growth is about gaining market share and developing new products/services, why is there still a substantial focus on retaining customers and ensuring more efficient products /services?

Eggert, Ulaga and Schultz (2006), as well as Parvatiyar and Sheth (2001), stated that with greater efficiency, value is delivered to the customer. Efficiency and customer satisfaction are therefore closely linked. According to Heikkilä (2002: 747), a successful relationship between the customer and the supplier contributes to reliable information flows, and reliable demand information flows in turn contribute to high efficiency, which will ultimately lead to enhanced customer satisfaction.

Efficiency is also linked to delivery-times or speed, since it has an effect on demand, according to Holmström and Milgrom (1994), since it has an impact on the core value of a customer's product / service. If a supplier is deemed *'efficient'*, it means that the supplier delivers the goods on time, with the quality that the customer expects. Within the B2B environment, the customer does not order goods/services for his own consumption but sells them to his customers.

Therefore, if the customer expects efficiency from a supplier that does not perform, their customers will negatively affect the customer in their performance drivers on core benefits. In essence, it is expected that efficiency will have a positive influence on core benefits in the B2B railway industry.

In the railway industry, cost and revenue drivers affect efficiency in terms of two main functions, namely infrastructure and operations (Beck *et al.,* 2013). These researchers further stated that efficiency in rail involves maximising revenues (benefits) and minimising costs (sacrifices), while providing the desired level of service (customer value) (Beck *et al.,* 2013: 7).

Infrastructure costs are significant cost drivers for railways, and include maintenance, track renewal expenses, and all other infrastructure-related costs.

Operational costs are also a significant cost driver. Studies have shown that higher utilisation of assets through freight operations has a positive impact on efficiency (Sanchez & Villarova, 2000; Beck *et al.,* 2013: 12).

These costs can cause major inefficiencies in the railway industry (e.g. switch density, higher electrification, resulting in higher maintenance cost, and increased personnel expenses) (Beck *et al.,* 2013: 21).

It is therefore assumed that the greater the efficiency of suppliers in the B2B railway industry, the lower the infrastructure costs. Furthermore, the greater the efficiency of suppliers in the B2B railway industry, the lower the operational costs will be.

4.2.3.3 Share of Market

The model of Biggemann and Buttle (2012) includes *'share of market'* as a form of financial value. According to Tzempelikos and Gounaris (2013: 1), share of

market is a key performance indicator for marketing managers, and broader economic and business managers.

In the past, market share was closely linked to customer satisfaction – driving retention and positive word-of-mouth (Tzempelikos & Gouranris, 2013). However, according to recent studies, it appears that there is a negative relationship between customer satisfaction and market share (Rego, Morgan & Fornell, 2013). It seems that brand preference is an important factor influencing the satisfaction of customers' needs, and will not necessarily result in higher market share, unless there was a homogenous demand for the product (Avlonitis, Papastathopoulou, & Gounaris 2001).

However, it also depends on the homogeneity in the nature of the demand, and of the customer's preference in an industry (Tzempelikos & Gounaris, 2013: 2). In the railway industry, road transportation of freight is also a very viable option for customers. The *'road versus rail'* debate is an ongoing one (Van der Mescht, 2006; Van Jaarsveld, 2012) that focuses on meeting a set of criteria (e.g. reliability, efficiency etc.) from both rail and road perspectives, in order to benefit the public, national objectives, and customer satisfaction.

Nevertheless, because the customer can choose between rail benefits and road benefits, these two transport modes have been set against one another as competing options (Muro-Rodríguez, Perez-Jiménez, & Gutiérrez-Broncano, 2017).

Market share in the railway context is a key performance driver, where the objective is to shift freight or passengers from road to rail (Havenga, 2012; Baloyi, 2014: 14). A recent study on the role of SA's freight rail regulatory framework in general freight stated that due to the freight system's inefficiencies (overpricing, poor customer service etc.), freight rail has lost a significant market share (Baloyi, 2014: 15).

Olievschi (2013) also stated that in Sub-Saharan Africa, due to lack of a financial investment in infrastructure, rolling stock and improved quality of customer service, the railways have lost its market share. The researcher indicated that the railway industry in sub-Saharan Africa should focus on defining and gaining its market share through core benefits.

It is therefore assumed that an increase in market share will have a positive impact on perceived core benefits by the customer in the B2B railway industry.

According to Havenga (2012: 10), an effective repositioning of SA's rail should strive for a core network with greater density. Either related costs will decrease relative to improved density, or costs will increase with less utilisation. Pietrantonio and Pelmans (2004: 4) also stated that the railway market share will decrease or increase, either due to low-price / high volume goods, or high-price/low volume goods.

Therefore, it can be argued that the customer's confidence in transporting volumes of goods with freight rail from one point to another will have an impact on the cost (an increase in volume will lead to a lower price per ton, and a decrease in volume will lead to a higher price per ton).

In essence, an increase in market share will decrease perceived infrastructure costs in the B2B railway industry. In addition, an increase in market share will decrease perceived operational costs in the B2B railway industry.

4.2.4 Woodruff and Flint (2003): Customer Perceived Value Drivers

Research conducted by Woodruff and Flint (2003) listed the following relationship marketing value benefits as customer-preferred characteristics of the supplier's service offering in the B2B industrial environment: (1) technical service quality; (2) supplier's product quality; (3) on-time delivery; and (4) competitive pricing.

Woodruff and Flint (2003) aimed to determine which value drivers are most valued by a customer.

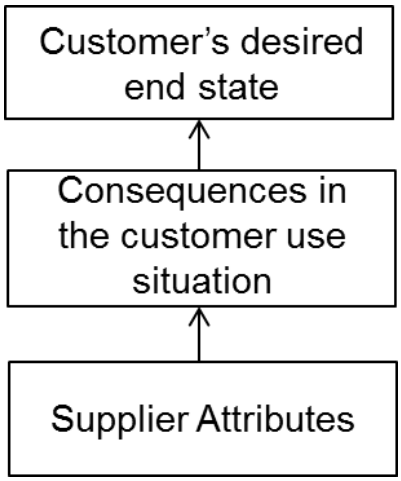

Figure 20: Customer Value Hierarchy (Woodruff & Flint, 2003).

According to Woodruff and Flint (2003: 520), all value drivers are outcomes of product/service use, and may be positive for the customer, while others are seen as negative.

Figure 20 above Illustrates the customer value hierarchy developed by Woodruff and Flint (2003) and suggests that customers learn which consequences facilitate the achievement of the desired end states. Desired end states are the goals that a customer wants to accomplish (e.g. making money, reputational goals etc.).

Customers view supplier attributes as benefits, in the sense of having positive worth to them, such as on-time delivery, technical service quality, product quality, and competitive price (Woodruff & Flint, 2003: 519).

Furthermore, customers only desire these supplier attributes when they lead to consequences that the customer wants to achieve in his own use situation (Woodruff & Flint, 2003: 520). For example, on-time delivery (supplier attribute) might mean that a customer receives his stock on time from the supplier, who might have a short window of time where further production is required.

The customer's desired end-state refers to the business goals that a customer wants to accomplish (Woodruff & Flint, 2003: 520), such as increased reputation or increased profit.

Overlapping value drivers within B2B, as listed by Woodruff and Flint (2003), have been discussed in the previous models. However, an important value driver that might have an impact on the conceptual model for this study, namely competitive price, will be discussed below.

4.2.4.1 Competitive Price

Competitive pricing and customer satisfaction are closely linked, but for some reason, this relationship has been largely ignored in the literature (Thompson & Coe, 1997; Huber, Herrmann & Wricke, 2001; Hati & Parlewen, 2017), perhaps because buyers in most buying situations use reference prices.

If price sensitivity decreases within a supplier-buyer relationship, the price, as well as the total costs, will have an impact on the customer's evaluation of alternative offerings (Ravald & Grönroos, 1996).

In the railway industry, competitive pricing is a determinant of customer satisfaction. A railway service is most competitive when it delivers a competitive price and service mix to its customers, rather than its competitors (World Bank, 2012: 36).

According to the EU Rail Competition Report (2012), seventy-one percent of Europeans consider price as the most important factor in choosing railway as a mode of transport. A customer survey on freight rail transportation in the UK, which was conducted by AECOM in 2012, indicated that the most cited barrier (77% of respondents) to using rail is price.

Furthermore, most respondents were susceptible to small changes in rail prices. It was established that if road freight prices increased by 10%, 35% of respondents would use more rail. However, if the net price of rail increased by 10%, 69% of respondents would reduce their rail usage.

In South Africa, Transnet Freight Rail (TFR) is forced, due to private returns on investment, to charge prices that are higher than road, which is irregular because rail is considered more price-competitive than road transport (Baloyi, 2014: 3).

Competitive price has an impact on the perceived core benefits by the customer. According to Ravald and Grönroos (1996: 20), too many suppliers try to *"add*

more value" to the core offering through technical add-ons and support services, so that the total value of the offering is increased, thereby exposing itself to additional costs, which have to be covered by charging a higher price. In this instance, from the customer's perspective, nothing actually changes. They get more, but also have to pay more, and the perceived value remains the same (Ravald & Grönroos, 1996).

A reduction in the oil prices is an example of this. Although fuel is not as large a contributor to total railway costs, it has historically accounted for approximately 20 percent of total operating costs, and this has an impact on rail companies. However, in the rail industry, the benefits of reduced fuel prices are shared between the operators (which will see higher margins) and customers (who will see reduced fuel surcharges) (Tipping, Schmahl & Duiven, 2015).

In general, customers find rail more appealing than road for freight, since rail costs much less, although road is faster. If the price of oil decreases, rail loses some of its cost advantage, because customers consider factors such as price, reliability, speed, convenience and other factors when choosing a transport method.

A reduction in price for road transport services may lead customers to rebalance the cost-versus-speed equation in favour of road transport. It is therefore important that rail operators carefully account for their customers' satisfaction preferences, as well as, for example; the fuel-price-induced *"tipping point"* at which customers may switch to other modes of transport (Tipping, Schmahl & Duiven, 2015).

Retention of these customers becomes critical to rail operators, who must therefore optimise and improve on factors such as reliability and speed where possible.

In practice, there is no prescribed or standard form of market-based pricing for railways. However, competition should be the primary determinant of rail freight pricing strategies, rather than costs (World Bank, 2012: 41).

Most railway infrastructure-related costs are fixed in relation to individual traffic movement during the currency of rail freight contracts - hence any infrastructure

cost allocation to individual customers is largely arbitrary from a technical perspective (World Bank, 2012: 41).

However, other railways, such as in South Africa (vertically integrated), use average cost pricing, where the rail freight distributes fixed common and joint costs (infrastructure and operations-related costs) over all traffic. This average cost pricing can depress demand, thereby reducing overall traffic and creating higher fixed cost burdens for customers (World Bank, 2012: 42).

It is anticipated that the higher the competitive price, the lower the operational cost for the customer in the B2B railway industry. It is also assumed that the higher the competitive price, the lower the infrastructure costs for the customer in the B2B railway industry.

4.2.5 Conclusion of Relationship Value Antecedents in B2B

There is evidence in the literature that supports trust, commitment, communication and satisfaction as the antecedents of relationship value (Ndubisi, 2006; Liang & Chen 2009; Theron & Terblanche, 2010: 396; Alrubaiee & Al-Nazer, 2010; Capel & Ndubisi, 2011). However, some antecedents are industry-specific (Theron & Terblanche, 2010: 389), and are therefore not relevant to the B2B railway industry. In addition, from a performance perspective, certain antecedents might not be as important in the B2B railway industry, which this study is aiming to address by testing the literature model.

Based on the literature review conducted thus far, the formulation of the conceptual model is proposed (as seen in Table 9), in which the combined frameworks of antecedents in B2B are discussed. The aim here is to assess the correlation between relationship value, key performance drivers, and sub-antecedents in the B2B railway industry.

The next step is to review literature related to the formulation of key mediators within the B2B environment, which will conclude the proposed conceptual model for this study.

4.2.6 Literature Review Framework on Relationship Value Antecedents in the B2B Railway Industry

Key Performance Drivers (Antecedents)	Sub-Antecedents
Service Performance (Menon, Homburg & Beutin, 2005; Ulaga & Eggert, 2006; Biggemann & Buttle, 2005; 2011)	**Service Quality** (Menon, Homburg & Beutin, 2005; Woodruff & Flint, 2003; Zeithaml *et al.,* 1996; Gounaris, 2005; Rauyruen *et al.,* 2007; Janita & Mirinda, 2013; Litman, 2017; Campos & Cantos, 1999).
	Flexibility (Menon, Homburg & Beutin, 2005; Dunford *et at.,* 2013; Kotler & Keller, 2013; Lostakova & Pecinova, 2014; Cantos & Campos, 2005; Gillen & Levinson, 2004).
Supplier Performance (Menon, Homburg & Beutin, 2005; Ulaga & Eggert, 2006)	**Delivery Performance** (Ulaga & Eggert, 2006; Woodruff & Flint, 2003; Laube & Mahadevan, 2008; Ratshilingano, 2013; Ulaga, 2003).
	Reliability (Morgan & Hunt, 1994; Marinov *et al.,* 2014; Roberts-Lombard, 2014; Gupta & Choudhary, 2016; Kleinaltenkamp *et al.,* 2015; Lapierre, 2000).
Relational Performance (Menon, Homburg & Beutin, 2005; Ulaga &d Eggert, 2006; Biggemann & Buttle, 2005; 2011; Woodruff & Flint, 2003)	**Personal Value** (Biggemann & Buttle, 2005; Ledden *et al.,* 2007; Anderson & Sullivan, 1993; Ford & McDowell, 1999; Sheth *et al.,* 1991; Hennig-Thurau *et al.,* 2002; Fiol *et al.,* 2009; Barnes, 2003; Anderson & Narus, 1984; Voldnes, 2015; Van Hagen & Bron, 2014; Van Hangen & De Bruyn, 2012).
	Reputation (Zhao & Smith, 2006; Ford & McDowell, 1999; Jemaa & Tournois, 2014; Suh & Houston, 2010; Gul, 2014).
Financial Performance (Biggemann & Buttle, 2005; Woodruff & Flint, 2003)	**Efficiency** (Biggemann & Buttle, 2005; 2011; Ulaga *et al.,* 2006; Parvatiyar & Sheth, 2001; Heikkilä, 2002; Holmström & Milgrom, 1994; Beck *et al.,* 2013; Reilly, 2014; Debnath *et al.,* 2016).
	Competitive Price (Biggemann & Buttle, 2005; 2011; Thompson & Coe, 1997; Ravald & Grönroos, 1996; Huber *et al.,* 2016; Baloyi, 2014).

Table 9: Summary of the proposed Relationship Value Antecedents in the B2B Railway Environment based on the Literature Review (Author)

4.3 Mediators of Relationship Value in B2B

Academic literature reveals certain mediators of relationship value more prominently, such as: (1) trust; (2) commitment; and (3) satisfaction (Morgan & Hunt, 1994; Palmatier *et al.,* 2006: 137). Other mediators of relationship value according to literature include As previously mentioned, these mediators are also antecedents of relationship value (Ndubisi, 2007; Camelo-Ordaz, García-Cruz, & Sousa-Ginel, 2014).

In light of the above, the model of Jemaa and Tournois (2014) will be further discussed in the context of this study, in order to determine if trust, commitment, and satisfaction can act as mediators within the B2B railway industry of Southern Africa.

4.3.1 Jemaa & Tournois (2014): Key Concepts of Relationship Marketing

The model developed by Jemaa & Tournois (2014), which is illustrated in figure 21 below, highlights the role of key concepts of relationship marketing in value creation within the B2B context.

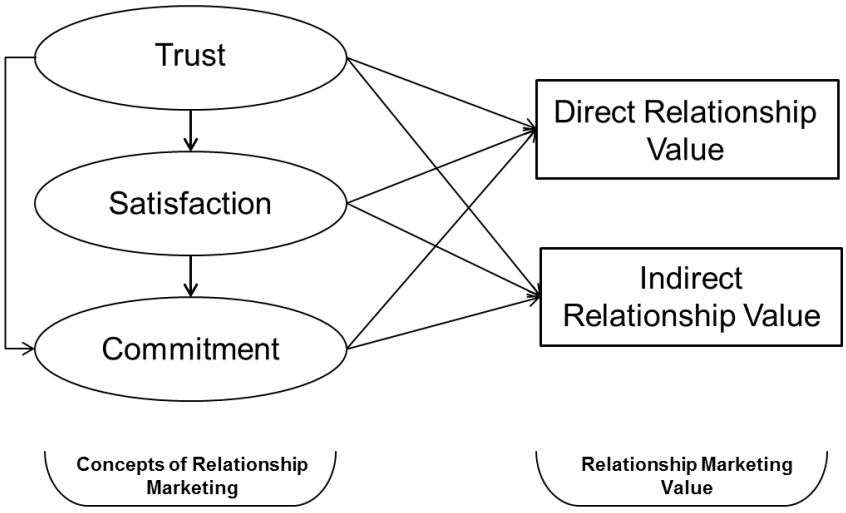

Figure 21: Concepts of Relationship Marketing (Jemaa & Tournois, 2014).

Jemaa & Tournois (2014: 6) stated that within the B2B context, relationship value becomes very complex, since it considers many aspects in relation to benefits and sacrifices. This means that suppliers are looking for ways in which they can increase value for customers, but at the same time decrease sacrifices.

Walter and Ritter (2003) developed a framework that focuses on business relationships, which are related to the realisation of direct or indirect economic objectives.

Jemaa & Tournois (2014: 6) also divided relationship value into two main dimensions, in order to explain the complex nature of a B2B relationship, namely: (1) direct relationship value (immediate value creation); and (2) indirect relationship value (future or secondary value creation).

Jemaa & Tournois (2014: 8) argued that there is a strong link between trust and satisfaction, satisfaction and commitment, and trust and commitment. These concepts will now be discussed in detail.

4.3.1.1 Trust

In any alliance between two companies, trust is the most essential element in the success of the partnership (Cyr, Hassanein, Head, & Ivanov, 2007), and in the maintenance of the relationship (Reza & Rehman, 2012).

However, what does it mean to *"trust"* a business partner? Literature presents a number of definitions relating to trust in the context of B2B relationships, but according to Macintosh (2009), cited in Theron & Terblanche (2010: 387), the most common definition is the *"confidence between exchange partners that the other party is reliable and that they will act with integrity."*

Trust takes on an increasing importance in the B2B environment, since customers are consistently challenged by the task of examining many intangible aspects of a supplier's offering (Doney, Barry & Abratt, 2007: 1096).

The main benefit of trust in relationships is that it reduces perceived risks, which in turn creates a strong relationship (Rexha, Kingshott & Aw, 2003). In addition, in order to build trust, the assessment of risk and benefits is important for a long-term relationship (Hecker, Israel & Couturier, 1999). However, since it reduces perceived risk, it is also widely published that trust increases perceived relationship value (Morgan & Hunt, 1994; Ravald & Grönroos, 1996; Walter & Ritter, 2003; Woodside *et al.,* 2008; Jemaa & Tournois, 2014).

In essence, it is expected that an increase in trust will lead to an increase in perceived customer value in the B2B railway industry.

Customer trust exists in the railway industry, but in the literature, the focus is more on passenger rail, rather than freight. It is clear from the literature that trust has a positive

effect on passenger satisfaction (Chou, Lu & Chang, 2014). If passengers, based on their set of experience factors, perceive the performance of the passenger rail service to be positive, it will lead to satisfaction (Gelders, Verckens, Galetzka, & Seydel 2007: 179).

In the railway freight industry, since trust is a desirable value component in any business relationship (Morgan & Hunt, 1994; Ravald & Grönroos, 1996; Abdolvand & Norouzi, 2012; Rasheed & Abadi, 2014), if a customer has an experience that leads to a loss of trust it may result in them switching back to road freight haulage.

This is particularly evident in a freight customer survey that was conducted by Aecom in 2012, which stated that improvements in rail service would enhance the trust of suppliers and their customers, which would in turn enable them to see the value and consequently switch their business from road to rail.

It is therefore assumed that the greater the trust, the greater the perceived customer value in the B2B railway industry.

Trust in a B2B relationship can lead to a high level of affective commitment (Gounaris, 2005: 128; Jemaa & Tournois, 2014). The reason for this is that before a customer commits to do business with a supplier, the customer needs to trust the supplier (van Vuuren *et al.,* 2013: 82), and intend to remain in a supplier-customer relationship (De Ruyter *et al.,* 2001).

Accordingly, it is supposed that the greater the trust, the greater the commitment by customers in the B2B railway industry.

The model of Jemaa & Tournois (2014) illustrates that trust will lead to customer satisfaction. This is important because trust influences the customer's perception of a similarity in values with the supplier, which in turn leads to customer satisfaction (van Vuuren *et al.,* 2013).

Many rail operators, such as Transnet Freight Rail (South Africa), Network Rail (UK), Deutsche Bahn (Germany), and VIA Canada Rail, among others, implement customer satisfaction surveys to measure and improve on their operational performance. Therefore, customer satisfaction is an important KPI (key performance indicator), which is part of measuring the success of both passenger and freight rail services,

and the extent to which customer needs are being met (Schittenhelm & Landex, 2012).

In essence, it is assumed that the greater the trust, the greater the customer satisfaction in the B2B railway industry.

In conclusion, it can be confirmed based on the existing literature reviewed that trust leads to both commitment and satisfaction. Furthermore, trust also impact relationship value.

4.3.1.2 Customer Satisfaction

Section 1.3.3 discussed the difference between customer value and customer satisfaction. The conclusion of this discussion was that both concepts are used in theory to identify different parameters of customer experience, customer perception, and purchasing behaviour (Wamweta, 2016). However, customer value refers to the overall benefit that the customer receives within these different parameters (Medberg, 2016), whilst customer satisfaction signifies the expectation with the service the customer is going to purchase, which has an emotional outcome (Hennig-Thurau, Groth, Paul, & Gremler, 2006).

Customer satisfaction is an important relationship value mediator (Chen & Chen, 2010; Theron & Terblanche, 2010: 388), and for the purposes of this study used as a relationship value mediator because in literature, there is incongruity as to whether trust leads to satisfaction, or the other way around.

According to Anderson and Narus (1990), trust develops satisfaction. Bruning (2002), and Raffagnino and Matera (2015) stated that trust, as one of five relationship variables, leads to satisfaction. Fitzpatrick and Lafontaine (2017) indicated that trust is regarded as a possible cause of satisfaction, and a necessary condition for successful B2B negotiations (Geiger, 2010). However, from a static perspective, according to Chinomona and Dubihela, (2014), satisfaction feeds trust.

Since trust is imperative for a transaction to evolve into a relationship (Du Plessis, 2010), satisfaction, according to its definition, is the outcome of the transaction, based on a set of desires or needs that had been fulfilled.

Many authors have referred to satisfaction as an outcome of an experience. Churchill and Suprenant (1982) defined satisfaction as *"an action which takes place and judges a purchase after the action has been completed."* Anderson *et al.* (1994) defined satisfaction in a consumer context as *"the fit between the chosen product and the intended purpose."*

Some definitions are based on the observation that satisfaction (or dissatisfaction) results from either the confirmation (or disconfirmation) of individual expectations regarding a service (Cengiz, 2010). For example, Reed and Hall (1997) defined satisfaction as *"the degree to which a customer perceives that an individual, or organisation, has effectively provided a product or service that meets the customer's needs in the context in which the customer is aware of and / or using the product or service".*

Kotler (2003) defined satisfaction as *"the feeling of pleasure / disappointment resulting from comparing a product (service) perceived performance or outcomes in relation to a person's expectations."*

A summary of the various satisfaction definitions is presented in table 10 below, based on these two approaches:

Approach	Definition	Author
Outcome Approach	an action which takes place and judges a purchase after the action has been completed	Churchill and Suprenant (1982)
	the feeling of pleasure / disappointment resulting from comparing a product's (service) perceived performance or outcomes in relation to a person's expectations	Kotler (2003)
	Subsequent evaluative opinion of choice relative to a specific purchase	Westbrook and Olive (1991)
Process Approach	the degree to which a customer perceives that an individual, or organisation, has effectively provided a product or service that meets the customer's needs in the context in which the customer is aware of and / or using the product or service	Reed and Hall, (1997)

	Evaluation of an alternative is consistent with prior beliefs with respect to such alternative	Engel and Blackwell (1982)
	one who receives significant added value	Hanan and Freeman (1989)

Table 10: Summary of Satisfaction Definitions Based on the Two-Type Approach (Author)

Customer satisfaction in the railway industry plays a very important role for industry participants, in order to understand what the customer values. A study by Marinov *et al.* (2014: 47) looked at factors related to customer satisfaction in light rail, where the aim was to determine the factors that have the strongest influence on customer satisfaction in railway. These factors included high reliability, price, journey time, connections, and safety and security.

According to a rail freight user survey conducted by AECOM in 2012 for the Office of Rail Regulation (ORR) in the United Kingdom, customer satisfaction factors included reliability of service/ journey time, overall service quality, and on-time delivery.

It is therefore assumed that the greater the customer satisfaction, the greater the perceived relationship value in the B2B railway industry.

Much attention has been given by scholars to the topic of measuring the outcome of satisfaction (Fečiková, 2004; Maricic *et al.,* 2012; Trach & Kincl, 2015; Bourne, 2016).

Reichheld (1996) stated that customer satisfaction is the key factor in determining how successful an organisation will be in terms of customer relationships.

Some scholars also stated that measuring satisfaction will identify and unlock other market potential, whilst others determined that measuring customer satisfaction is about profit (Fornell *et al.,* 1996; Fečiková, 2004) and competitive advantage to achieve long-term success in the market (Cengiz, 2010: 82).

Nevertheless, according to Fečiková (2004: 58), there are two types of customer satisfaction measurements that need to be taken into account: internal and external. Internal satisfaction refers to customers within the organisation, as well as employees, and external satisfaction refers to marketplace customers.

It is important to be cognisant of the effect of internal customer satisfaction on external customer satisfaction, and although this study focuses mainly on customer satisfaction from a marketplace perspective, Reichheld, (1997) stated that the satisfaction of internal and external customers is seen as a cause-and-effect relationship. In other words, the satisfaction of internal customers is one of the basic conditions for satisfying external customers in the marketplace (Fečiková, 2004: 58). The figure 22 is an adaption of the internal and external customer satisfaction cycle by Fečiková, (2004), in order to explain how the management of internal customer satisfaction can lead to satisfied external customers, retention and higher profits.

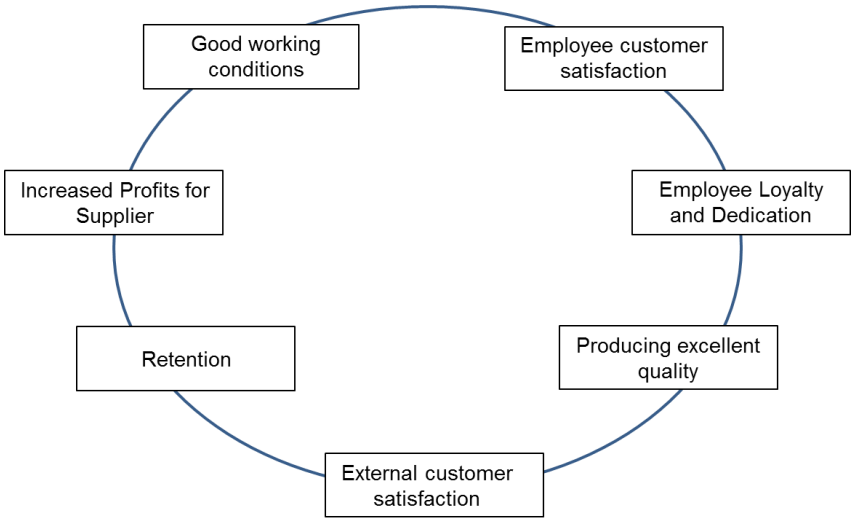

Figure 22: Internal / External Customer Satisfaction Cycle (adapted from Fečiková, 2004).

There is the potential here for further research to determine internal customer satisfaction factors and the effect that they will have on external customer satisfaction in the B2B railway industry.

4.3.1.3 Commitment

Commitment is considered by various researchers (Sohail, 2012; Van Vuuren, 2012; Jemaa & Tournois, 2014) as a key relationship marketing concept, which will result in customer value.

Commitment is crucial in the creation of networks or relationships between customers and suppliers (Wetzels, Ruyter & Birgelen, 1998), and is an important factor in the development of sustainable long-term relationships (Morgan & Hunt, 1994). Walter

and Ritter (2003) stated that a company with a high level of relationship success with a customer, due to strong commitment, would reinforce the intention of the customer to maintain a relationship with the company in the future.

Commitment is one of the important variables for understanding the strength of a marketing relationship (Capel & Ndubisi, 2011: 31), and is a beneficial construct for measuring the probability of customer retention, as well as for predicting future purchase frequency (Dwyer *et al.,* 1987; Morgan & Hunt, 1994; Aksoy *et al.,* 2014).

Skarmeas, Katsikeas and Schlegelmilch (2002) showed that commitment plays an important role in business performance. Morgan and Hunt (1994) also stated that providing resources, maintaining standards for value, maintaining communication, evaluating performance, and not taking advantages of partners, are the key drivers of developing committed and trust- based relationships.

Like trust, commitment has various definitions in the literature, such as *"a desire to develop a stable relationship"* (Dwyer *et al.,* 1987), and *"A psychological state that links an individual to an organisation"* (Allen & Meyer, 1990).

Morgan and Hunt (1994) stated that commitment is *"the perceived likelihood that a focal firm will terminate the relationship with another firm in the reasonably near future."* Gounaris (2005) defined commitment as "a confidence in the stability of the relationship and investments in the relationship."

Fundamentally, if partners believe that a business relationship is worth the risk or determination to be maintained, a high level of commitment is present (Haghkhah Hamid, Ebrahimpour, and Gheysari 2013: 158). Morgan & Hunt (1994) confirmed that commitment involves vulnerability, and that commitment will only happen when partners are trustworthy.

Commitment has a significant and positive impact on relationship value (Palmatier, 2008; Haghkhah *et al.,* 2013).

It is therefore assumed that the higher the commitment, the greater the relationship value in the B2B railway industry.

The main benefit of commitment is that it leads to the retaining of customers for a long and sustainable period (Gustafsson, Johnson & Roos, 2005). Furthermore, according

to Liang and Wang (2005: 71), commitment is regarded as an antecedent of repeat purchase behaviour. The more committed a customer, the greater the propensity to stay longer in the relationship (Du Plessis, 2010: 96).

Therefore, the greater the commitment, the greater the retention will be.

The model of Jemaa & Tournois (2014) illustrates that customer satisfaction will have a positive effect on commitment, since a satisfied customer in a relationship with a supplier will increase its profits and in general gain more, which will in turn give the customer more reason to commit to the relationship.

According to Van Vuuren (2012: 84), satisfaction is a customer's emotional response when evaluating the discrepancy between expectations regarding the service, and the perception of actual performance.

On the other hand, commitment is *"a psychological sentiment of the mind through which an attitude concerning continuation of a relationship with a business partner is formed"* (Rauyruen, Miller & Barrett, 2007: 3). Commitment is also referred to as the motivation to stay with a supplier (Geyskens & Steenkamp, 2000).

From the description above, it can be assumed that satisfaction is an outcome of the supplier's performance, and commitment is the intention to build and maintain a long-term relationship with the supplier (Anderson & Weitz, 1992).

Therefore, if the supplier performs in a satisfactory manner, according to the customer's performance expectations, the customer might have the intention to build and maintain a long-term relationship with the supplier.

4.3.2 Retention as possible outcome of customer relationship value

In most B2B exchanges, achieving a sale is not the fulfillment of an effort but, rather, an event in a broader endeavor to build and sustain a long-term relationship with the customer and see that sales keep on coming (Gounaris, 2018). Based on the various exchanges outlined in Chapter 3, the more strategic the relationship, the more collaborative the relationship between supplier and customer should be (Hutt and Speh, 1995).

In order to test the link between retention and customer value, the initial and general customer-retention relationship model needs to be discussed by Dwyer (1989). According to Dwyer (1989), within a customer retention situation, if nonresponse signals were given by the customer, the firm's relationship with the customer will not continue. Latest literature investigated that different mediating effects of customer relationship perceptions impact on customer retention (Verhoef, 2003; Ascarza, Neslin, Netzer, Anderson, Fader, Gupta, Hardie, Lemmens, Libai, Neal, Provost and Schrift, 2017).

It is important for the objective of this study to measure whether customer relationship value will lead to retention. The reason for this is to determine whether retention is important within the B2B railway industry of Southern Africa in order to in future, attempt to calculate customer equity (Blattberg, Getz, and Thomas, 2001), in addition to establish whether retention drives profitability (Gupta, Lehmann, Stuart, 2004). Lastly, it is important to determine whether customer relationship value in the B2B railway industry lead to retention, since it can be a good indicated of a company's strength over time (Ascarza *et al,* 2017).

In Conclusion, a relationship is formed of trust, commitment, cooperative norms and satisfaction (Baker, Simpson, and Siguaw, 1999). Gil-Saura *et al.* (2009) further states that satisfaction, trust and commitment ultimately lead to an increase in retention.

If it is determined that the greater the satisfaction, the greater the perceived customer value in the B2B railway industry, the possibility of satisfaction leading to customer retention will also be high. The reason for this is that, according to many researchers, satisfaction leads to greater levels of loyalty, retention, positive word of mouth, competitiveness, and better overall performance (Ulaga & Chacour, 2001; Helgesen, 2006; Khadka & Maharjan, 2017).

Like section 1.3.4, in this study, retention is defined as *"to continue to do business or exchange with the particular firm continuous basis"* (Ong, Yee, Hui, Kasim & Hizza, 2015: 6). In the railway industry, customer satisfaction is not only a factor in measuring successful operational performance, but also determines retention. A recent study conducted by Ong *et al.* (2015) proposed a direct relationship from technical attributes (e.g. automation) to service encounter satisfaction, and then leading to customer retention in rail transportation.

Another study by Rajeshwari and Tamilchelvi (2014) in the passenger rail industry investigated how the Indian Railways recognised the importance of retention in building better relationships with its customers. The study also measured the attitude of customers towards the Indian Railway's retention strategies. The outcome of this study was that passengers had a positive attitude towards retention strategies, because they felt that through these retention strategies that were implemented by the Indian Railway, their needs were being satisfied (Rajeshwari & Tamilchelvi, 2014: 653).

Although the abovementioned study focused on passenger rail, retention as an outcome of customer satisfaction in freight transportation is becoming increasingly important for freight distributors, since actively managing relationships with customers emphasises the importance of a user-oriented business (Zlatković, 2013).

In conclusion, it is therefore expected that the greater the level of satisfaction experienced by the customer, the greater the likelihood of this leading to retention.

4.4 Conclusion of the Literature Review

The importance of relationship value in B2B cannot be disputed in theory or in practice. With the rapid evolution of society, the nature of business relationships has changed to the extent that deliberate, strategic partnerships are necessary, in order to remain competitive in the marketplace (Hutt & Speh, 1995).

The literature review clearly illustrated how B2B relationships have progressed from purely transactional to more collaborative exchanges, shifting from customer value creation to co-creation of value between suppliers and customers (Vargo & Lusch, 2007). During the literature review, specific attention was given to defining relationship marketing in the B2B railway industry, since no universal definition exists for relationship marketing, nor does one exist for industry-specific relationships.

The evaluation of performance in B2B was also reviewed, since the improvement of performance within a B2B relationship will add value from both supplier and customer perspectives (Geyskens & Steenkamp, 2000). It was further established that key drivers of performance in a B2B relationship will have a positive or negative impact on perceived relationship value benefits and sacrifices and will ultimately add value.

The literature review also explored key perceived value benefits and sacrifices specifically linked to the B2B railway industry, by considering the value trade-off as the difference between what is received and what is given in a relationship between supplier and customer (Ulaga & Eggert, 2006).

Although many possible antecedents and mediators for customer relationship value in the B2B context have been identified through the literature review (as summarised in Table 10), not all identified antecedents and mediators could be empirically tested. This is due to limited time and budget available for this study, however, future research can now explore additional relationship value antecedents and mediators outlined in Table 10, for the railway industry.

Since one of the key objectives of this study is to build a conceptual model for customer relationship value within the B2B railway industry, key drivers of performance were identified and assessed based on existing and popular conceptual models that assess customer value in the B2B environment. These models included the following: Menon, Homburg and Beutin (2005); Ulaga and Eggert (2006); Biggeman and Buttle (2005; 2011), and Woodruff and Flint (2003).

Lastly, the conceptual model of Jemaa & Tournois (2014), together with other relevant literature on mediators of relationship value, was evaluated, and trust, satisfaction and commitment were confirmed as mediators of relationship value in the context of the B2B railway industry.

4.5 Study Approach

Through the extensive literature review that was conducted for this study, the antecedents and mediators of relationship value, as part of relationship marketing in the B2B railway industry, have been established.

The next step in this study is to test the constructs via a Structural Equation Model (SEM), which is a statistical modelling technique that will determine the extent to which the theoretical framework of relationship value antecedents and mediators is supported by the sample data (Schumacker & Lomax, 2010: 2). The SEM will integrate the relationship value antecedents (service performance, supplier performance,

relational performance, and financial performance), as well as antecedent sub-categories, as outlined in the combined literature review in this chapter.

The sample data to be utilised will be collected through a mixed method approach, which is explained in the research methodology section of this study.

Furthermore, mediators of relationship value (trust, satisfaction, and commitment) will also be established through the SEM (a summary of the mediators of relationship value as part of relationship marketing is presented in the table below).

Lastly, retention as a potential outcome of relationship value within the B2B railway industry will be explored. The purpose of evaluating retention in the freight transport industry is that it can guide rail undertakings / service providers in giving more priority to an intensive customer relationship, which can lead to a cost-orientation that views the demands of the market as secondary.

4.6 Combined Literature Review Framework

Relationship Marketing Literature Review					
Key Performance Drivers	**Sub-Antecedents**	**Value Benefits / Sacrifices**	**Mediators**	**Relationship Value**	**Value Outcome**
Service Performance (Menon, Homburg & Beutin, 2005; Ulaga & Eggert, 2006; Biggemann & Buttle, 2005; 2011)	**Service Quality** (Menon, Homburg & Beutin, 2005; Woodruff & Flint, 2003; Zeithaml *et al.,* 1996; Wong & Sohal, 2001; Gounaris, 2005; Rauyruen *et al.,* 2007; Janita & Mirinda, 2013; Litman, 2008; Campos & Cantos, 1999).	**Core Benefits** (Ulaga & Eggert, 2006; Ulaga *et al.,* 2006; Menon, Homburg & Beutin, 2005; Sun *et al.,* 2014; Grönroos, 1997; Kleinaltenkamp *et al.,* 2014; Thompson, 1998)	**Trust** (Jemaa & Tournois, 2014; Sohail, 2012 Schumacher, 2006; Hacker *et al.,* 1999; Morgan & Hunt, 1991; 1994; Kuppelwieser *et al.,* 2011; Ulaga, 2001; Ulaga & Eggert,	**Value Creation** (Jemaa & Tournois, 2014; Menon, Homburg & Beutin, 2005; Ulaga & Eggert, 2006; Biggemann & Buttle, 2005; 2011; Palmatier, *et al.,* 2005; Theron &	**Retention** (Mostert & De Meyer, 2010; Haghkhah *et al.,* 2013; Jansen van Rensburg, 2006; Governder, 2004; Piening, Ehrmann & Meiseberg, 2013; Eriksson & Vaghult, 2000: 365, Ulaga, 2001; Hunt & Derozier,

	Flexibility (Menon, Homburg & Beutin, 2005; Kale & barnes, 1992; Preston, 1996; Kara, 2005; Dunford *et a*l., 2013; Kotler & Keller, 2013; Lostakova & Pecinova, 2014; Cantos & Campos, 2005; Gillen & Levinson, 2004).		2006; Anderson *et al.,* 1993; Palmatier, *et al.,* 2005; Theron & Terblanche, 2010; Cyr, 1999; Liang *et al.,* 2009; Gounaris, 2005; Sako 1997).	Terblanche, 2010; Ulaga, 2003; Sousa-E-Silva *et al.,* 2015; Căter & Căter, 2009; Voldnes, 2015; Lapierre, 2000; Grönroos & Voima, 2011; Anderson *et al.,* 2006; Caballero *et al.,* 1986; Pereira *et al.,* 2012).	2004; Baxter, 2009; Tolmay, 2012; Ong *et al.,* 2015).
Supplier Performance (Menon, Homburg & Beutin, 2005; Ulaga & Eggert, 2006)	**Delivery Performance** (Ulaga & Eggert, 2006; Woodruff & Flint, 2003; Laube & Mahadevan, 2008; Ratshilingano, 2013; Ulaga, 2003).				
	Reliability (Morgan & Hunt, 1994; Marinov *et al.,* 2014; Roberts-Lombard, 2014; Gurau, 2007; Gupta & Choudhary, 2014; Kleinaltenkamp *et al.,* 2015; Lapierre, 2000).		**Satisfaction** (Jemaa and Tournois, 2014; Theron and Terblanche, 2010; Andrerson and Narus, 1990; Gil-Saura *et al.,* 2009; Cengiz, 2010; Reed and		
	Personal Value	**Add-On Benefits**			

Relational Performance (Menon, Homburg & Beutin, 2005; Ulaga & Eggert, 2006; Biggemann & Buttle, 2005; 2011; Woodruff & Flint, 2003)	(Biggemann & Buttle, 2005; Wilson & Jantrania, 1994; Ledden *et al.,* 2007; Anderson *et al.,* 1993; Ford & McDowell, 1999; Sheth *et al.,* 1991; Hennig-Thurau *et al.,* 2002; Fiol *et al.,* 2009; Barnes, 2003; Anderson & Narus, 1984; Voldnes, 2015; Van Hagen & Bron, 2014; Van Hangen & De Bruyn, 2012).	(Menon, Homburg & Beutin, 2005; Hennig-Thurau & Hansen, 2013; Kleinaltenkamp *et al.,* 2014; Sun *et al.,* 2014)	Hall, 1997; Fečiková, 2004; Cengiz, 2010; Hanan *et al.,* 1989; Bruning, 2002; Kotler, 2003; Yi, 1991; Parker & Mathew, 2001; Olsen, Witel & Gustafsson, 2014; Reichheld, 1997; Ayuba, 2014; Marinov *et al.,* 2014).		
	Reputation (Zhao & Smith, 2006; Ford & McDowell, 1999; Branch, 2012; Jemaa, 2013; Suh & Houston, 2010; Gul, 2014; Hsiao *et al.,* 2005).				
Financial Performance (Biggemann & Buttle, 2005; Woodruff & Flint, 2003)	**Efficiency** (Biggemann & Buttle, 2005; 2011; Ulaga *et al.,* 2006; Parvatiyar & Sheth, 2001; Heikkilä, 2002; Holmström, 1994; 1995; Barua, 1997;	**Operational Costs (Sacrifice)** (Beck *et al.,* 2013; Garcia, 2007; Ulaga & Eggert, 2006; Canon &	**Commitment** (Jemaa & Tournois, 2014; Pereira *et al.,* 2012; Sohail, 2012; Berry & Parasuraman, 1991;		

	Beck *et al.,* 2013; Reilly, 2014	Homburg, 2001)	Wilson, 1995; Hacker *et al.,* 1999; Kuppelwieser *et al.,* 2011; Anderson *et al.,* 1993; Morgan & Hunt, 1994; Capel & Ndubisi, 2011; Skarmeas *et al.,* 2002; Dwyer *et al.,* 1987; Anderson & Wietz, 1992; Moorman *et al.,* 1992; Gounaris, 2005; Gustafsson *et al.,* 2005; Palmatier *et al.,* 2008; Lenny & Easton, 2009.		
	Competitive Price (Biggemann & Buttle, 2005; 2011; Thompson & Coe, 1997; Ravald & Grönroos, 1996; Huber *et al.,* 2001; Baloyi, 2014; Tipping *et al.,* 2015).	**Infrastructure Costs (Sacrifice)** (Beck *et al.,* 2013; Garcia, 2007; Gillen & Levinson, 2004)			

Table 11: Summary of the Literature Review (Author)

4.7 Proposed Conceptual Model based on Existing Literature

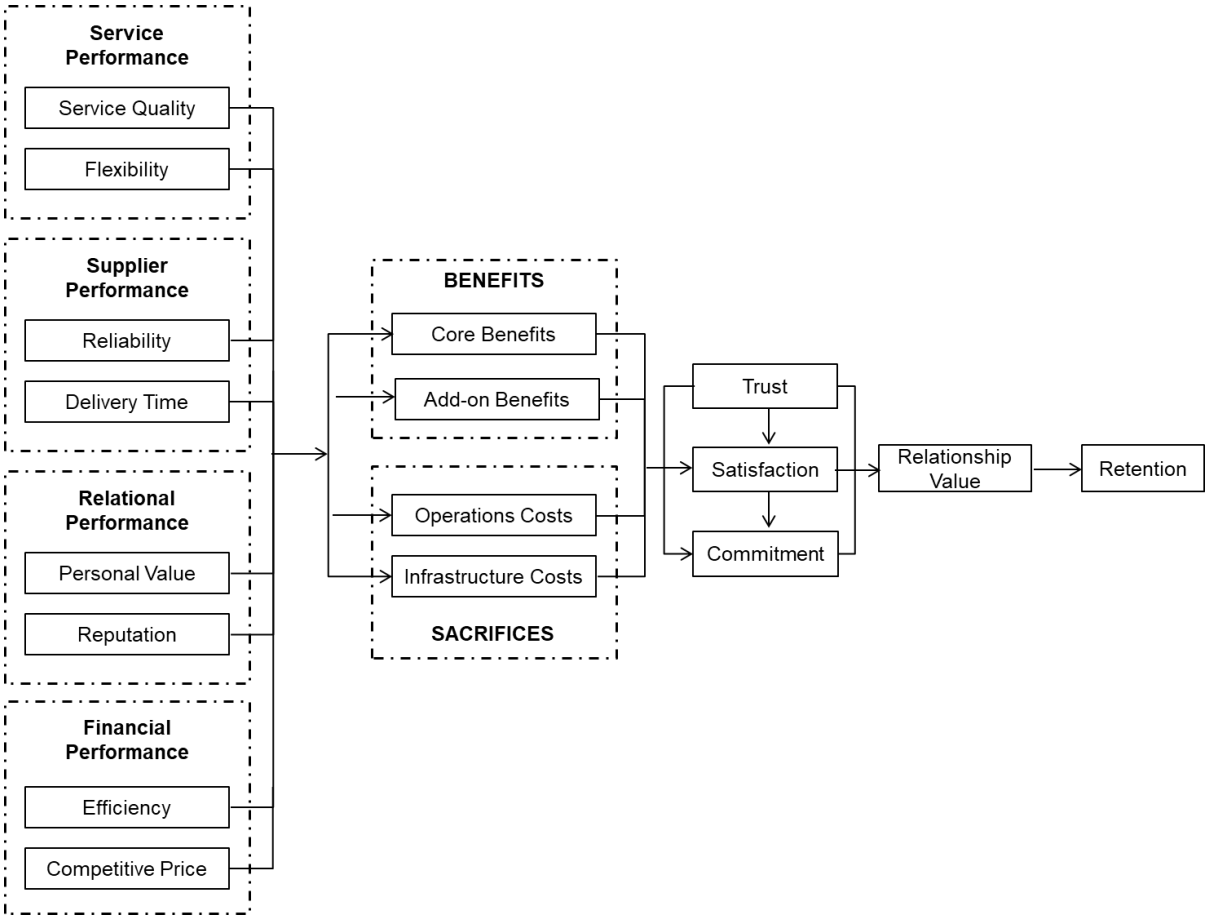

Figure 23: Proposed Conceptual Model for Relationship Value in the B2B Railway Industry (Author)

After the review of existing literature on the topic of customer relationship value in the B2B environment, a conceptual model, illustrated by figure 23, has been compiled. This proposed conceptual model is based on prominent research frameworks associated with relationship value within the B2B environment, which include the contributions of the following scholars: Woodruff and Flint (2003); Menon, Homburg and Beutin (2005); Ulaga and Eggert (2006); and Biggemann and Buttle (2007). The key elements of these frameworks were combined to develop a relationship value model for the B2B railway industry to be further evaluated and tested.

The proposed model illustrated in Figure 23 suggests that relationship value identification within the B2B railway industry is determined by four general factors (Service Performance, Supplier Performance, Relational Performance and Financial Performance), with their related sub-factors. Figure 22 further reveals that the proposed

factors are either beneficial (as core or add-on benefits) for the B2B suppliers, as the rail operator customers, in the creation of relationship value, or operational and infrastructure costs can negatively affect relationship value creation for the B2B supplier.

In the railway industry, operators are under pressure to keep costs to customers low, due to market pressures or the unavailability of public funds because of competing national priorities. Another reason for railways to reduce related costs is to improve service levels to customers (Beck, Bente & Schilling, 2013: 5). Therefore, for the purpose of this study, it is assumed that the greater the operating and infrastructure costs, the lower the relationship value in the B2B railway industry.

Figure 23 also shows that trust, satisfaction, and commitment are viewed as mediators of relationship value, leading to value creation in the B2B railway industry of Southern Africa. Trust, as well as satisfaction and commitment, is important within the B2B environment. In the railway freight industry, trust, satisfaction and commitment are regarded as desirable value components in relationship building. A customer's unfavourable experience, which results in a loss of trust, may potentially result in the customer switching their business from rail to road freight haulage.

Lastly, retention, as a potential outcome of relationship value (Ayuba, 2014), has also been included in this conceptual model. The reason for this is that retention in the freight transport industry can guide rail undertakings / service providers in terms of placing greater emphasis on an intensive customer relationship, which can lead to a cost-orientation that views the demands of the market as secondary.

In conclusion, although there are several existing conceptual frameworks, all of which aim to enrich the relationship value body of knowledge, this study attempts to fill potential gaps in these conceptual models, and enhance the understanding of relationship marketing and the process of value creation in the B2B railway industry, given that no single model is a fit-for-all.

4.7.1 Importance and Contribution of this Study

Numerous theories on relationship marketing and relationship value within the B2B context have been evaluated, in order to assist in the development a conceptual model for this study. Contributions from the following main authors have been identified and related to the main purpose of this study, which is to develop a relationship value model for the B2B railway industry of Southern Africa.

4.7.1.1 Model: Menon, Homburg and Beutin (2005)

The model developed by Menon, Homburg and Beutin (2005) conceptualises customer relationship value within a B2B environment, and views it as being dependent on the benefits received and sacrifices made by customers.

Although the importance of this model is due to the fact that determinants of customer value in B2B markets remain under-researched, especially in an industry where companies need to strive for lasting relationships (Menon, Homburg & Beutin, 2005: 3), certain limitations of this study were identified. Among these limitations are the inclusion of trust and commitment as add-on benefits and drivers of relationship value. Admittedly, Menon, Homburg and Beutin (2005: 26) stated that more research is required on the interdependencies of core value and add-on value drivers, and that some researchers might regard trust as a mediating variable (Han & Harms, 2010; Hanzaee & Andervazh, 2010).

In this study, trust is seen as a mediating variable within the developed conceptual model. This is because trust is, logically and experientially, an essential variable in relationships (Li-Wei, 2011). Therefore, in a competitive business environment, such as within the B2B railway industry, trust is a key mediating variable in relationship value, since it leads to long-term business relationships (Badenhorst-Weiss & Tolmay, 2016).

Consequently, this study aims to contribute to the body of knowledge through the developed conceptual model, given that trust is a mediating variable in relationship value that inevitably leads to customer retention.

4.7.1.2 Model: Ulaga and Eggert (2006)

Similar to the research conducted by Menon, Homburg and Beutin (2005), Ulaga and Eggert (2006) stated that relationship value requires further investigation, especially within the B2B context. In fact, many other researchers have affirmed that relationship value is an under-explored topic, which requires further research exploration (Grönroos (1994; Ulaga & Chacour, 2001; Terblanche, 2003; Tolmay, 2012).

Although the research of Ulaga and Eggert (2006: 129) only focused on the manufacturing industry, this study aims to contribute to the body of knowledge through the

investigation of relationship value, not only within a B2B context, but also within the railway industry of Southern Africa, where very little empirical knowledge exists.

4.7.1.3 Model: Biggemann & Buttle (2005)

Similar to the research of Biggemann & Buttle (2005), which identified four dimensions of relationship value in the B2B environment, this study also identified value drivers within the B2B railway industry of Southern Africa. Nevertheless, because relationships are context-dependent, the value that is recognised in those relationships will also be context-dependent (Biggemann & Buttle, 2005: 7).

In essence, this means that in this study, the identified relationship value drivers do not take preference over one another. According to the research of Biggemann & Buttle (2005: 7), B2B relationships can deliver value in one or more of their identified dimensions, each of which is indicated by a number of variables that may or may not be present, depending on the context in which the relationships have been performed.

The contribution of this study, through the research of Biggemann & Buttle (2005), is therefore to present a new categorisation of relationship value drivers within the B2B railway industry, in order to provide a relationship value conceptual model to Southern African rail operators.

4.7.1.4 Additional Relationship Marketing and Relationship Value Models

Various other relationship marketing and relationship value theories within the B2B environment have been taken into consideration in the formulation of this study's conceptual model, such as the KMV model (key mediating variable) of Morgan & Hunt (1994), which focused on mediating variables, such as commitment and trust, within relationship marketing.

An evaluation of the frameworks relating to the mediating variables of Morgan and Hunt (1994); Palmatier *et al.* (2006); and Jemaa & Tournois (2014) clearly indicates that not enough is known yet about commitment, trust and satisfaction within the relationship value framework of B2B (Tolmay, 2012: 155).

In addition, from this study's perspective, a further elaboration on mediating variables of relationship value in B2B is in itself a contribution towards existing theory, especially in an industry (B2B railway industry) where almost no previous and concrete research exists.

4.8 Conclusion of this Chapter

The identification of appropriate relationship value antecedents and mediating variables within the B2B railway industry of Southern Africa is a key objective of this research, since scholars and researchers have different opinions regarding what is classified as a relationship value antecedent, and what is classified as a relationship value mediator (Dwyer *et al.,* 1987:11; Theron & Terblanche, 2010: 389).

Therefore, frameworks pertaining to relationship value antecedents and mediators were evaluated in this chapter, in order to understand how relationship value antecedents and mediators are formulated within the B2B railway industry. This chapter presented models that were combined to formulate a conceptual model, based on the research of Menon, Homburg & Beutin (2005); Ulaga & Eggert (2006); Biggemann & Buttle (2005; 2011); Woodruff & Flint (2003); Jemaa & Tournois (2014).

Other research frameworks associated with relationship value antecedents and mediators were also investigated, since relationship value should be examined from a multi-dimensional viewpoint (Palmatier *et al.,* 2006), in order to capture the full essence of this concept.

The main antecedents derived out of existing literature and research models, which contributed towards the conceptual framework of this study, included the following: service performance (Menon, Homburg & Beutin, 2005; Ulaga & Eggert, 2006; Biggemann & Buttle, 2005, 2011); supplier performance (Menon, Homburg & Beutin, 2005; Ulaga & Eggert, 2006); relational performance (Menon, Homburg & Beutin, 2005; Ulaga & Eggert, 2006; Biggemann & Buttle, 2005; 2011; Woodruff & Flint, 2003); and financial performance (Biggemann & Buttle, 2005; 2011; Woodruff & Flint, 2003).

In addition, sub-antecedents were identified through existing relationship value literature and models, which were included in this study's conceptual model for further analysis, according to whether these antecedents have a positive or negative impact on relationship value benefits.

Lastly, the aim of this study was not only to identify potential relationship value antecedents within the B2B railway industry, but also to recognise relationship value mediators, which will lead to retention as an outcome. In this regard, trust, satisfaction,

and commitment (Jemaa & Tournois, 2014) was evaluated as important relationship value mediators that will lead to retention (Ulaga & Chacour, 2001).

5 Methodology

5.1 Introduction to the Research Methodology

In order to explain how relationship marketing results in relationship value, with retention as an outcome, within the B2B railway industry of Southern Africa, a research philosophy with a multidimensional set of continua is required (Saunders *et al.,* 2012: 129). This means that this study does not emanate from a pure ontological or epistemological paradigm that will lead to an adoption of either a positivist or interpretivist research philosophy (Saunders *et al.,* 2012: 129). The reason for this viewpoint is based on the evolution of the philosophically grounded research paradigms that are used today, which celebrate the plurality of research designs, representing a multidimensional continuum of methodological approaches (Niglas, 2010: 222).

In this study, various existing relationship value frameworks were identified through the evaluation of relevant literature, with the aim of providing a theoretical framework for this study. However, there appears to be a contradiction within the literature, since there is a lack of consensus amongst researchers regarding specific relationship value antecedents and mediators (Spiteri & Dion, 2004: 177; Palmatier *et al.,* 2006; Theron & Terblanche, 2010).

Therefore, this study is centred on the idea of multidimensional research continua, in order to best determine the possibility of developing a research design for empirical purposes. However, this will be achieved through an open, creative, yet systematically driven approach (Niglas, 2010).

This chapter discusses the relationship between this study's methodological approach and its design, based on the research *'onion'* framework of Saunders, Lewis & Thornhill (2012), which is illustrated in the figure below. It further elaborates on the data collection method used in this study, and the subsequent analysis of the collected data.

The ethical considerations relevant to this study are also discussed in this chapter, including the appropriate mitigation measures to ensure that the rules and regulations of the university are fully adhered to throughout this research.

5.2 Research Onion of Saunders, Lewis, and Thornhill (2012)

The *"Research Onion"* methodology of Saunders, Lewis and Thornhill, (2012) was applied to this study (as seen in Figure 24 below).The researcher was guided through different *'layers'* of methodological choices, strategies, research techniques, and procedures, and therefore, the research process will be discussed based on the *'layers of the research onion'*.

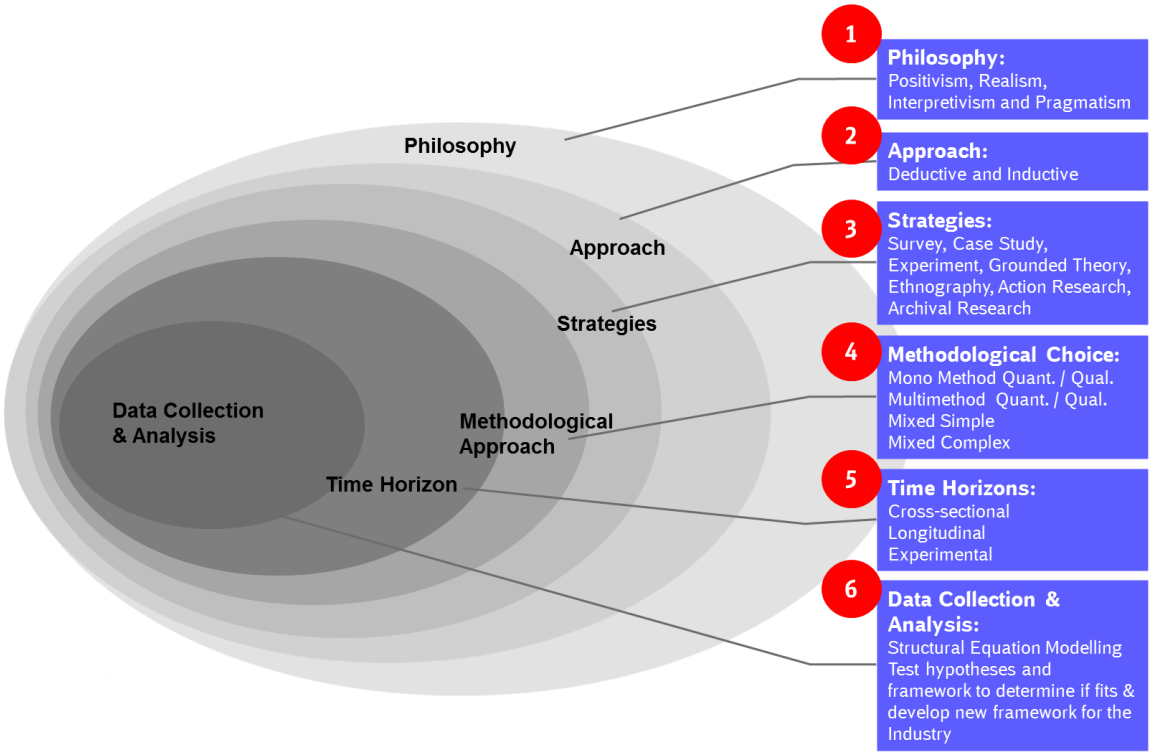

Figure 24: *'Research Onion'* based on the methodological framework of Saunders *et al.* (2012)

The purpose of using the *'research onion'* for this study is that it provides an effective progression through which the methodology of this study was designed. According to Bryman (2012), the practicality of the research onion lies in its adaptability to almost any type of research methodology, and the fact that it can be used in a variety of contexts (Bryman, 2012), such as investigating relationship value in the B2B railway industry of Southern Africa .

The next sections of this chapter will examine the methodological choices, strategies, research techniques, and procedures used in this study.

5.2.1 Primary Research Objective

The main objective of this study is ***to determine the relationship value antecedents and mediators in the B2B railway industry of Southern Africa.***

The purpose of this study is to develop a conceptual framework for Southern African freight rail operators and organisations, by proposing the most important relationship value antecedents and mediators, which can result in customer retention.

In today's business environment, trying to establish and maintain a relationship with customers is crucial for retaining relationship value (Jianhua & Mingli, 2013) for both customers and suppliers. This enhances the competitive advantage of all parties through trust (Jemaa & Tournois, 2014), commitment (Morgan & Hunt, 1994; Van Vuuren, 2012) and satisfaction (Anderson & Narus, 1990; Du Plessis, 2010; Cengiz, 2010).

With regard to the evolution of marketing, as discussed in the previous section of this study, simply being market-orientated is no longer enough to create value for customers and gain a competitive advantage (O'Cass & Ngo, 2011: 125). According to various authors, building and maintaining relationships (Corsaro & Snehota, 2010) to ensure customer retention (Rajeshwari & Tamilchelvi, 2014) is important, especially in the freight transportation industry, since it highlights the importance of a customer-centric freight business (Zlatković, 2013).

The main constructs addressed in this study include relationship value antecedents, mediators and relationship value.

5.2.2 Secondary Research Objectives

The secondary research objectives of this study are outlined below:

i. To determine the key customer relationship value antecedents and mediators in the Southern African B2B railway industry;
ii. To determine the strength of the relationships between antecedents and mediators;
iii. To determine the outcome of relationship value in the B2B railway industry;
iv. To develop a conceptual framework depicting the interrelationships between antecedents and mediators;

5.2.3 Research Philosophy

In the world of ideas and concepts, people can attain true knowledge (*épisthéme*) through their curiosity and involvement in the discovery and development of knowledge (Lopes, 2015). According to Saunders *et al.* (2012: 127), research philosophy does not only relate to the nature and development of knowledge, but is also concerned with how a person will interpret or *"view the world."*

According to various researchers, a particular philosophical position can be adopted in research (Saunders *et al.,* 2012; Lopes, 2015). The issue remains, however, whether only one philosophical position should be adopted. Niglas (2010) and Saunders *et al.* (2012) are of the opinion that, depending on the nature of the research, a multi-dimensional set of continua of research philosophies can be applied, as illustrated in the table below, rather than separate philosophical positions.

Question (Dimension)		**Continua**
What is the nature of reality? *(ontology)*	External	Social constructed
	Objective	Subjective
What is considered acceptable knowledge? *(epistemology)*	Observable phenomena	Subjective meanings
	Law-like generalisation	Details of specifics
What is the role of values?	Value free	Value bound

Table 12: Research philosophy as a multidimensional set of continua (Saunders *et al.,* 2012:129)

According to the Research Onion of Saunders *et al.* (2012), the following philosophical positions can be adopted: positivism, realism, interpretivism, and pragmatism. Each of these philosophies will be briefly discussed below, since the choice of philosophical position in this study will be influenced by practical considerations (Saunders *et al.,* 2012: 128).

5.2.3.1 Positivism

A positivist ontology believes that the world is external (Carson, Gilmore, Perry & Gronhaug, 2001) and that a researcher will adopt the philosophical position of the natural sciences (Saunders *et al.,* 2012: 134), hence being seen as a *"resource researcher."* Researchers adopting this position will follow a controlled and structural approach in conducting research, by identifying a clear research topic, constructing

appropriate hypotheses, and adopting a suitable research methodology (Carson *et al.,* 2001).

According to Edirisingha (2012), the main objective of positivist researchers is to make time- and context-independent generalisations. In other words, these researchers believe that human actions can be explained with reference to real causes that temporarily precede their behaviour, and that the researcher and his research subjects are independent and do not influence each other (see Figure 25 below).

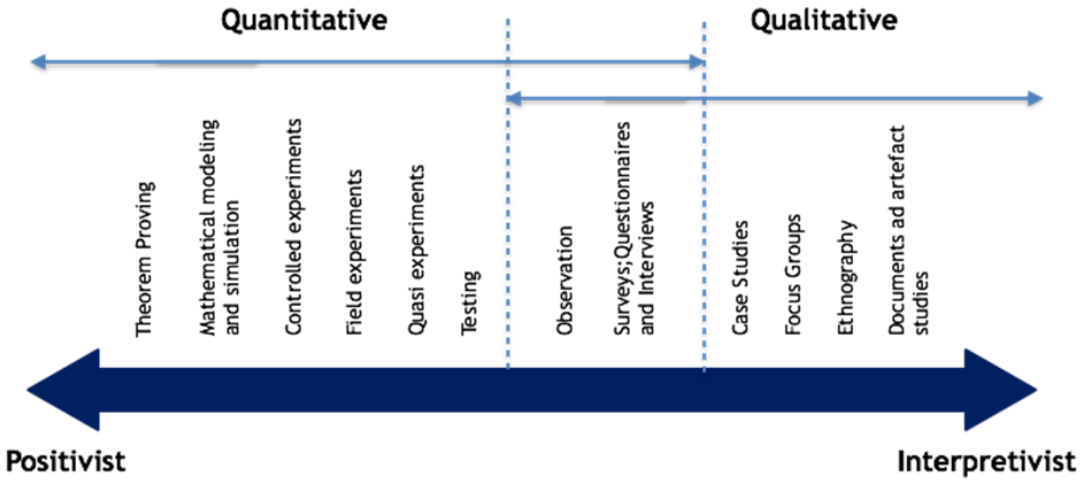

Figure 25: Research methods and strategies (adopted from De Villiers, 2005).

Figure 25 indicates that a positivist paradigm holds knowledge that is absolute and objective, and that it aims for a value-free representation of reality. It is therefore primarily concerned with quantitative research methods, which can be statistically analysed and motivated, from a hypothetical perspective (De Villiers, 2005).

In order to assess relationship value within the B2B railway industry of Southern Africa, pure positivism cannot be fully utilised as a research paradigm, since more than one *"absolute"* approach and framework pertaining to relationship value were obtained from the literature and tested the theory to understand relationship value in the B2B railway industry as a phenomenon.

Positivism should not be completely discarded as philosophy for this study. Therefore, proposing an alternative philosophy to positivism that can also underpin the empirical inquiry should be evaluated.

5.2.3.1.1. Post-positivism

According to Braun & Clark, (2014), post-positivism is associated with turning the emphasis from absolute certainty to probability. The reason for this approach is that research objectives are neither totally objective, nor unquestionable certain (Crotty, 1998: 40).

Since this study integrates various existing relationship value and marketing models in the process of establishing a relationship value conceptual model for the B2B railway industry of Southern Africa, following a post-positivism philosophy means a less strict form of positivism.

Within this study there is a reality of relationship value which is independent of the theoretical frameworks, and this can be studied through a scientific method (e.g. quantitative research), although the reality cannot be known with absolute certainty (Chilisa and Kawulich, 2012). Consequently, this study will follow a post-positivism philosophy.

5.2.3.2 Interpretivism

According to Hussey and Hussey (1997: 49), interpretivists attempt to minimise the distance between the researcher and what is being researched. Interpretivists are the *"feelings researchers,"* and according to Saunder *et al.* (2012: 137), this means that it is necessary for researchers to understand the differences between humans in their role as social actors.

Although it is stated by some researchers that interpretivism is very appropriate for research in business management, in particular marketing and HR management (Saunders *et al.,* 2012: 137), each business activity is unique. Therefore, they are of the view that it is pointless to categorise business phenomena into causes and effects (Holden & Lynch, 2004: 10). This is because phenomena are engaged in a process of continuous creation (Hirschman, 1986: 238).

However, in examining the various research methods and strategies illustrated in Figure 23 above, according to De Villiers (2005), it is understood that positivism tests hypotheses, whereas interpretivism investigates research questions focused on understanding phenomena in their natural settings, using verbal data such as focus groups, case studies etc.

A pure form of interpretivism cannot be used as a research philosophy to investigate relationship value within the B2B railway industry of Southern Africa, since this philosophy lends itself mainly to qualitative methodological choices (De Villiers, 2005).

5.2.3.3 Realism

Realism, as an epistemology that is similar to positivism, relates to the scientific development of knowledge (Saunders *et al.,* 2012: 136), which, according to Maxwell and Mittapalli (2010), supports both qualitative and quantitative research approaches. Realists view causality in terms of whatever it is in the universe that causes the phenomenon, which is perceived with our senses or involved in particular events and situations (Phillips, 1997: 133).

Researchers distinguish between two types of realism, namely direct and critical realism (Saunders *et al.,* 2012: 136; Lacouture, Breton, Guichard & Ridde, 2015). Critical realists, according to Saunders *et al.* (2012: 136), would argue, from a philosophical perspective, that people experience impressions of events in the real world, and not the events directly. On the other hand, direct realism is saying, *"What you see is what you get"* (Saunders *et al.,* 2012: 136).

Although this study involves elements of realism, in that observations are influenced by the observer's biases and worldviews (Chilisa and Kawulich, 2012), this study does not follow a pure realism philosophy. Realism concentrates on scientific enquiries (Saunders *et al.* 2012:137). Whereas post-positivists belief that the researcher and the subject of study are independent by recognising that the theories, hypothesis and background knowledge held by the investigator can strongly influence what is observed, how it is observed and the outcome of what is observed (Chilisa and Kawulich, 2012: 9).

5.2.3.4 Pragmatism

According to Saunders *et al.* (2012: 130), there are various ways in which to interpret research, which means that no single point can ever give the entire picture. Creswell (2014) stated that pragmatists associate the choice of approach directly with the purpose and nature of the research questions posed. Since research is frequently based on a multi-dimensional set of methods, the researcher's understanding of *"what will work"* in generating the design can be through a creative yet structured approach, and

a systematic perspective on the relationship between different aspects of the research design (Armitage, 2007).

Creswell (2014) agreed that the pragmatic paradigm implies that the overall approach to research is one of mixing data collection methods and data analysis procedures within the research process. Although methodological choice is discussed in this chapter, it is important to note that pragmatism might have been adopted if this study was based on a mixed quantitative and qualitative approach, viewed from the perspective of "*practitioner-based"* research (Armitage, 2007:4).

However, as previously stated, a post-positivistic approach has been chosen for this study. The reason for this is that the development of a conceptual model of relationship value in the B2B railway industry of Southern Africa has been achieved by evaluating relevant and existing frameworks on the topic. Thereafter, testing was executed against a set of practical values, which are perceived as potential changes within the B2B railway industry. The explanation of the conceptual framework will provide the basis for the improvement required in the B2B railway industry in order to enhance relationship value and determine the outcome of this enhanced relationship (Goldkuhl, 2012).

The next phase of the study will focus on piloting the conceptual model within the B2B railway industry and testing the potential changes of the applied actions.

5.2.4 Research Approach

According to Spens and Kovács (2006: 375), a research approach is defined as the path of conscious scientific reasoning. Various researchers (Hyde, 2000; Gabriel, 2013; Zalaghi & Khazaei, 2016) have accounted for only two general research approaches, namely inductive and deductive reasoning. Inductive reasoning involves the development of theory based on a *'gap'* that exists between a logical argument, the conclusion, as well as the findings observed (Ketokivi & Mantere, 2010), and then seeks to establish generalisations about the topic under investigation (Spens & Kovács, 2006: 374), hence moving from data to theory.

A deductive approach, on the other hand, refers to a dominant research approach that starts with an established theory or generalisation, and then determines whether

the theory applies to the topic under investigation (Spens & Kovács, 2006: 374), thereby moving from theory to data.

A third and less known approach is called the abductive approach, where instead of moving from theory to data, or data to theory, it moves back and forth between the two (Saunders *et al.,* 2012: 147). These approaches are illustrated in Figure 26 below.

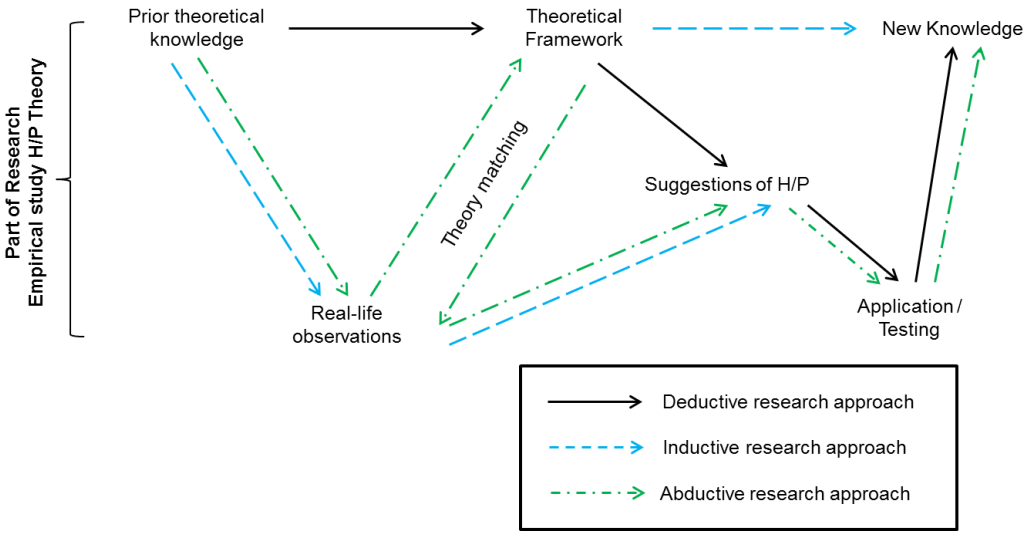

Figure 26: Three Different Research Approaches (adopted from Spens & Kovács, 2006).

Figure 25 aims to explain the three different research approaches and their processes, or patterns, according to research conducted by Spens and Kovács (2006).

According to Saunders *et al.* (2012: 147), abduction begins with a *"surprising"* fact or observation, which is followed by the establishment of a plausible theory of how it could have occurred. Similarly, Spens and Kovács (2006: 377) stated that an abductive research approach could have two different starting points, namely: (1) a *"puzzling"* observation or an anomaly that could not be explained using established theory; and (2) the deliberate application of an alternative theory for explaining a phenomenon.

Although abduction is an innovative research approach that has been adopted by many researchers (Sappleton, 2013; Urdari & Tudor, 2014), and which should in future be reviewed in the context of the B2B railway industry, this study follows a (classic) deductive research approach. The reason for this is that the theory was

developed from previous findings and literature on relationship value. This was followed by formulating a hypothesis from the existing theory, and further observations within the B2B railway industry based on the author's practical experience. Lastly, the hypothesis was tested in order to either refute or confirm the model.

5.2.5 Methodological Choice

According to the *'research onion'* of Saunders *et al.* (2012), the methodological choice of a study will have an influence on how one decides to execute the study. Although there are different methodological choices, this study utilises a survey study, which means quantitative data collection followed by analysis.

5.2.5.1 Exploratory Research Design

This study addresses relationship value within the B2B railway industry. The purpose of this exploratory design will be to develop a conceptual model as a test instrument from the literature review that was conducted. The first step in this study focused on analysing existing research on relationship value antecedents and mediators, by collecting secondary data. The second step is to collect primary data, by means of a questionnaire, on the relationship value in the B2B railway industry of Southern Africa. Research hypothesis will be formulated after the completion of the initial phase.

5.2.6 Research Strategy

Research strategies are the next layer of the *'research onion'* developed by Saunders *et al.* (2012), and different combinations of mixed methods can be used to achieve the desired research strategy. A research strategy is also the way in which the researcher goes about answering the research questions, and this study's strategy should focus on achieving relative consistency, which will ensure that the research questions can be answered (Saunders *et al.,* 2012: 173).

Given the nature of this study, attention was given in analysing appropriate literature pertaining to relationship marketing and relationship value within the B2B context and environment. The literature review that was conducted for this study allowed for a justified analysis of the merits and shortcomings of the existing literature on relationship value, and therefore demonstrated a certain relationship to this present study (Saunders *et al.,* 2012: 668). Similarly, Coldwell and Herbst (2004: 31) indicated that

completing a literature review is the basis for identifying existing knowledge related to the research problem, and is therefore considered as the *"guiding concept"* or *"golden thread"* of the study.

In essence, the literature review was conducted in order to investigate the key principles of relationship value within the B2B environment, and then to further explain how the concepts in past research on relationship value are interconnected with the process of how relationship value is established in the B2B railway industry of Southern Africa. The next phase in this study was to collect data and analyse the information that was gathered.

5.2.6.1 Questionnaire Design

According to Coldwell and Herbst (2004: 47), the idea behind a survey research strategy is to measure variables through questionnaires, and then to analyse the correlation between the variables. Saunders *et al.* (2012: 176) further stated that surveys are a common strategy in business management research and enable the researcher to collect quantitative data and analyse it using descriptive or inferential statistics.

For the purpose of this study, a questionnaire was developed based on the research frameworks of relationship value, as discussed and analysed during the literature review. Table 13 below provides insight into the questions, as well as the various sources of the research frameworks and models of relationship value that were used to formulate the questionnaire for this study.

The purpose of the questionnaire was to determine important constructs, based on the views of the B2B railway user (referred to as railway supplier in this study), in terms of the relationship value between them and a railway operator in the Southern African region.

As previously mentioned, the questionnaire is based on existing relationship value research, but the questions for this study were revised in order to represent the opinions of the B2B railway user operating in Southern Africa. Saunders *et al.* (2012: 177) stated that a questionnaire could be used to suggest possible relationships between variables, in order to produce or verify models of these relationships.

The validation process of the questionnaire is an important step in the development of a survey strategy. Saunders *et al.* (2012: 429) stated that the assessment of validity refers to the ability of the questions to measure exactly what they intend to measure. In other words, the questionnaire is providing a good analysis of the research questions. The validity and reliability of the questionnaire and data are discussed later in this chapter.

According to Burgess (2001: 6), the questionnaire design is normally divided into three main elements, which include: (a) the questions to be asked; (b) the type of questions to be asked; and (c) the question sequence and overall questionnaire layout.

QUESTIONNAIRE MATRIX

Primary Research Objective:	***To develop a relationship value model for the B2B Railway Industry of Southern Africa***
Research Sub-Objectives:	*i. To determine the key relationship value antecedents and consequences in the B2B railway industry of Southern Africa*
	ii. To determine the strength of the relationship between antecedents and constructs of relationship value in the B2B railway industry of Southern Africa
	iii. To determine how trust, satisfaction and commitment influence relationship value in the B2B railway industry of Southern Africa
	iii. To determine the relationship between relationship value and business retention in the B2B railway industry of Southern Africa

Past Research	***Value Dimension***	***Construct***	***Investigative Questions***	***Questions for Questionnaire***	***Variable(s) tested***	***Detail in which data is measured***
Ulaga and Eggert (2006); Menon, Homburg and Beutin (2005)	Core Benefit	n/a	(1) My Organization feels that the relationship with Rail Supplier A meets our basic needs	*Rail Supplier A meets our basic needs*	Opinion of customer on value of core benefits	strongly agree - strongly disagree
			(2) My Organization feels that Rail Supplier A meets the minimum requirements we have for consideration of a supplier	*Rail Supplier A meets the minimum requirements we have for consideration of a supplier*	Opinion of customer on value of core benefits	strongly agree - strongly disagree
			(3) My Organization feels content with the core benefits of our relationship with Rail Supplier A	*My Organization feels content with the core benefits of our relationship with Rail Supplier A*	Opinion of customer on value of core benefits	strongly agree - strongly disagree
Menon, Homburg and Beutin (2005)	Add-On Benefit		(1) My Organization feels that Rail Supplier A offers benefits beyond our basic needs	*Rail Supplier A offers benefits beyond our basic needs*	Opinion of customer on value of add-on benefits	strongly agree - strongly disagree
			(2) My Organization feels that Rail Supplier A exceeds the requirements we have for an Operator	*Rail Supplier A exceeds the requirements we have for an Operator*	Opinion of customer on value of add-on benefits	strongly agree - strongly disagree
			(3) My organization feels that Rail Supplier A provides us with value beyond a simple transaction	*Rail Supplier A provides us with value beyond a simple transaction*	Opinion of customer on value of add-on benefits	strongly agree - strongly disagree
Ulaga and Eggert, (2006); Beck *et al.*, (2013)	Operations Costs (Sacrifice)		***Item reliability cannot be calculated for formative and single-item measures***			
Beck *et al.*, (2013)	Infrastructure Costs (Sacrifice)					
Jemaa and Tournois, (2014)	Mediator	Trust	(1) In our relationship, my organization feels that Rail Supplier A can be trusted	*In our relationship, my organization feels that Rail Supplier A can be trusted*	Opinion of customer in confidence of Rail Operator	strongly agree - strongly disagree
			(2) In our relationship, Rail Supplier A demonstrated that they act with integrity	*Rail Supplier A demonstrated that they act with integrity*	Opinion of customer in confidence of Rail Operator	strongly agree - strongly disagree

			(3) In my organization's relationship with Rail Supplier A , we have confidence in them to do what is right	*In my organization's relationship with Rail Supplier A , we have confidence in them to do what is right*	Opinion of customer in confidence of Rail Operator	strongly agree - strongly disagree
		Satisfaction	(1) In our relationship, my organization feels content with the expected services of Rail Supplier A	*In our relationship, my organization feels content with the expected services of Rail Supplier A*	Opinion of customer in receiving expected services	strongly agree - strongly disagree
			(2) In our relationship, my organization feels satisfied with the expected services of Rail Supplier A	*In our relationship, my organization feels satisfied with the expected services of Rail Supplier A*	Opinion of customer in receiving expected services	strongly agree - strongly disagree
			(3) In our relationship, my organization feels that expected services by Rail Supplier A met our needs	*In our relationship, my organization feels that expected services by Rail Supplier A met our needs*	Opinion of customer in receiving expected services	strongly agree - strongly disagree
		Commitment	(1) The relationship my organization has with Rail Supplier A deserves the maximum effort to sustain it	*The relationship my organization has with Rail Supplier A deserves the maximum effort to sustain it*	Opinion of customer maintaining the relationship	strongly agree - strongly disagree
			(2) In my organization, we feel confident in the stability of our relationship with Rail Supplier A	*In my Organization, we feel confident in the stability of our relationship with Rail Supplier A*	Opinion of customer maintaining the relationship	strongly agree - strongly disagree
			(3) The relationship my organization has with Rail Supplier A is something we are very committed to	*The relationship my organization has with Rail Supplier A is something we are very committed to*	Opinion of customer maintaining the relationship	strongly agree - strongly disagree
Menon, Homburg and Beutin, (2005); Ulaga and Eggert, (2006)	Service Performance	Service Quality	(1) Rail Supplier A has the ability to deliver services that match my organization's expectations	*Rail Supplier A has the ability to deliver services that match my organization's expectations*	Opinion of customer expectation on consistency of service	strongly agree - strongly disagree
			(2) Rail Supplier A has the ability to deliver services that is consistent to my Organization	*Rail Supplier A has the ability to deliver services that is consistent to my Organization*	Opinion of customer expectation on consistency of service	strongly agree - strongly disagree
			(3) Rail Supplier A has the ability to deliver quality services to my Organization	*Rail Supplier A has the ability to deliver quality services to my Organization*	Opinion of customer expectation on consistency of service	strongly disagree - strongly agree
		Flexibility	(1) Rail Supplier A has the ability to be flexible enough to manage my Organization's unforeseen problems	*Rail Supplier A has the ability to be flexible enough to manage my Organization's unforeseen problems*	Opinion of customer on ease of change	strongly agree - strongly disagree
			(2) Rail Supplier A has the ability to be flexible in response to the requests my Organization make	*Rail Supplier A has the ability to be flexible in response to the requests my Organization make*	Opinion of customer on ease of change	strongly agree - strongly disagree
			(3) Rail Supplier A has the ability to handle change well	*Rail Supplier A has the ability to handle change well*	Opinion of customer on ease of change	strongly agree - strongly disagree
Ulaga and Eggert, (2006); Menon,	Supplier Performance	Delivery Performance	(1) Rail Supplier A has the ability to meet expected delivery dates	*Rail Supplier A has the ability to meet expected delivery dates*	Opinion of customer on on-time delivery	strongly agree - strongly disagree
			(2) Rail Supplier A has the ability to deliver goods accurately	*Rail Supplier A has the ability to deliver goods accurately*	Opinion of customer on on-time delivery	strongly agree - strongly disagree

Homburg and Beutin, (2005)			(3) Rail Supplier A has the ability to deliver on-time	*Rail Supplier A has the ability to deliver on-time*	Opinion of customer on on-time delivery	strongly agree - strongly disagree
		Reliability	(1) Rail Supplier A has the ability to do things right the first time	*Rail Supplier A has the ability to do things right the first time*	Opinion of customer on doing things right the first time	strongly agree - strongly disagree
			(2) Rail Supplier A has the ability to be consistent	*Rail Supplier A has the ability to be consistent*	Opinion of customer on doing things right the first time	strongly agree - strongly disagree
			(3) Rail Supplier A employees are knowledgeable	*Rail Supplier A employees are knowledgeable*	Opinion of customer on doing things right the first time	strongly agree - strongly disagree
Menon, Homburg and Beutin, (2005); Biggemann and Buttle, (2005)	Relational Performance	Personal Value	(1) Rail Supplier A is willing to tolerate my Organization during difficult times	*Rail Supplier A is willing to tolerate my Organization during difficult times*	Opinion of customer expectation on long-term relationship	strongly agree - strongly disagree
			(2) Rail Supplier A has the ability to help my Organization in unusual circumstances	*Rail Supplier A has the ability to help my Organization in unusual circumstances*	Opinion of customer expectation on long-term relationship	strongly agree - strongly disagree
			(3) Rail Supplier A and my Organization has a shared sense of commitment in our relationship	*Rail Supplier A and my Organization has a shared sense of commitment in our relationship*	Opinion of customer expectation on long-term relationship	strongly agree - strongly disagree
		Reputation	(1) Rail Supplier A is overall appealing to have a relationship with my Organization	*Rail Supplier A is overall appealing to have a relationship with my Organization*	Opinion of customer on future association	strongly agree - strongly disagree
			(2) My Organization feels that Rail Supplier A has a good reputation	*My Organization feels that Rail Supplier A has a good reputation*	Opinion of customer on future association	strongly agree - strongly disagree
			(3) Rail Supplier A has the ability to deliver trustworthy behaviour	*Rail Supplier A has the ability to deliver trustworthy behaviour*	Opinion of customer on future association	strongly agree - strongly disagree
Biggemann and Buttle, (2005); Woodruff and Flint, (2003)	Financial Performance	Efficiency	(1) Rail Supplier A has the ability to contribute towards my Organization's efficiency	*Rail Supplier A has the ability to contribute towards my Organization's efficiency*	Opinion of customer expectation on contribution towards own performance	strongly agree - strongly disagree
			(2) Rail Supplier A has a large market share	*Rail Supplier A has a large market share*	Opinion of customer expectation on contribution towards own performance	strongly agree - strongly disagree
			(3) Rail Supplier A is efficiency orientated	*Rail Supplier A is efficiency orientated*	Opinion of customer expectation on contribution towards own performance	strongly agree - strongly disagree
		Competitive Price	(1) Rail Supplier A is transparent about its price of services	*Rail Supplier A is transparent about its price of services*	Opinion of customer on price advantage	strongly agree - strongly disagree
			(2) My Organization considers the price of services of Rail Supplier A competitive with road transport	*My Organization considers the price of services of Rail Supplier A competitive with road transport*	Opinion of customer on price advantage	strongly agree - strongly disagree
			(3) The price offered by Rail Supplier A is justified by the value my Organization receives	*The price offered by Rail Supplier A is justified by the value my Organization receives*	Opinion of customer on price advantage	strongly agree - strongly disagree

Menon, Homburg and Beutin, (2005); Ulaga and Eggert, (2006); Biggemann and Buttle, (2005); Woodruff and Flint, (2003)	Relationship Value	n/a	(1) My Organization receives value from Rail Supplier A	*My Organization receives value from Rail Supplier A*	Opinion of customer on value of relationship	strongly agree - strongly disagree
			(2) My Organization feels that the value we receive from Rail Supplier A is more than the costs we incur	*My Organization feels that the value we receive from Rail Supplier A is more than the costs we incur*	Opinion of customer on value of relationship	strongly agree - strongly disagree
			(3) My organization feels that our relationship to Rail Supplier A is meaningful	*My organization feels that our relationship to Rail Supplier A is meaningful*	Opinion of customer on value of relationship	strongly agree - strongly disagree
Ulaga and Eggert, (2006)	Retention	n/a	(1) My Organization assume to further develop our relationship with Rail Supplier A	*My Organization assume to further develop our relationship with Rail Supplier A*	Opinion of customer on continuation of relationship	strongly agree - strongly disagree

Table 13: Sources of Research Questions for this study (Author)

In terms of the questions that were asked, it was vital to ensure that each question related to the overall research question/problem and its objectives (Saunders *et al.,* 2012: 427). The questionnaire matrix above clearly indicates what investigative questions were used to test the related variables. The questionnaire for this study is based on past research frameworks, which were slightly adjusted in order to measure the value constructs linked to relationship value within the B2B railway industry of Southern Africa.

In order to ensure validity and reliability of the data required from the questionnaire, investigative questions should be adequately covered (Saunders *et al.,* 2012: 429). This was done by means of a questionnaire scale, which various researchers have confirmed as a means to secure validity and reliability (Hair, Black, Babin & Andrerson, 2010; Tolmay, 2012: 179; Saunders *et al.,* 2012: 430). Further information on validity and reliability will be presented later in this chapter.

The final questionnaire (included in this study as Annexure A) investigated the value dimensions of relationship benefit, as derived from past research frameworks and models. The value dimensions were then dived into constructs, which were tested in the questionnaire through investigative questions (as seen in Table 13).

5.2.6.1.1. Final Questionnaire

The flow of the questionnaire in terms of introducing the respondent to the research study, explaining how much time the respondent will need to complete the questions, and clearly outlining the research objective, was an important part of the final construction of the questionnaire for this study (Saunders *et al.,* 2012: 444).

In essence, this study's final questionnaire comprised of a covering letter and various types of questions (Part A, B & C), in order to keep the questionnaire efficient, reliable and ensure that the answers would achieve the research objectives of this study (Saunders *et al.,* 2012: 31). The questionnaire was concluded by asking the respondents whether they would have any objection to the disclosure of their name for the purpose of the study.

The first part of the questionnaire (Part A) formed the introduction, whereby the respondents were asked to complete category questions. According to Saunders *et al.*

(2012: 434), each respondent's answer can only fit into one of the categories provided (see sample of questionnaire in Table 14 below):

(Please choose an option in response to the two questions below, if you feel comfortable including it in the questionnaire)

A. When was your last interaction with the B2B Railway Service Provider?	
A week ago	☐
A month ago	☐
Longer than 6 months ago	☐
Other, please specify	☐

Table 14: Category Question within Final Questionnaire (Author)

The second part of the final questionnaire (Part B) included the measurement of the core benefits and add-on benefits received from a rail supplier, as outlined in the conceptual framework of this study. Rating questions (Likert-style) were used here, in the form of a seven-point rating scale, which included an agreement type of rating, such as strongly disagree to strongly agree (as seen in Table 15 below).

The rating questions within this study ensured that they could be more easily measured (tested and validated), according to Saunders *et al.* (2012: 439). In addition, these questions required respondents to choose a specific answer based on their opinion (the variable tested e.g. opinion of customer value of core benefit).

(Please rate your railway service provider in terms of the following statements on a scale from 1 to 7, where 1 indicates "Strongly Disagree" and 7 indicates "Strongly Agree. You can also choose any number in between, depending on your evaluation of your interaction with them):

	Strongly Disagree						**Strongly Agree**
	1	2	3	4	5	6	7
Core Benefit							
1.1 Rail Supplier A meets our basic needs	1	2	3	4	5	6	7
1.2 Rail Supplier A meets the minimum requirements we have for consideration of a supplier	1	2	3	4	5	6	7
1.3 My organization feels content with the core benefits of our relationship with Rail Supplier A	1	2	3	4	5	6	7

Table 15: Likert-style Rating Question within Final Questionnaire (Author)

The last part of the final questionnaire (part C) included demographic questions. According to Kostoulas (2015), demographic questions assist in answering the research questions (see Table 16) and in describing the sample (refer to Table 17).

14. To which SADC region does your company belong?	
South Africa	
Swaziland	
Tanzania	
Zambia	
Zimbabwe	
Namibia	
Mozambique	
Mauritius	
Malawi	
Lesotho	
Congo (DR)	
Botswana	
Angola	
Other	

Table 16: Demographic Question to Rail Supplier on Region of Company's Operations (Author)

According to an online article on why demographic questions are used in surveys, it was stated that demographics are characteristics of the population, and that the data that is gathered can be further divided into various data groups (DeFranzo, 2012).

The use of demographic data in research is, according to Kostoulas (2015), ancillary, in that readers might be able to relate to similarities and differences within the study.

12. Within which range does your business' annual turnover fall?	
Less than 5 million	
>5 million – 50 million	
>50 million and above	

Table 17: Demographic Question on the Rail Supplier's Annual Turnover (Author)

5.2.7 Time Horizon

A cross-sectional time horizon was used in this study, since the study was conducted within a specific period and involved a survey strategy (Saunders *et al.,* 2012: 190). The main benefit, according to Setia (2016), is that cross-sectional studies are less expensive, since the time and cost of multiple survey administration are eliminated. Cross-sectional studies have time constraints (Saunders *et al.,* 2012: 190), it can be

considered a limitation, since they will not examine relationship value within the B2B railway industry over a long-term period.

5.2.8 Data Collection and Analysis

The methodology of this study will focus largely on (1) research instruments, (2) data, and (3) analysis.

A third-party research company, *'Consulta Pty Ltd',* with the necessary academic and research experience in the business management environment in Africa, was engaged and utilised in the primary data collection process of this study.

This was because of the amount of time available to the author to personally gather the primary data within the Southern African railway industry.

Adequate data needed to be obtained in order to statistically test the relationship variables (Saunders *et al.,* 2012). Due to a very limited population size, the questionnaire (see Annexure A) was distributed using various methods, such as self-completed questionnaires sent via email, as well as the use of other internet and social media platforms, including LinkedIn, Facebook and Twitter.

In order to ensure the effective use of time to collect the data using the questionnaire, Consulta also made use of CAPI (computer-aided personal interviewing). According to Saunders *et al.* (2012: 422), the problem of samples being geographically dispersed, which makes the delivery and collection of data difficult and time consuming, has been overcome by the use of CAPI.

This study will apply statistical modelling, which includes confirmatory factor analysis (CFA) and structural equation modelling (SEM). Details regarding this statistical modelling are provided in the next chapter of this study.

The statistical analysis will be done by the author of this study together with support from a statistician.

5.2.8.1 Sampling Process

This study focused on assessing relationship value as a basis for measuring core antecedents and constructs within the B2B railway industry of Southern Africa. It therefore concentrated on a specific sample, in order to determine the outcome. In essence, purposive sampling was used to select individuals from the population based on the researcher's knowledge and judgment of the B2B railway industry in Southern Africa.

The main primary source of data used for this study is the questionnaire, with secondary data being utilised in the form of a literature review. The secondary data that was collected was mainly for the reassessment of the data collected through the questionnaire, in order to ensure unambiguousness about the underlying assumptions and theories pertaining to the data.

This was done by means of exploratory research, in which the questionnaire was sent to the sample to complete.

Figure 27 below illustrates the process that was followed in order to obtain a final sample, used to collect the data for this study.

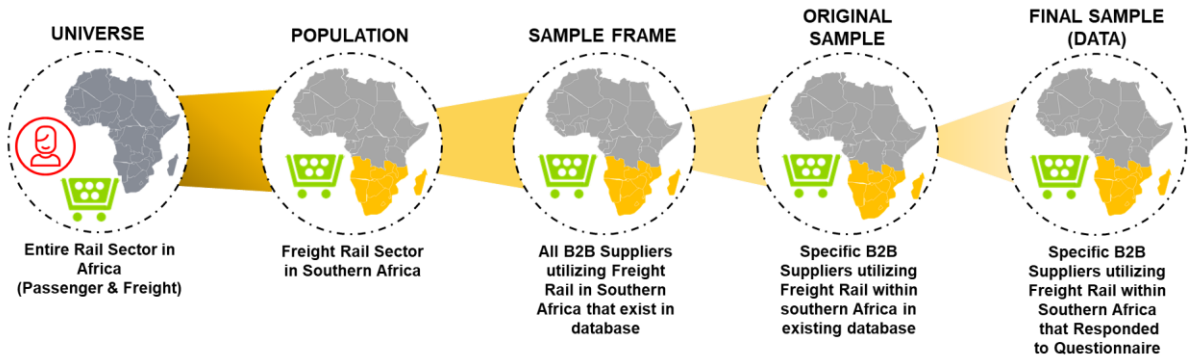

Figure 27: Explanation of the Sampling Process (Quantitative) for this Study (Author)

The universe of this study, based on Figure 27, comprised of the entire railway sector in Africa, which included both passenger and freight rail users. In Africa, there is currently an urban population of approximately 450 million people (African Development Bank, 2015: 23), which creates an increased demand for daily passenger travel between homes and urban activities such as work, education, shopping and recreation (Development Bank of Southern Africa, 2007: 7). The rapid growth in urbanisation

and industrialisation in Africa will present new transport challenges, which the railways are well equipped to handle, according to the African Development Bank Report on Rail Infrastructure in Africa (2015: 29). In addition, Africa will produce large volumes of goods, such as bulk minerals and commodities, which are natural markets for freight railways, by 2044.

Out of the universe, the population of this study represents the entire freight rail sector of Southern Africa, which consists of a total of approximately 55,000km of track, where the South African freight rail operator, Transnet captures 40% of the operating network, and 70% of the traffic (Transnet, 2015: 407). The entire population for this study, which is roughly estimated to be less than 1,000 B2B supplier companies utilising freight rail in Southern Africa region.

The following section 5.2.8.2 explains why the population of this study is estimated to be less than 1,000 B2B supplier companies utilising freight.

5.2.8.2 The railway freight sector of the southern African region

The railway freight sector of the southern African region only has a handful of companies directly involved in utilising rail freight services. Why is that? Looking at the overall number of companies on the entire African continent, directly involved in producing the main components required for a railway system (e.g. rail infrastructure and rolling stock), the total number of companies are very low for the vast amount of goods and people that needs to be transported across the continent according to the Sector Overview and Competitiveness Survey of the Railway Supply Industry issued by the European Union (2012: 40).

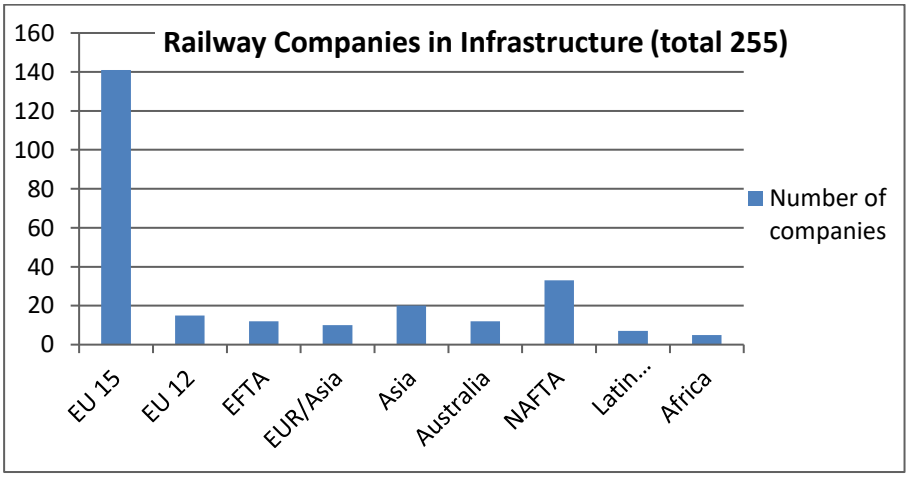

Figure 28: Number of enterprises in railway infrastructure (Sector Overview and Competitiveness Survey of the Railway Supply System, 2012: 40)

Figure 28 illustrates that the total number of railway infrastructure suppliers in Africa amounts to less than ten, whilst Figure 29 illustrates that out of 50 rolling stock producers in the world, responsible for manufacturing rolling stock at 153 production sites, there are only two for the entire Africa, both of these located in South Africa (SCI Verkehr, 2016).

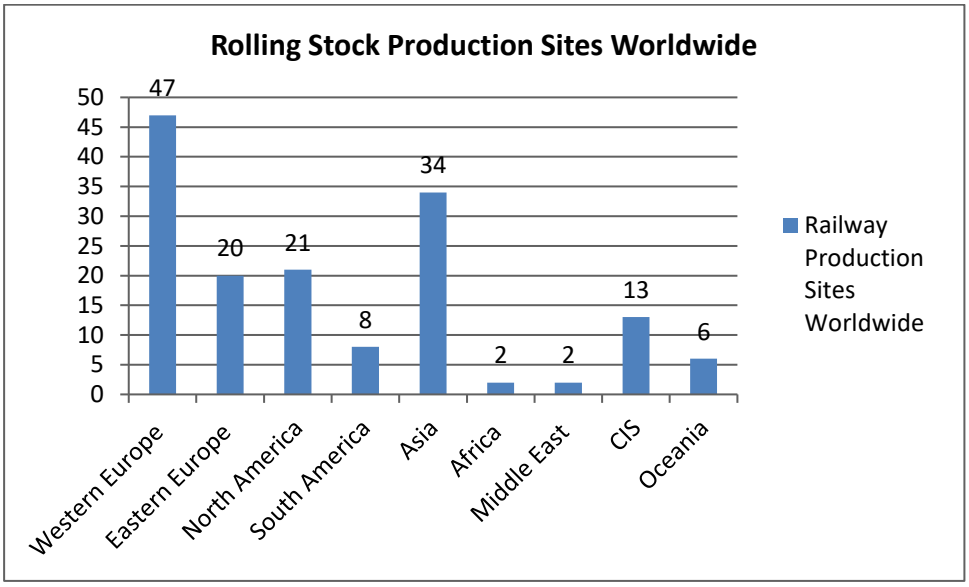

Figure 29: Number of rolling stock production sites worldwide (Sector Overview and Competitiveness Survey of the Railway Supply System, 2012: 39)

What does this information mean for the universe of rail users? It means that the amount of railway users (freight and passenger) in Africa is very low compared to Europe or Americas, due to number of entities occupied in developing railway networks and systems across the entire African continent.

Now, if one further review the the sample frame of this study, namely the freight rail sector of Southern Africa, it becomes more apparent that users of freight rail services in southern Africa is low, because Transnet Freight Rail manages approximately 74% of the entire Southern Africa region's freight traffic, which translates at over 80% of the total net ton-kilometres. Transnet owns and operates the largest rail network on the continent (Transnet, 2016).

This means that Transnet, as a South African railway operator, is transporting the majority of the freight by rail within the Southern African region. In addition, Southern

Africa also dominates the continent for the passenger business, carrying more than 70% of total passenger kilometres, mainly due to its extensive commuter passenger services, operated by PRASA (Passenger Rail Agency of South Africa) (Transnet, 2015: 408).

In conclusion, there is very little research on the amount of B2B railway customers in Southern Africa. Therefore, based on the amount of railway infrastructure and rolling stock supply companies operating in Africa, the postulation is that the number of users or customers is very limited.

This statement is supported by the total number of B2B railway customers using railway in Southern Africa, retrieved from the existing database and used for the sampling frame of this study (refer to Annexure C).

The following steps, as outlined by Saunders *et al.* (2012: 262), were followed in order to achieve representative sampling.

Step 1 - Identification of the Sampling Frame

The sampling frame, according to Saunders *et al.* (2012: 262) refers to a complete list of all the cases in the population from which the sample for this study is drawn when it is impracticable to collect data from, and uncertain about the entire population (Saunders *et al,* 2012: 264).

For the purpose of this study, the research is concerned with the B2B Railway Industry within Southern Africa, therefore a specific sector in a specific geographical area, where the sampling frame consists of an existing database with information regarding the B2B supplier utilising freight rail in Southern Africa (refer to Annexure C for more information). This database is owned and maintained by the Author's current place of employment (refer to Annexure L for letter given permission to the Researcher to utilise the existing information pertaining to this database).

5.2.8.2.1. Step 2 – Deciding on the Sample Size

According to Saunders *et al.,* (2012: 262) the choice of sampling was directed by various aspects that have led to the least likelihood of compromising on the accuracy of the findings of this study:

- The level of certainty that the data collected is representative of the characteristics of the population, which according to figure 26, is the freight rail sector of Africa.
- Secondly, the margin of error, according to Saunders *et al.,* (2012: 265) is tolerable;
- Thirdly, the statistical analysis of this study can be accurately subdivided in order to represent the accuracy of the findings.
- Lastly, the consideration of the total population from which the sample is drawn (refer to Figure 26).

The following table represents the sample size for this study:

Summary of Sample	**Count**
Original Supplier Database List Size (Email and Telephone) from 265 Companies	1317
After initial list cleaning (Loaded to WEB study – Online Questionnaire)	1016
Sample Achieved (through WEB)	*23*
Database names with telephone numbers (Loaded to Computer Assisted Telephone Interviewing (CATI) who have not responded to electronic email invite to online questionnaire)	627
Sample Achieved (through CATI)	*21*
Sample Achieved after recycling the list (through CATI)	*56*
Sample Achieved after recycling the list (through WEB)	*10*
Total Complete Sample for Questionnaire:	**110**

Table 18: Actual Sample Size of Quantitative Data with reference to this Study (Author)

As seen from table 18, this study consisted of a sample size of 1,317 individuals out of 265 B2B Suppliers Companies utilising freight rail within Southern African region. The 1,317 individuals are decision-makers, which were able to provide adequate representative views about their Company's relationships with B2B Railway Operators available in Southern Africa.

The respondents were selected from the database based on their existing management positions in administrative, business development, sales, marketing, logistics and commercial departments of their respected Companies, which interacted frequently with Rail Operators as B2B Suppliers and utilisers of freight rail in Southern Africa.

Out of the 265 B2B Suppliers Companies utilising freight rail within Southern Africa, the final sample of 110 responses are represented by a total of 80 B2B Companies.

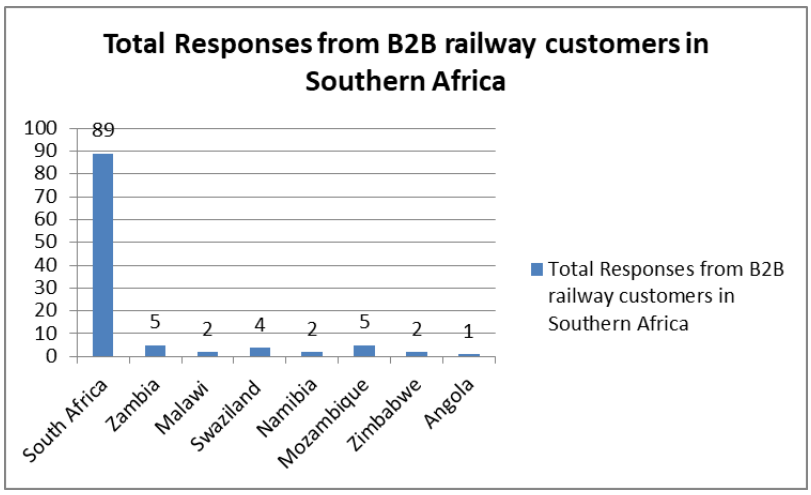

Figure 30: Total number of responses per Southern African Country (Author, 2018)

Figure 30 indicates that most responses came from B2B railway customers located operating in South Africa. This is corresponding to literature indicating that the majority of the railway network is being operated by Transnet (Transnet, 2015: 408). Secondly, this statistic might also be an indication that the majority of the companies listed and using freight rail on the database are South African.

5.2.8.2.2. Step 3 - Sample Technique

According to Saunders *et al.* (2012: 270), the sampling technique used within a study depends on the research questions and its objectives. It is also contingent due to this study's need for secondary data and the difficulty in obtaining the data due to limited research on the subject matter and due to geographic area, such as Southern Africa.

Consequently, the population of this study represents the entire freight rail sector of South African region. These include South Africa, Swaziland, Zambia, Zimbabwe, Namibia, Mozambique, Malawi, Lesotho, Botswana, and Angola, and are also representative of the Southern African Developing Community (SADC), which specifically are currently operating below capacity and function as a collection of national systems rather than as an integrated regional rail network (SADC, 2012).

An integrated regional rail network means connecting major centres of population and economic activity with the developing rural areas, which requires an efficient and reliable railway service that helps to integrate the region (SADC, 2012).

In order to do so, these Southern African countries should collaborate on harmonised policies for railway use and implementation that economically restructures the railways by increasing the role of the private sector and aim for common standards and procedures, particularly in terms of infrastructure (SADC, 2012).

Additional cluster grouping was done through the existing database based on (1) the management level information and (2) specific department functions for individual employees working for B2B supplier companies, utilising freight rail within the before mentioned geographic sub-areas (refer to Figure 29).

5.2.8.3 Data Analysis Approach

The following important phases were followed in order to analyse the data: (1) review proposed academic model; (2) determine the suitability of the data for CFA; (3) establish correlation between items; (4) determine the total variance; (5) rotated axis factoring; and (6) Path Analysis / SEM.

5.2.8.3.1. Review the proposed academic model

This process entails ordering and summarising the applicable data by means of tabulation and graphic representation and the calculation of descriptive measures. According to Hair *et al.,* (2010) these raw constructs are of theoretical interest and are identified during the literature review stage.

As mentioned, the aim of the research was to identify relationship value antecedents and mediators in the B2B railway industry of Southern Africa n, and to determine whether relationship value results in retention. The proposed conceptual model developed based on existing literature was tested in order to identify the applicable antecedents and mediators that would eventually result in relationship value and possibly retention.

5.2.8.3.2. Suitability of data for CFA

The suitability of the data for factor analysis was where the relationships among the variables were determined, as measured on a 7-Point Likert-type scale. This was investigated using the Pearson correlation coefficient and preliminary analyses were performed to ensure that there were no violations of the assumptions of normality, where the coefficients of the correlation matrix have to reveal the presence of

coefficients of 0.3 and above (> 0.3). The Kaiser-Meyer-Olkin (KMO) and the Bartlett's Test of Sphericity was conducted for statistical significance of in order to support the factorability of the correlation matrix.

5.2.8.3.3. Establish Correlations

Significant loadings were identified, and the amount of variance was examined to determine if the variables met acceptable levels of explanation. The patterns of correlations measured the extent to which respondents agreed with statements made regarding various aspects of the service they receive from the rail supplier. Hair *et al.,* (2010) stated that loadings should at least exceed 0.5 (> 0.5) to have a significant explanation.

5.2.8.3.4. Determine the total variance

Total variance where determined through eigenvalues, used to identify the optimum number of extracted factors before the amount of unique variance begins to dominate the common variance structure (Hair *et al.,* 2010).

5.2.8.3.5. Rotated Axis Factoring

Varimax rotation was performed since it results in a clearer separation of factors (Hair *et al.,* 2010), where factor loadings of 0.5 and larger (> 0.50) were considered significant and used for interpretation of structure (Hair *et al.,* 2006: 128).

5.2.8.3.6. Path Analysis / Structural Equation Modelling (SEM)

SEM represents the causal relationships among the latent variables (Cooper and Schindler, 2001: 586; Bryman and Bell, 2015), which is diagrammed in a path analysis to demonstrate whether value drivers are indeed classified as antecedents or mediators.

5.3 Validity and Reliability

Reliability is concerned whether the data collection techniques used for this study together with its analytical procedures would reproduce consistent findings (Saunders *et al.,* 2012: 192). Whereas reliability is representative of the quality of the research works, validity is defined as *"the extent to which research findings are really about they profess to be about"* (Saunders *et al.,* 2012: 684).

In the first step of the development of reliability and validity for this study's questionnaire, the research purpose, objectives, and questions were investigated, through the process of defining the target audience, which included the selection of the appropriate respondents (Radhakrishna, 2007). It was also critical to conduct a comprehensive literature review in order to concretise the second step of this process, which is the questionnaire's conceptualisation.

In the second step, after developing a thorough understanding of the research (Radhakrishna, 2007), it was imperative to develop questions based on the theoretical framework and establishing the specific core variables to be measure through the questions.

Thirdly, the development of a data analysis process was done, as fully outlined under the *'Data Collection Process & Analysis'* section of this Study.

The fourth step in was to establish a draft questionnaire for establishing validity. The draft questionnaire was then sent out electronically to panel of experts working within the B2B railway industry for the testing of validity, which included the Author's research supervisor, who had to review and approve the draft questionnaire. According to Radhakrishna (2007) validity is defined as the amount of systematic error in measurement which is established using a panel of experts.

The final step within this process focused on establishing reliability. According to Saunders *et al.,* (2012: 680), reliability can be defined as *"the extent to which data collection techniques will yield consistent findings, similar observations would be made of conclusions reached by other researchers or there is transparency in how sense was made from the raw data."* Here Cronbach's Alpha is determined as a conservative estimate of the internal consistency of closely related a set of items are as a group and is measured as scale of reliability (Bruin, 2006).

5.4 Limitations and Delimitations

The financial and time constraints limited this research in that it was not possible to triangulate results based on semi-structured interviews with Southern Africa n Rail Operators, explore their possible input to this study, and achieve greater insight, which provides an opportunity for future studies.

In addition, the study did not allow the researcher to fully investigate the *'road versus rail'* debate, which is an increasingly important point in evaluating moving goods from road transport to rail transport.

The population of B2B rail suppliers within Southern Africa is very small and limited (>2,500). However, the sample list is the only available and complete sample frame available for the Southern African B2B railway industry.

A delimitation of the research includes that it only evaluates certain constructs of Relationship Value derived from previous models outlined by Menon, Homburg and Beutin, (2005); Biggemann and Buttle, (2005); Eggert *et al.,* (2006); Woodruff and Flint, (2003).

Eggert *et al.,* (2006) stated that relationship value could be improved by either increasing relationship benefits or decreasing relationship costs. Although existing literature have been analysed and discussed in this study pertaining to customer relationship value sacrifices, the final and tested conceptual model only focused on the role of relationship benefits in process of value creation. The reason for the decision to exclude sacrifices as part of the measured framework was based on the quality of data collected by Consulta as appointed data collector and gatekeeper.

Consulta revealed that the total number of questions relating to each construct to be measured (including sacrifices) were too excessive. The initial results were non-responses and secondly those who respond, did not complete all the questions within a reasonable timeframe. In addition, limited funds were available to the researcher for inclusion of additional time to extend the data collection process or to ensure that sufficient and measurable data on sacrifices as a construct were collected.

5.5 Ethical Considerations

Ethical compliance is regarded as extremely important for the purpose of this study, where the norms or standards of behaviour guide the moral choice of the researcher about behaviour and relationship with others (Cooper and Schindler, 2001). The goal therefore considering ethics within this study to ensure that nobody is harmed or suffers adverse consequences from the research activities performed.

The researcher presented a non-disclosure agreement letter from the University to the respondents, stating that all information has been disclosed to the participants

truthfully. Written consent was given by each respondent in writing, or verbally, before proceeding with the questionnaire (See Annexure B for consent letter as part of the questionnaire).

5.6 Conclusion of Chapter

This chapter has focused on the research methodology that underpins this study. Detailed information regarding the mixed methods design, its origins, its relevance to this study and its general characteristics, were explored in this chapter. The following chapters build on from the methodological propositions made in this chapter by employing the proposed data presentation and analysis approaches to analyse the data gathered and interpret this utilising statistic modelling as briefly outlined within this Chapter.

6 Research Results and Findings

6.1 Introduction into this Chapter

The outcome of this chapter is to interpret the data, which has been collected and processed, by means of tables and graphic illustrations, where the research objectives of this study were used as the main directive to interpret the results and align it to the existing literature related to the central focus of this study, relationship value.

It is important to point out that the author of this study were responsible for analysing the data, including the interpretation, and Dr Dion van Zyl at the Department of Organisational Research and Business Intelligence of UNISA supervised the process.

It is clear that from reviewing existing literate that relationship marketing is the foundation for achieving superior value within the B2B environment (Ulaga and Eggert, 2005; 2006). It is further been established that achieving relationship value, would lead to positive results such as increased service quality (Menon, Beutin and Homburg, 2005; Janita and Mirinda, 2013); reliability (Lapierre, 2000; Klein-Altekamp *et al.,* 2015) and efficiency (Biggemann and Buttle, 2005; Voldnes & Grønhaug, 2015).

Conversely, the author has taken into consideration that certain relationship value antecedents, which this study is aiming to include into its conceptual model as outcome of the literature review conducted, might not be as important within the practical context of the B2B railway industry of Southern Africa, and should therefore be statistically tested.

It is overwhelmingly evident in academic literature that trust, satisfaction, and commitment are classified as mediators of relationship value (Palmatier *et al.,* 2006; Jemaa and Tournois, 2014), although according to Ndubisi, (2006) and Capel and Ndubisi, (2011) these mediators also have been evaluated as antecedents of relationship value in some relationship marketing related conceptual frameworks. The contradictions observed in theory regarding what is considered as relationship value antecedents, and, or mediators, in especially defining it for the B2B railway industry of Southern Africa , has been a major driving force behind the rational of this study.

Therefore, in order to fulfil the main objective of this study, which was to determine the key relationship value antecedents and consequences within the B2B railway industry of Southern Africa, the development of a relationship value model for the B2B railway industry in Southern Africa was constructed.

Consequently, this model was tested through the development and analyses of a questionnaire where 110 participants, representing B2B suppliers companies utilising freight rail within Southern Africa, confirmed the most relevant relationship value antecedents and consequences for the B2B railway industry of Southern Africa.

6.2 Order of Operation

Variables related to this study were defined by constructs, explaining the concept the variable is attempting to capture and secondly, variables were defined by how these variables will be measured. Therefore, the order of operation is listed below.

INDEPENDENT (X)

Service Performance (SerP)	Service Quality (SQ)	SQ1 SQ2 SQ3
	Flexibility (FLEX)	FLEX1 FLEX2 FLEX3
Supplier Performance (SupP)	Delivery Performance (DP)	DP1 DP2 DP3
	Reliability (REL)	REL1 REL2 REL3
Relational Performance (RP)	Personal Value (PV)	PV1 PV2 PV3
	Reputation (REP)	REP1 REP2 REP3
Financial Performance (FP)	Efficiency (EFF)	EFF1 EFF2 EFF3
	Competitive Pricing (CP)	CP1 CP2 CP3

MEDIATOR (M1)

Benefits (B)	Core Benefit (CB)	CB1 CB2 CB3
	Add-on Benefit (AoB)	AoB1 AoB2 AoB3

MEDIATOR (M2)

Trust (TR)	TR1 TR2 TR3
Satisfaction (SAT)	SAT1 SAT2 SAT3
Commitment (COM)	COM1 COM2 COM3

MEDIATOR (M3)

Relationship Value (RV)	RV1 RV2 RV3

DEPENDENT (Y)

Retention (RET)	RETENTION

Table 19: Research Results and Findings – Order of Operations Table (Author)

6.3 Case and Variable Screening

6.3.1 Missing Data and Analysis of Outliers

It is common within most research studies, including organisational studies (Fichman and Cummings, 2003) that missing data is a problem since nearly all standard statistical methods presume complete information for all the variables included in the analysis (Pallant, 2011: 211; Soley-Bori, 2013: 4). In other words, it is not managing missing data becomes complicated when performing variable selection because most existing variable selection approaches require complete data.

Kang, (2013: 402) defines missing data, as *"the data value that is not stored for a variable in the observation of interest."* This means that the research observations that were planned, as part of the study, are missing such as a respondent does not provide data on one or more measures out of a set of measures (Soley-Bori, 2013). The data can be either missing monotonous (missing data which is observed in a pattern) or arbitrary, which means that missing data does not form a clear pattern (Fichman and Cummings, 2003).

In general, there are three types of missing data according to the mechanisms of *'missingness'* (Soley-Bori, 2013; Korrapati, 2016), namely:

> (1) Missing completely at random (MCAR) - the probability that the data are missing is not related to either the specific value, which is supposed to be obtained, or the set of observed responses;
>
> (2) Missing at random (MAR) - when the probability that the responses are missing depends on the set of observed responses, but is not related to the specific missing values, which is expected to be obtained;
>
> (3) Missing not at random (MNAR) - the only way to obtain an unbiased estimate of the parameters is to model the missing data. The model can be incorporated into a more complex model for estimating the missing values.

Since missing data being a common problem in research, statisticians developed various methods (depending on the research design choices and the type situations) for managing and dealing with missing data. Therefore, allowing valid statistical interference in the process of analysis (Fichman and Cummings, 2003), although knowing

that statistical adjustments can never make up for *'sloppy'* research (Allison, 2003). One such method, which according to literature (Soley-Bori, 2013) is a relatively new approach to manage missing data, is multiple imputations (MI). MI is an advanced simulated-based method for handling various missing data-related issues, where it replaces missing items with two or more acceptable values and thereby signifying a distribution of possibilities (Allison, 2003).

Acknowledging the negative impact that missing data might have had on the outcome of this study, the research design was well planned, and the data collection process was executed by utilising Consulta as *"gatekeeper"* with the main objective to reduce potential risks of non-response or not related response biases.

The Statistics table below indicates the number of valid and missing cases for the variables for this study as was assessed using the Frequency distribution option in SPSS.

Statistics		
std. deviation		
Sample (n)	Valid	110
	Missing	0
Mean		1.0715
Minimum		0.26

Table 20: Statistics Table on Missing Data

As indicated in table 20, there are 110 valid cases, represented in this study as the total sample size (n), with no missing values identified.

An analysis of outliers for this study was reviewed, since any problematic outliers present can distort further statistical analysis within this study (Hair *et al.,* 2010).

According to Meyers *et al.* (2006: 65) *'outliers'* can be defined as *"cases with extreme or unusual values on a single variable (univariate), or on a combination of variables (multivariate)"* which translates to a point that is far from observing other observations.

The cause of outliers present in data can be numerous, some of which is based on a variation in the data measurement that can indicate an experimental error (Iacobucci & Churchill, 2004) or the improper attribute coding, of where outliers do not represent the study's sample (Hair *et al.,* 1997). Whatever the cause, it remains important to

evaluate outliers since it can distort statistics and may lead to results that do not relate to the sample except one with the same type of outliers (Tabachnick and Fidell, 2013).

In relation to this study, no significant univariate or multivariate outliers were detected or identified during the analysis of the data.

6.3.2 Extreme Cases of Skewness and Kurtosis

To ensure that statistical results pertaining to this study is not biased, or violated, a test of normality was executed. Meyers *et al.* (2006: 67) states that normality refers to the shape of the distribution of data for individual metric variable and its correspondence to the normal distribution of the benchmark for statistical methods.

The normality of this study was tested through applying the statistical method of skewness and kurtosis. Skewness and kurtosis are useful for the detection of outliers, and the assessment of departures from normally distributed data, including other applications (Rimoldini, 2014). An indication of the validity of the data is based on the degree of skewness and kurtosis as outcome of the analysis (Feng *et al.,* 2014).

Skewness can be defined as a measure of symmetry of a distribution, or data set, where the skewness for a normal distribution is zero, and any symmetric data should have skewness near zero (Filliben, 2003).

Hair *et al.,* (2010: 3) define kurtosis, as *the "measure of the peakedness or flatness of a distribution when compared with a normal distribution, where a positive value indicates a relatively peaked distribution and a negative value indicates a relatively flat distribution."* This means that kurtosis refers to the height of distribution.

Some researchers' state that deviation from normality of skewness and kurtosis largely depends on a study's sample size, and therefore argue that it does not make a fundamental difference in the analysis should the sample size increase (D'Agostino, Belanger & D'Agostino 1990; Doane and Seard, 2011; Tabachnick and Fidell, 2013).

However, following an argument of Kline, (2011) that the absolute value of skewness greater than 3 (>3.0) and kurtosis value greater than ten may indicate a problem and values above 20 (>20.0) may indicate a more serious problem. Also according to Hair *et al.,* (2010) even though the effect of the sample size should be considered, it is

recommended that sample size should be between 50 to 200 in order to reduce significant departures from normality which can have a substantial impact on the results.

Therefore in relation to this study, the objective was to understand the concept of skewness and to recognise its symptoms in a general manner as to whether the data can be interpreted as reliable and valid. It was evaluated that all variables with absolute values of the skew index greater than 3.0 (>3.0) seem to be described as *"extremely"* skewed, and the kurtosis index where absolute values greater than 10 is (>10.0) considered *"extreme"* kurtosis. Based on this study's frequency distributions for extreme skewness and kurtosis, all ratios are less than 3.0 (<3.0), therefore considered to be within acceptable range of normality (See Table 21 below).

Scales	n	Missing Values	Mean	SD	Min	Max	Kurtosis	SE Kurtosis	Ratio (kurtosis/SE) (>3)
SQ1	110	0	4.41	1.516	1	7	-0.57	0.457	1.25
SQ2	110	0	4.12	1.519	1	7	-0.63	0.457	1.39
SQ3	110	0	4.35	1.529	1	7	-0.63	0.457	1.37
FLEX1	110	0	3.67	1.687	1	7	-0.80	0.457	1.75
FLEX2	110	0	3.82	1.516	1	7	-0.47	0.457	1.03
FLEX3	110	0	3.72	1.545	1	7	-0.59	0.457	1.29
DP1	110	0	3.94	1.540	1	7	-0.51	0.457	1.12
DP2	110	0	4.56	1.530	1	7	-0.34	0.457	0.74
DP3	110	0	3.76	1.602	1	7	-0.76	0.457	1.66
REL1	110	0	4.21	1.551	1	7	-0.81	0.457	1.77
REL2	110	0	4.01	1.640	1	7	-0.69	0.457	1.52
REL3	110	0	4.58	1.541	1	7	-0.28	0.457	0.61
PV1	110	0	4.41	1.704	1	7	-0.61	0.457	1.33
PV2	110	0	4.12	1.601	1	7	-0.64	0.457	1.39
PV3	110	0	4.65	1.589	1	7	-0.10	0.457	0.22
REP1	110	0	4.51	1.495	1	7	-0.19	0.457	0.41
REP2	110	0	4.15	1.647	1	7	-0.67	0.457	1.47
REP3	110	0	4.45	1.606	1	7	-0.28	0.457	0.60
EFF1	110	0	4.60	1.510	1	7	-0.35	0.457	0.76
EFF2	110	0	5.35	1.672	1	7	0.38	0.457	0.84
EFF3	110	0	3.90	1.538	1	7	-0.50	0.457	1.09
CP1	110	0	3.75	1.835	1	7	-1.21	0.457	2.65
CP2	110	0	4.18	1.907	1	7	-0.99	0.457	2.16
CP3	110	0	4.03	1.639	1	7	-0.77	0.457	1.67
CB1	110	0	4.69	1.507	1	7	0.00	0.457	0.01
CB2	110	0	4.63	1.520	1	7	-0.23	0.457	0.50
CB3	110	0	4.43	1.505	1	7	-0.66	0.457	1.45
AoB1	110	0	3.52	1.685	1	7	-0.91	0.457	1.99
AoB2	110	0	3.76	1.642	1	7	-0.87	0.457	1.89
AoB3	110	0	3.76	1.691	1	7	-0.92	0.457	2.01
TR1	110	0	4.53	1.444	1	7	-0.39	0.457	0.86
TR2	110	0	4.59	1.558	1	7	0.01	0.457	0.01

Scales	n	Missing Values	Mean	SD	Min	Max	Kurtosis	SE Kurtosis	Ratio (kurtosis/SE) (>3)
TR3	110	0	4.45	1.469	1	7	-0.53	0.457	1.15
SAT1	110	0	4.11	1.535	1	7	-0.54	0.457	1.19
SAT2	110	0	4.05	1.461	1	7	-0.42	0.457	0.92
SAT3	110	0	4.13	1.478	1	7	-0.38	0.457	0.83
COM1	110	0	4.89	1.474	1	7	-0.49	0.457	1.08
COM2	110	0	4.67	1.503	1	7	-0.61	0.457	1.33
COM3	110	0	5.45	1.297	2	7	-0.10	0.457	0.22
RV1	110	0	4.52	1.457	1	7	-0.36	0.457	0.78
RV2	110	0	3.94	1.473	1	7	-0.42	0.457	0.92
RV3	110	0	4.71	1.410	1	7	-0.02	0.457	0.05
RETENTION	110	0	5.60	1.279	1	7	0.84	0.457	1.84

Table 21: Frequency Distribution Table (Also see Annexure D)

6.4 Sample Characteristics

The objective was to apply the relationship obtained amongst identified variables to the general, (the population), and therefore the selection of the sample representative of the population was essential (Martínez-Mesa, González-Chica, Duquia, Bonamigo, & Bastos, 2016). Within the parameters of this study, the respondents were asked within the questionnaire to indicate attributes relating to their respective company, which included geographic location of the business, estimated annual turnover, duration of doing business with the B2B railway provider and sector to which the business belongs.

The respondents were selected by using non-probability sampling technique, where the sample provided vast amounts of information in which the research questions were explored and theoretical insights gained (Saunders *et al.,* 2012: 283). The subjects in this non-probability sample were selected because of their accessibility and importance within the B2B railway industry of Southern Africa. Secondly, due to the researcher's place of business within the railway industry of Southern Africa, purpose personal judgement was also applied to select the sample.

The sample were drawn from an existing list of 265 B2B supplier companies operating in Southern Africa, represented by 1,317 individual respondents eligible to complete the survey based on characteristics such as their company's dependence on freight

rail as B2B supplier; the company is operational geographically in the Southern Africa n region and the sector in which the company operates.

Based on these critical characteristics, the descriptive analysis revealed that respondents were asked to indicate the frequency of interaction with a rail service provider, in order to measure their business dependence on a rail operator.

Descriptive analysis revealed that 52.0% of the respondents interact with their rail operator on a daily basis, where 25.4% interact with rail operator on a weekly basis and only 0.9% on an annual basis. This finding indicates that interaction between service provider and customer is important, and the influence of trust on service quality and customer satisfaction should not be overlooked (Chang *et al.,* 2013).

Second critical sample characteristic represented the geographical operation of the B2B supplier within Southern Africa n region. The majority, 89% of the respondents revealed that the geographical operation of their business is within South Africa. This correspond to the fact that within the freight rail sector of Southern Africa , Transnet Freight Rail manages approximately 74% of sub-Saharan Africa's freight traffic and over 80% of the total net ton-kilometres (Transnet Long-Term Planning Framework, 2015: 407).

The respondents were also asked to indicate the main sector their enterprise belongs to. While 28.2% of the enterprises refer to Mining industry; 21.0% Agriculture, Forestry, and Fishing; 17.3% Manufacturing; 13.6% Transportation and Storage, where the remaining includes the Automotive Industry with 7.3%, Electrical Power, 1.8%; Production, 0.9% Shipping, 2.7%, Supply Chain 0.9% and 4.5% stated *"other".*

Furthermore, 84.5% of the respondents indicated within the questionnaire that they were men, and 15.5% of the respondents' women, therefore it is clear that the B2B railway industry of Southern Africa are a male-dominated industry.

However, for future research, it might be important to review the rail industry needs to shift its gender balance. According to a Report by McKinsey, (2016: 8) on women in leadership positions within Africa, companies with a greater number of women in leadership positions tend to manage risk better, additionally help companies relate to their customers better.

In respect of years in which the company utilize the railway service provider, 89.2% of the respondents answered that their companies are utilizing the railway service provider for longer than 5 years, and the remaining 10.8% between 2 to 5 years.

This finding is an indication that the majority of companies involved in the sample would have been able to build a relationship with their rail operator as service provider over this period, and therefore know what these companies value in a long-term relationship. Summary of the respondents demography related to this study are listed in table 22 below.

Item	Frequency	Percentage
Frequency of Interaction with Rail Service Provider		
On a daily basis	57	52.0%
Weekly	28	25.4%
Monthly	9	8.2%
Quarterly	10	9.0%
Annually	1	0.9%
I am not sure	5	4.5%
Geographical operation of the B2B supplier in Southern Africa		
Malawi	1	0.9%
Other	19	17,3%
South Africa	89	80.9%
Swaziland	1	0.9%
Sector to which company belongs to		
Transportation & Storage	15	13.6%
Mining Industry	31	28.2%
Agriculture, Forestry and Fishing	23	21.0%
Manufacturing	19	17.3%
Petrol Chemical/ Energy Industry	8	7.3%
Automotive manufacturing	2	1.8%
Electrical Power	2	1.8%
Production	1	0.9%
Shipping	3	2.7%
Full Supply Chain	1	0.9%
Other	5	4.5%
Gender		
Male	93	84.5%
Female	17	15.5%
Duration of company utilizing the Rail Service Provider		
Between 2 and 3 years	4	3.6%
Between 3 and 4 years	4	3.6%
Between 4 and 5 years	4	3.6%
Longer than 5 years	98	89.2%
Annual turnover of Company		
Less than $ 5 million	19	17.3%
Greater than $ 5 million, less than $50 million	17	15.5%
Greater than $ 50 million	58	52.7%
I do not want to disclose this information	16	14.5 %

Table 22: Summary of Respondents Demography

6.5 Common Method Variance

Common method variance refers to the amount of spurious covariance shared between independent and dependent variables measured at the same point in time, such as in a cross-sectional survey, using the same instrument, such as a questionnaire (Latihan, Sondoh, & Tanakinjal, 2017). This translates to the data collected for this study on both independent and dependent variables were collected at the same time, using the same instrument (questionnaire), can either inflate or deflate observed relationships between constructs, consequently leading to both Type I and Type II errors (Podsakoff, *et al.,* 2003).

The extent of the seriousness of common method variance on data differs according to Bagozzi and Yi, (2011). Although many techniques are available to the researcher to test common method variance, one such statistical technique is Harman's one-factor test (Podsakoff*,* MacKenzie, Lee, & Podsakoff, 2003).

6.5.1 Harman's One-Factor Test

For the purpose of this study, Harman's one-factor test was used to assess the presence of common method variance. If a substantial amount of common method variance is present, a single factor will emerge from the factor analysis, or one general factor will account for the majority of the covariance among the variables (Podsakoff and Organ, 1986).

Scale	Number of proposed sub-factors	Harman's single-factor test: Percentage variance explained by a single factor
SerP	2	75,5%
SupP	2	71,4%
RP	2	75,6%
FP	2	57,0%
B	2	69,9%
TR	1	79,3%
SAT	1	87,9%
COM	1	52,9%
RV	1	75,1%

Table 23: Common Method Variance – Outcome of Harman's Single Factor Results (Author)

The outcome of Harman's single factor results obtained through running unrotated, a single-factor constraint of factor analysis in SPSS statistic, suggest that, if the total

variance for a single factor is less than 50%, common method variance does not affect the data. When potential common method variance is present, the total variance for a single factor is greater than 50% (>50%) (Podsakoff *et al.,* 2003; Eichhorn, 2014).

In table 22, the percentage variance for the two-factor model explained by a single factor must be less than 50% (> 50%), which in this case exceed the threshold, and suggest that common method variance might be a problem in data obtained. Therefore, the two-factor constructs related to this study will now be further assessed to establish discriminant validity through the method of factor analysis.

6.6 Factor Analysis

Factor Analysis is a broad term representing a variety of statistical techniques allowed the researcher to verify the constructs based on multiple indicators, which can be directly measured (Matsunaga, 2010: 98; Mat Roni, 2014). The purpose of executing factor analysis is to reduce multiple variables to a lesser number of underlying factors that measured by the variables (Yong and Pearce, 2013).

Aspects considered during the performance of the factor analysis related to this study include:

1. The extraction method, where principal axis factoring with varimax rotation was conducted to assess the underlying structure of the items identified in the questionnaire. This means that the correlation matrix was modified in order that the correlations of each item with itself are replaced with "*communality"* – directed to understand only the covariation amongst the variables (Leech, Barrett and Morgan, 2015).
2. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, which measures whether or not enough items are predicted by each factor. According to Leech, Barrett, and Morgan (2005: 82), the KMO measure should be greater than 0.70 (>0.70). As seen as extract of the KMO tests executed for this study below, all KMO values are greater than 0.70 (>0.70) indicating sufficient items for each factor.

Factor Analysis

SERVICE PERFORMANCE

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.888
Bartlett's Test of Sphericity	Approx. Chi-Square	664.122
	df	15
	Sig.	0.000

SUPPLIER PERFORMANCE

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.885
Bartlett's Test of Sphericity	Approx. Chi-Square	573.834
	df	15
	Sig.	0.000

Table 24: KMO Test for this study – See Annexure E for all KMO test outcomes (Author)

3. The Barlett's Test of sphericity, which were used to determine the significance (value of less than .05) of variables that are highly correlated enough to provide a reasonable basis for factor analysis (Leech, Barrett and Morgan (2005: 82). The table below is an excerpt of the Bartlett's Tests performed within this study.

Factor Analysis

FINANCIAL PERFORMANCE

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.815
Bartlett's Test of Sphericity	Approx. Chi-Square	381.160
	df	15
	Sig.	0.000

BENEFITS

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.902
Bartlett's Test of Sphericity	Approx. Chi-Square	518.838
	df	15
	Sig.	0.000

Table 25: Bartlett's Test for this study – See Annexure E for all KMO test outcomes (Author)

Full set of statistical analysis of the KMO and Bartlett' tests relating to this study can be found in Annexure E.

6.6.1 Confirmatory Factor Analysis (CFA)

One method of factor analysis, CFA was used for the purpose of this study, since it allowed the author to test the hypothesis that a relationship between the observed variables and their underlying latent constructs do actually exist (Schreiber, Nora, Stage, Barlow & King, 2006). Further detail regarding CFA will be given and discussed within this Chapter.

6.6.2 Discriminant Validity

The two-factor constructs of this study, as seen in the outcome of the Harman's Single Factor Results (table 23), was further assess for discriminant validity, which indicates that the latent variable accounts for more variance in the observed variable associated with it. In other words, if the correlation between the two components of a construct (within or across) is significantly less than unity, the model receives a satisfactory level of fit (Tran and Cox, in Glynn and Woodside, 2009: 162).

In relation to this study, the process of assessing discriminant validity among the constructs included: (1) The Cronbach's alpha, Composite Reliability and Average Variance Extracted were considered. This followed by (2) identifying the factor-loading items (which is the correlation between a variable and factor that has been extracted) and lastly (3) the goodness-of-fit of CFA in order to confirm the factor structure.

It is important to note that the author had to identify cross-loading items for the subsequent removal from the analysis, which have been a poor factor analysis fit (Farrell and Judd, 2009). This was necessary in the case of the original constructs identified during the literature review such as removing sacrifices: operational and infrastructure costs, which resulted in a poor factor analysis fit.

The assessment of the two-factor latent constructs related to this study, in terms of discriminant validity is illustrated in the table below:

Scale	Sub-factors	Correlation
SerP	SQ <-> FLEX	0,858
SupP	DP <-> REL	0,897
RP	PV <-> REP	0,878
FP	EFF <-> CP	0,850
B	CB <-> AoB	0,892

Table 26: Assessing discriminant validity (sub-factor correlations) (Author)

For example, Service Performance (SerP) hypothesized as a two-factor latent construct containing sub-factors Service Quality (SQ) and Flexibility (FLEX). The correlation between the sub-factors is high, (considered as a threshold of 0.85 and greater), which is indicative of low discriminant validity (Kline, 2011).

6.6.3 Assessing the internal consistency reliability of construct measures

6.6.3.1 Internal Reliability – Cronbach's Alpha

As part of assessing discriminant validity among the constructs, in addition due to the use of Likert-type scales within the study's questionnaire, it was important to determine the Cronbach's alpha for internal consistency reliability.

Internal consistency describes the extent to which all the items in a test measure the same concept or construct and hence it is connected to the inter-relatedness of the items within the test, whereas reliability estimates indicate the amount of measurement error in a test (Tavakol and Dennick, 2011: 53).

Cronbach's alpha as a measurement coefficient of internal consistency is expressed as a number between 0 and 1 (Cronbach, 1951). The closer Cronbach's alpha coefficient is to 1.0, the greater the internal consistency of the items in the scale (Yong and Pearce, 2013: 87). An alpha of 0.7 and greater (>0.7) is consider reliable internal consistency of the items in the scale, according to Awang, (2012: 55) and Yong and Pearce, (2013).

Table 25 indicates an item-analysis from the SPSS output, as an excerpt of the Service Performance (SerP) construct (See Annexure F):

SerP:

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
24.08	68.865	8.298	6

Summary Item Statistics							
	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.014	3.673	4.409	0.736	1.200	0.104	6
Inter-Item Correlations	0.754	0.652	0.871	0.219	1.336	0.005	6

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SQ1	19.67	48.864	0.835	0.755	0.939
SQ2	19.96	48.457	0.856	0.809	0.936
SQ3	19.74	48.398	0.852	0.803	0.937
FLEX1	20.41	47.271	0.808	0.738	0.942
FLEX2	20.26	47.902	0.890	0.829	0.932
FLEX3	20.36	49.041	0.806	0.703	0.942

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.948	0.948	6

Table 27: Item-analysis from the SPSS for SerP - See Annexure F (Author)

Table 27 summarizes the item-analysis output from SPSS, which includes the following important notes:

- *Scale Statistics* are the summary statistics for the 6 items comprising the scale, which include the individual item mean and variances.
- *Inter-Item Correlations*, which is the descriptive information about the correlation of each item with the sum of all remaining items (Gliem and Gliem, 2003). The mean of these six correlations = 0.754; the lowest / minimum of the six correlations = 0.652 etc.
- *Item-Total Statistics*, which includes figures of the mean, the variance of the summated scores, the correlation of the item designated with the summated score for all other items, and the predicted Multiple Correlation Coefficient, squared obtained by regressing the identified individual item on all the remaining items (Gliem and Gliem, 2003). The most important part of the *Item-Total Statistics* is the *'Alpha if Item Deleted'* index, which represents the scale's Cronbach's alpha reliability coefficient for internal consistency if the individual item is removed from the scale (Gliem and Gliem, 2003).

  In Table 25, the scale's alpha would be 0.939, if item SQ1 were removed for the scale. This value is compared to the Alpha coefficient value in the Reliability Statistics index, to see whether it is necessary to delete the item. In this example, no items were removed due to the high value, and therefore the Alpha coefficient value in the Reliability Statistics index remains 0.948.

A detailed analysis of the internal consistency reliability of all the construct measures related to this study indicates very good internal consistency, with values higher than 0.7 (refer to Annexure F). It can therefore be concluded that good internal consistency for all items in the scale has been achieved due to the high value for Cronbach's alpha.

6.6.3.2 Composite Reliability (CR)

The CR is an indication of reliability and internal consistency of a latent construct, where a value equal and greater than 0.6 (≥0.6) is required in order to achieve composite reliability (Awang, 2012: 55). As seen in table 29, the results of the CR in all greater than 0.6 (>0.6) which is therefore an indication of reliability and internal consistency of all latent constructs related to this study.

6.6.3.3 Average Variance Extracted (AVE)

According to Awang, (2012: 56) the AVE is an indication of the average percentage of variation explained by the measuring items for a latent construct, where an AVE value equal to 0.5 and greater (≥0.5) is required for every construct. As seen in table 29, the results of the AVE in all greater than 0.5 (>0.5) indicative of convergent validity (Alarcón and Sánchez, 2015).

6.6.3.4 Evaluating the Goodness-of-Fit of CFA

A *'good-fitting model'* is one that is reasonably consistent with the data and does not necessarily require re-specification, also determining the fit of the model is required before interpreting the causal paths of the structural model (Kenny *et al.,* 2014).

There are various types of fit indices and its level of acceptance according to which include: Absolute Fit, Incremental Fit, Parsimonious Fit (Awang, 2012: 56), and indices based on the non-centrality parameter (Kim *et al.,* 2008). Although agreement between researchers on which specific fitness indexes to use differ (Hair *et al.,* 1995), it is advised that at least one fitness index from each category of the model should fit (Afthanorhan, 2014).

Table 27 is an indication of the most important fit indices, with its level of acceptance based on prevalent literature on this topic. The fit indexes included in table 28 do not

represent all the indexes of fit that were evaluated as part of this study (see Annexure G for all fit indexes measured as part of CFA).

Measure	Name of Index	Level of Acceptance	Literature
Absolute Fit to evaluate how well a priori model reproduces the sample data	Chi-Square (Discrepancy Chi Square)	P-value > 0.05	Hayduk, Cummings, Boadu, Pazderka-Robinson, & Boulianne (2007); Awang (2012)
	GFI (Goodness-of-fit index)	GFI > 0.90	Hu and Bentler (1998); Beauducel and Wittmann, (2005)
	RMSEA (Root Mean Square of Error Approximation)	RMSEA < 0.08	Steiger (1980); Brown, (2015)
	SRMR (Standardised Root Mean Square Residual)	SRMR < 0.80	Hu and Bentler (1999); Brown, (2015)
Incremental Fit which evaluate model fit by comparing a target model with a more restricted, nested baseline model	AGFI (adjusted goodness of fit index)	AGFI > 0.90	Hooper, Coughlan & Mullen (2007)
	CFI (Comparative Fit Index)	CFI > 0.90	Hu and Bentler (1999); Hooper *et al.,* (2007)
	TLI (Tucker-Lewis Index)	TLI > 0.90	Tucker and Lewis (1973)
Parsimonious Fit is defined as achieving higher degree of fit per degree of freedom used.	X^2/df ratio (Chi-Square/Degree of Freedom) / CMIN/df	Chi-Square/df < 3.0 or CMIN/df < 3.0	Hayduk *et al.,* (2007)

Table 28: Important Fit Indexes with Level of Acceptance (Based on Awang, 2012)

Taking an excerpt of the results of the Model Fit Summary: Absolute Fit Indices of this study, the most critical fit indexes have been evaluated to determine how fit is the model to the data that had been gathered (see Table 29 below).

Model Fit Summary: Supplier Performance (SupP)								
CMIN (DF)	**p-value**	**CMIN/DF**	**GFI**	**AGFI**	**TLI**	**CFI**	**RMSEA**	**SRMR**
16.183 (8)	0.040	2.023	0.954	0.88	0.973	0.986	0.097	0.029

Table 29: Excerpt of Model Fit Summary for SupP – See Annexure G (Author)

When comparing the excerpt of the Model Fit Summary for SupP in Table 30, in terms of the Level of Acceptance, the following can be concluded:

Index	Level of Acceptance	Result of Fit (SupP)	Comment
Chi-Square	P-value > 0.05	0.040	Average Fit
GFI	GFI > 0.90	0.954	Acceptable Fit
RMSEA	RMSEA < 0.08	0.097	Average Fit
SRMR	SRMR < 0.80	0.029	Acceptable Fit
AGFI	AGFI > 0.90	0.88	Average Fit
CFI	CFI > 0.90	0.986	Acceptable Fit

TLI	TLI > 0.90	0.973	Acceptable Fit
X^2/df ratio / CMIN/df	Chi-Square/df < 3.0 or CMIN/df < 3.0	2.023	Acceptable Fit

Table 30: Level of Fitness comparison (Author)

According to the comparison table 30, the P-value, RMSEA and AGFI are considered average or mediocre fit, whereas the rest of the fitness indexes seem to indicate acceptable fit. The slightly reduced values of Chi-Square, RMSEA and AGFI does not mean that the model fit for variable SupP is unacceptable or poor, since more than one fitness index from each category of is an acceptable fit (Afthanorhan, 2014). It should also be noted that a model all of whose parameters are statistically significant can be from a poor fitting model and models with poor discriminant validity or can be considered *"good-fitting"* models (Kenny, Kaniskan & McCoach, 2015).

It is therefore crucial that the parameter estimates should be examined holistically in order to determine if a model is of *'reasonable fit'*. In additional, having a good-fitting model does not prove that the model is correctly specified, the next steps therefore require modelling the measurement model for pooled constructs (Awang, 2012).

6.6.3.5 Final Measurement Model

Due to the average or mediocre fit values on certain parameters when the CFA procedure had been conducted for every separate construct, the next step to ensure the model is valid, is to have a holistic view of the measurement model and execute the Pooled-CFA, where all constructs are combined (Awang, 2012: 60). Table 31 below is a summary of the final measurement model related to this study.

Construct	Items	Item mean (SD)*	Construct mean (SD)	Cronbach Alpha	CR	AVE	Factor loadings
SerP	SQ1	4,41 (1,516)	4,06 (1,385)	0,948	0,949	0,755	0,876
	SQ2	4,12 (1,519)					0,896
	SQ3	4,35 (1,529)					0,891
	FLEX1	3,67 (1,687)					0,827
	FLEX2	3,82 (1,516)					0,897
	FLEX3	3,72 (1,545)					0,822
SupP	DP1	3,94 (1,540)	4,18 (1,364)	0,936	0,937	0,714	0,889
	DP2	4,56 (1,530)					0,818
	DP3	3,76 (1,602)					0,896
	REL1	4,21 (1,551)					0,890
	REL2	4,01 (1,640)					0,872
	REL3	4,58 (1,541)					0,683
RP	PV1	4,41 (1,704)	4,38 (1,43)	0,947	0,948	0,754	0,801
	PV2	4,12 (1,601)					0,882
	PV3	4,65 (1,589)					0,882
	REP1	4,51 (1,495)					0,896

	REP2	4,15 (1,647)					0,842
	REP3	4,45 (1,606)					0,902
FP	EFF1	4,60 (1,510)	4,09 (1,421)	0,895	0,899	0,643	0,687
	EFF3	3,90 (1,538)					0,764
	CP1	3,75 (1,835)					0,818
	CP2	4,18 (1,907)					0,776
	CP3	4,03 (1,639)					0,943
B	CB1	4,69 (1,507)	4,13 (1,377)	0,932	0,933	0,699	0,819
	CB2	4,63 (1,520)					0,792
	CB3	4,43 (1,505)					0,829
	AoB1	3,52 (1,685)					0,795
	AoB2	3,76 (1,642)					0,867
	AoB3	3,76 (1,691)					0,908
TR	TR1	4,53 (1,444)	4,52 (1,383)	0,919	0,920	0,793	0,874
	TR2	4,59 (1,558)					0,875
	TR3	4,45 (1,469)					0,921
SAT	SAT1	4,11 (1,535)	4,09 (1,429)	0,955	0,956	0,879	0,934
	SAT2	4,05 (1,461)					0,966
	SAT3	4,13 (1,478)					0,912
COM	COM1	4,89 (1,474)	5,01 (1,171)	0,758	0,769	0,529	0,667
	COM2	4,67 (1,503)					0,653
	COM3	5,45 (1,297)					0,846
RV	RV1	4,52 (1,457)	4,39 (1,318)	0,897	0,900	0,751	0,948
	RV2	3,94 (1,473)					0,877
	RV3	4,71 (1,410)					0,765

SD = Standard deviation; CR = Composite Reliability; AVE = Average Variance Extracted
**Scoring: 1 = Strongly disagree - 7 = Strongly agree*

Table 31: Final Measurement Model - See Annexure I (Author)

Important parts of table 31 is the value of the Cronbach's Alpha (alpha > 0.7 is consider reliable internal consistency of the items in the scale), CR (> 0.6 is an indication of reliability and internal consistency of all latent constructs) and AVE (> 0.5 is indicative of convergent validity). Due to the results of the above mentioned, it can be said that internal consistency reliability of construct measures for this final measurement model was achieved.

The factor loadings in table 31, which is an indication of correlation between a variable and a factor, as extracted from the data, all have values > 0.7, which is evidence for convergent validity (Kline, 2011).

In conclusion, interpreting the results of factor analysis and relevant literature, one can state that a *"good measurement model"* looking at the internal consistency reliability of construct measures, should: (1) fit well in an absolute sense, (2) have good convergent validity or high factor loadings and (3), have good discriminant validity, which is low / moderate factor correlations. Taking this into account results of the

statistical analysis executed it can be stated that hitherto, the proposed measurement model of this study can be considered a *"good measurement model*."

6.6.4 Descriptive statistics and one-sample *t*-test

The one-sample *t*-test is used to determine whether a sample comes from a population with a specific mean, and therefore evaluating whether the data is adequate, enough for a one-sample *t*-test to give a valid result (Mat Roni, 2014). Through SPSS Statistics, the two main tables (refer to table 32 & 33 below) of output have been processed which contains all the information required to interpret the results of the one-sample t-test (See Annexure H).

Frequencies										
		RET	**SerP**	**SupP**	**RP**	**FP**	**B**	**TR**	**SAT**	**COM**	**RV**
N	*Valid*	110	110	110	110	110	110	110	110	110	110
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		5.60	4.06	4.18	4.38	4.09	4.13	4.52	4.09	5.01	4.39
Std. Error of Mean		0.122	0.132	0.130	0.136	0.135	0.131	0.132	0.136	0.112	0.126
Std. Deviation		1.279	1.385	1.364	1.430	1.421	1.377	1.383	1.429	1.171	1.318

Table 32: Descriptive Statistics Table - See Annexure H (Author)

The table above presents relevant descriptive statistics in relation to this study.

First an assessment of the data was done, which in this case look plausible (See table 32). N = 110 indicates that the total sample is based on 110 cases, and there are no missing values. The mean for all the constructs is slightly higher than the hypothesized 4.0 (true mean μ = 4), which indicates that the scores are positive (score above the true mean μ = 4).

H0: x=4		**RET**	**SerP**	**SupP**	**RP**	**FP**	**B**	**TR**	**SAT**	**COM**	**RV**
t		13.117	0.462	1.363	2.779	0.671	1.004	3.952	0.689	9.008	3.088
df		109	109	109	109	109	109	109	109	109	109
Sig. (2-tailed)		0.000	0.645	0.176	0.006	0.504	0.318	0.000	0.492	0.000	0.003
Mean Difference		1.6	0.1	0.2	0.4	0.1	0.1	0.5	0.1	1.0	0.4
95% Confidence Interval of the Difference	*Low*	1.358	-0.201	-0.080	0.109	-0.178	-0.128	0.260	-0.176	0.785	0.139
	Up	1.842	0.323	0.435	0.649	0.359	0.392	0.783	0.364	1.227	0.637
Effect size (Cohen)		1.25	0.04	0.13	0.26	0.06	0.10	0.38	0.07	0.86	0.29

Table 33: One-Sample Test Table - See Annexure H (Author)

The left column in the One-Sample Test table, provides information on the observed *t*-value, (t) the degrees of freedom (df), and the statistical significance (p-value) represented by Sig. (2-tailed) of the one-sample *t*-test.

In this study, where $p < 0.05$, it can be stated that the population means are statistically significantly different. Where $p > 0.05$, the difference between the sample-estimated population mean and the comparison population mean would not be statistically significantly different (Wood *et al.,* 2014). Therefore, to take an example, the SerP score is statistically significantly higher than the population normal score, *t(109) = 0.462, p = 0.645*.

This second part of illustrate the mean difference in the population means for SerP is 0.1 (Mean Difference) and the 95% confidence intervals (95% CI) of the difference are -0.201 to 0.323 (Lower to Upper). This indicate that the SerP score was statistically significantly higher by 0.1 (95% CI, -0.201 to 0.323) than a normal depression score of 4.0, t(109) = 0.462, p = 0.645.

Cohen's *d* (Cohen, 1977) was used to measure effect size between the sample-estimated population mean and the comparison population mean of the constructs. The rule of thumb is considered: a small effect = 0.2; medium effect = 0.5; large effect = 0.8.

Therefore, looking at the effect size values within table 32, it is clear that for example, Retention (RET) has a large effect, which *"large"* effect is not necessarily better than a *"small"* effect, especially in settings where small differences can have a major impact. Therefore, Durlak, (2009) state that prior research needs to be considering to get an idea of where the findings fit into the bigger context, suggests it.

6.7 Correlations

Correlation refers to the relationship (strong or weak) between two or more variables (Hair Jr *et al.,* 2010). Pearson's correlation coefficient (*r*) was used as the statistical measure of the strength of linear relationship between paired variables (see correlation matrix - table 34).

Correlation Matrix											
		RET	**SerP**	**SupP**	**RP**	**FP**	**B**	**TR**	**SAT**	**COM**	**RV**
RET	Pearson Correlation	1									
	Sig. (2-tailed)										
	N	110									
SerP	Pearson Correlation	.262**	1								
	Sig. (2-tailed)	0.006									
	N	110	110								
SupP	Pearson Correlation	.349**	.820**	1							
	Sig. (2-tailed)	0.000	0.000								
	N	110	110	110							
RP	Pearson Correlation	.283**	.659**	.705**	1						
	Sig. (2-tailed)	0.003	0.000	0.000							
	N	110	110	110	110						
FP	Pearson Correlation	.402**	.668**	.687**	.726**	1					
	Sig. (2-tailed)	0.000	0.000	0.000	0.000						
	N	110	110	110	110	110					
B	Pearson Correlation	.261**	.811**	.773**	.702**	.720**	1				
	Sig. (2-tailed)	0.006	0.000	0.000	0.000	0.000					
	N	110	110	110	110	110	110				
TR	Pearson Correlation	.223*	.761**	.731**	.770**	.621**	.781**	1			
	Sig. (2-tailed)	0.019	0.000	0.000	0.000	0.000	0.000				
	N	110	110	110	110	110	110	110	110		
SAT	Pearson Correlation	.245**	.869**	.786**	.664**	.648**	.876**	.836**	1		
	Sig. (2-tailed)	0.010	0.000	0.000	0.000	0.000	0.000	0.000			
	N	110	110	110	110	110	110	110	110		
COM	Pearson Correlation	.412**	.624**	.555**	.650**	.523**	.639**	.659**	.630**	1	
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
	N	110	110	110	110	110	110	110	110	110	
RV	Pearson Correlation	.487**	.712**	.724**	.800**	.875**	.766**	.661**	.714**	.611**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	N	110	110	110	110	110	110	110	110	110	110
***. Correlation is significant at the 0.01 level (2-tailed).*											

Table 34: Correlation Matrix - See Annexure I (Author)

6.7.1 Pearson's Correlation Coefficient (r)

When the Pearson's *r* within the Correlation Matrix above, is close to 1.0, it indicates that a there is a strong relationship between two variables, where consequence is that changes in one variable are strongly correlated with changes in the second variable (Nickolas, 2017). For example, Pearson Correlation for Suppler Performance (SupP) and Service Performance (SerP)) is 0.820, which signify that there is a potential strong relationship between the SupP (first variable) and SerP (second variable). Similarly, when the Pearson's *r* is close to 0, it indicates that the relationship is weak between two variables.

In addition, when the Pearson's *r* is positive (positive correlation), it is an indication that when one variable increase in value, the second variable will also increase in value. The reverse is also true – when one variable decrease in value, so will the other variable. Since the Pearson's *r-value* of 0.820 is positive, it can be concluded that when SupP increase (as first variable), the SerP (second variable) of B2B Supplier will also increase.

According to an online source (Statistics-help-for-students.com, 2008) there is no negative correlation, (Pearson's *r* is negative) within the Correlation Matrix, which means that the variables are all positively correlated. Negative correlation means that one variable increase in value, and the second decrease in value.

Table 33 indicate acceptably strong, positive correlations between all paired variables.

6.7.2 Sig (2-Tailed) Value / P- Value

According to (Filho, Paranhos, Rocha, Batista, Silva Jr, Santos, & Marino, 2013), when Sig (2-Tailed) Value is greater than 0.05 (> 0.05) it is an indication that there is no statistically significant correlation between the variables, which means that increase, or decrease in one variable do not significantly relate to the increase or decrease of the second variable. If the Sig (2-Tailed) Value is less and equal to 0.05 (≤ 0.05), there is statistically significant correlation between the variables.

The Correlation Matrix indicate that all Sig (2-Tailed) Values are less than 0.05 (< 0.05), signifying that statistically significant correlation between all the variables exist,

which means that an increase, or decrease in one variable, significantly relate to increase or decrease in the second variable, and therefore highly correlation exist amongst the study's variables.

6.7.3 Path Analysis / Structural Equation Modelling (SEM)

According to Garson (2008) path analysis is an extension of the regression model, used to test the fit of the correlation matrix against two or more causal models, which are being compared by the researcher. In addition, when the variables in the model are latent variables measured by multiple observed indicators, the path analysis is termed structural equation modelling (Wuensch, 2016).

In relation to this study, regression was executed for each variable in the model as a dependent on others, which the model indicates, are causes. The regression weights predicted by the model are compared with the correlation matrix (see table 33) for the variables and the calculated goodness-of-fit (see section 5.6.3. within this Chapter).

The text output of the regression path coefficients is listed in tables 35 to 38.

Maximum Likelihood Estimates

			Estimate	S.E.	C.R.	P-value	Label
B	<---	SerP	0,439	0,089	4,943	***	par_1
B	<---	SupP	0,170	0,095	1,789	0,074	par_2
B	<---	RP	0,139	0,076	1,825	0,068	par_3
B	<---	FP	0,199	0,076	2,630	0,009	par_4
SAT	<---	B	0,909	0,048	18,920	***	par_5
COM	<---	B	0,544	0,063	8,673	***	par_6
TR	<---	B	0,784	0,060	13,044	***	par_17
RV	<---	COM	0,274	0,088	3,100	0,002	par_7
RV	<---	SAT	0,435	0,086	5,059	***	par_8
RV	<---	TR	0,101	0,085	1,193	0,233	par_9
RET	<---	RV	0,472	0,083	5,698	***	par_10

****indicate a highly significant at <0.001*

Table 35: Regression Weights: (Group number 1 - Default model) - See Annexure J (Author)

In Table 35, the definition for Standard Error (S.E.) of regression weight 0.089: The Regression Weight Estimate, 0.439 has a standard error of about 0.089. When SerP goes up by 1 unit, Benefit (B) goes up with 0.439 units.

The definition for Critical Ratio (C.R.) for regression weight: The regression weight estimate is 4.943 standard errors above zero.

Definition for Level of significance for regression weight: The probability of obtaining a critical ratio 4.943 in absolute value is = zero. In other words, the regression weight for SerP in the prediction of B is statistically highly significant at zero.

			Estimate
B	<---	SerP	0,441
B	<---	SupP	0,169
B	<---	RP	0,144
B	<---	FP	0,205
SAT	<---	B	0,876
COM	<---	B	0,639
TR	<---	B	0,781
RV	<---	COM	0,248
RV	<---	SAT	0,481
RV	<---	TR	0,109
RET	<---	RV	0,479

Table 36: Standardised Regression Weights: (Group number 1 - Default model) - See Annexure J (Author)

			Estimate
SerP	<-->	SupP	0,820
SerP	<-->	RP	0,659
SerP	<-->	FP	0,668
SupP	<-->	RP	0,705
SupP	<-->	FP	0,687
RP	<-->	FP	0,726

Table 37: Correlations: (Group number 1 - Default model) - See Annexure J (Author)

Table 37 show the correlations coefficient amongst exogenous variables, which is considered strong relationship between the variables, seeing that the coefficients are close to 1.0.

	Estimate
B	0,737
TR	0,610
COM	0,408
SAT	0,767
RV	0,537
RET	0,229

Table 38: Squared Multiple Correlations: (Group number 1 - Default model) - See Annexure J (Author)

The squared multiple correlations estimates interpreted: TR (Trust) as an example: A total of 61% of its variance is accounted for by B (Benefit), and the remaining 39% of

its variance is accounted for by the unique factor e4 (refer to Figure 31). Therefore, if e4 represented measurement error only, we could say that the estimated reliability of TR is 0.61.

The path analysis was conducted as a sequential multiple regression analysis with path coefficients for the structural model seen in Figure 31 below with interpretation based on the outputs from the tables above.

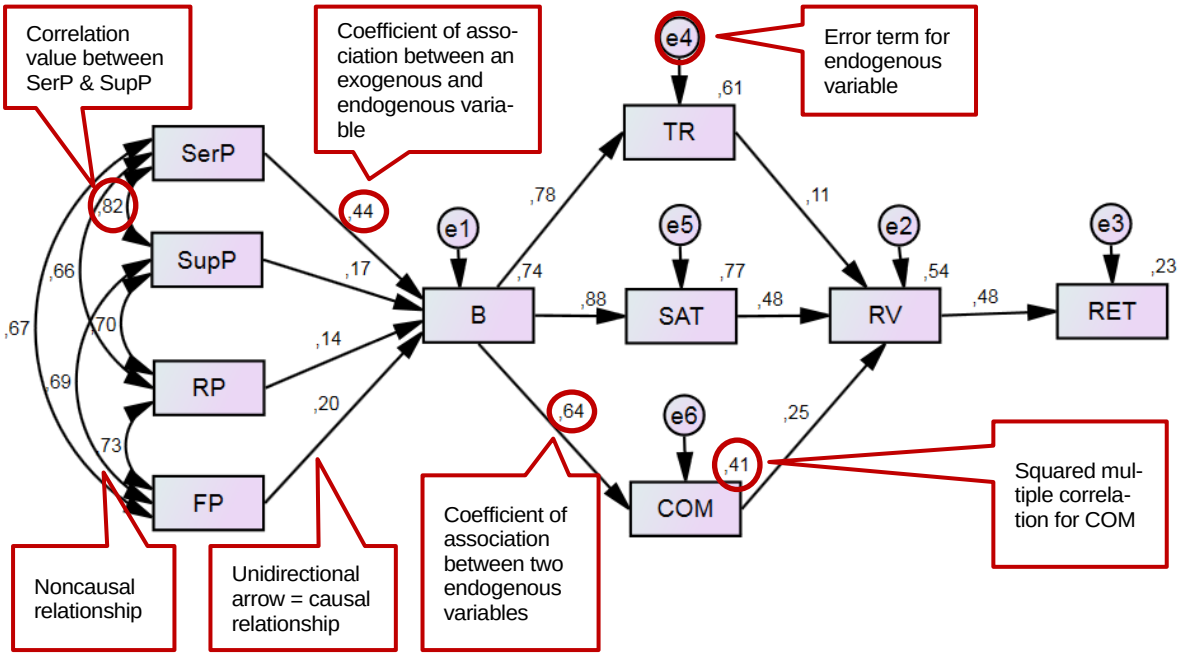

Figure 31: Path Regression Path Coefficients for the final structural model (Author)

In Figure 31, SerP, SupP, RP, and FP are considered exogenous variables, because their variance is assumed to be caused entirely by variables not in the causal model (Wuensch, 2016). The connecting line with two-headed arrows indicates non-causal associations between exogenous variables (Xue, 2007). SerP, SupP, RP, and FP account for 74% of the variance of B.

Of all these constructs resulting in Benefit, Service Performance (SerP) score higher (β= .44) than Supplier Performance, Relational Performance and Financial Performance, which is an indication of how important Service Performance is within the B2B railway industry of Southern Africa.

B, TR, SAT, COM, RV and RET are endogenous variables within this model where their variance is explained in part by other variables in the model (Wuensch, 2016).

Trust, commitment, and satisfaction viewed as relationship mediators (Morgan and Hunt, 1994), all lead to relationship value. Of all these mediators resulting in relationship value, satisfaction scores the highest (β=.48) which confirms that satisfaction in railway industry plays a very important role for the industry participants in order to understand what the customer values. An interesting finding is how low score of trust as mediator (β=.11) leading to relationship value is.

It can be that within the B2B context, trust is not as much of a mediator for relationship value, a very complex concept, and suppliers might be evaluating different ways other than trust, in which they can increase value for customers.

Furthermore, a significant loading between benefits leading to satisfaction is seen in Figure 31, which in turn leads to relationship value, which might be indicative of how important suppliers are finding satisfaction to be within the B2B railway industry.

The output in Figure 31 indicates that 23% Retention (RET) could be estimated by Relationship Value (RV), where 54% of Relationship Value could be measured by trust (TR), satisfaction (SAT) and commitment (COM).

6.7.4 Mediation

The indirect effect of X on Y through M is reported in the table 39 below. The significance of this indirect effect was tested using the bootstrapping procedures. Unstandardized indirect effects were computed for each of 1,000 bootstrapped samples, and the 95% confidence interval was computed.

Hypothesized relationship	**Indirect effect *ab* (p-value)**	**Mediation supported**
Relationship between SerP -> TR is mediated by B	0,3879 (p=0,00)	Supported
Relationship between SupP -> TR is mediated by B	0,4197 (p=0,000)	Supported
Relationship between RP -> TR is mediated by B	0,3213 (p=0,000)	Supported
Relationship between FP -> TR is mediated by B	0,4856 (p=0,000)	Supported
Hypothesized relationship	**Indirect effect *ab* (p-value)**	**Mediation supported**
Relationship between SerP -> SAT is mediated by B	0,4183 (p=0,000)	Supported
Relationship between SupP -> SAT is mediated by B	0,5386 (p=0,000)	Supported
Relationship between RP -> SAT is mediated by B	0,5663 (p=0,000)	Supported

Relationship between FP -> SAT is mediated by B	0,6148 (p=0,000)	Supported
Hypothesized relationship	**Indirect effect *ab* (p-value)**	**Mediation supported**
Relationship between SerP -> COM is mediated by B	0,2670 (p=0,002)	Supported
Relationship between SupP -> COM is mediated by B	0,3463 (p=0,000)	Supported
Relationship between RP -> COM is mediated by B	0,2075 (p=0,005)	Supported
Relationship between FP -> COM is mediated by B	0,3237 (p=0,000)	Supported
Hypothesized relationship	**Indirect effect *ab* (p-value)**	**Mediation supported**
Relationship between B -> RV is mediated by TR, SAT, COM	(TR) 0,0364 (p=0,677) (SAT) 0,0812 (p=0,505) (COM) 0,1098 (p=0,038)	Not supported Not supported Supported
Hypothesized relationship	**Indirect effect *ab* (p-value)**	**Mediation supported**
Relationship between TR -> RET is mediated by RV	0,3686 (p=0,000)	Supported
Relationship between SAT -> RET is mediated by RV	0,4063 (p=0,000)	Supported
Relationship between COM -> RET is mediated by RV	0,2501 (p=0,0012)	Supported

**This model was tested with mediators in parallel*

Table 39: Hypothesis Statement for every path and conclusion - See Annexure K (Author)

Table 39 indicate the tests for mediation in order to determine the statistical significance of the indirect effect. Since the indirect effect is rarely normally distributed, bootstrapping (with confidence intervals) has been recommended for testing mediation as it does assume the indirect effect is normally distributed and yields the most accurate results (Cooper, 2015).

6.8 Conclusion of the Chapter

In conclusion, the SEM conducted represented relationship value antecedents, mediators and their influence on retention within the B2B railway industry of Southern Africa. It was discovered that outcome of CFA factors slightly differs from the factors identified within the literature.

According to the final conceptual model (figure 32), the B2B railway industry relationship value antecedent constructs were identified as Service Performance, Supplier Performance, Relational Performance and Financial Performance.

Trust, Satisfaction and Commitment identified as mediators, which relates to relationship value; however, trust revealing mediating characteristics but scored lower as being an important relationship value construct. Relationship value in turn results in retention.

Within the next Chapter, conclusions and recommendations will be discussed and outlined in more detail.

7 Conclusion and Recommendations

7.1 Introduction into this Chapter

The aim of this Chapter is to make recommendations based on the results obtained during this study and to conclude whether the research objectives have been achieved. These objectives included to determine the key relationship value antecedents and consequences within the B2B railway industry of Southern Africa and developing a relationship value model for the B2B railway industry in Southern Africa.

In order to fulfil the required objectives, the relationship value factors have been determined and verified through conducting a confirmatory factor analysis (CFA). These factors were simulated through a Structural Equation Model (SEM) and diagrammed by a path analysis, used to test the fit of the correlation matrix against the proposed causal models.

7.2 Achieving the Research Objectives

The main objective of this study was to ***"to develop and test a framework for customer relationship value for the Southern African B2B railway industry."***

As part of the development of a SEM for this study, it was possible to assess and prove statistically that proposed constructs within this study revealed a high Cronbach Alpha loading, which means that internal consistency has been achieved.

In addition, as part of creating a conceptual framework for the B2B railway industry based on the confirmation of the relationship value antecedents and mediators, the regression path coefficients (beta-loadings) confirmed the reliability of the SEM, and the framework.

The secondary objectives of this study include:

i. To identify the antecedents and mediating variables from existing literature that play a role in the southern African B2B railway industry;
ii. To propose a conceptual framework based on the literature, depicting the interrelationships between the variables identified above;

iii. To empirically test this conceptual framework to determine the strength of the proposed relationships outlined in the secondary objectives outlined above;

iv. To determine if customer retention is an outcome of relationship value in the B2B railway industry.

7.2.1 Proposed Relationship Value Model for the B2B Railway Industry

Part of this study was to review and compile constructs from relevant literature, which was tested, and compared by using SEM.

The outcome of this research was determining relationship value antecedents within the B2B railway industry which included service performance (service quality and flexibility), supplier performance (reliability and delivery time), relational performance (personal value and reputation), and financial performance (efficiency and competitive price). Another outcome was verifying relationship value mediators which lead to relationship value and then to retention. These mediators include trust, satisfaction, and commitment according to the literature reviewed. The combination of both relationship value antecedents and mediators as compiled from the literature review was brought together to form the proposed conceptual model / measurement model which is illustrated in Figure 32.

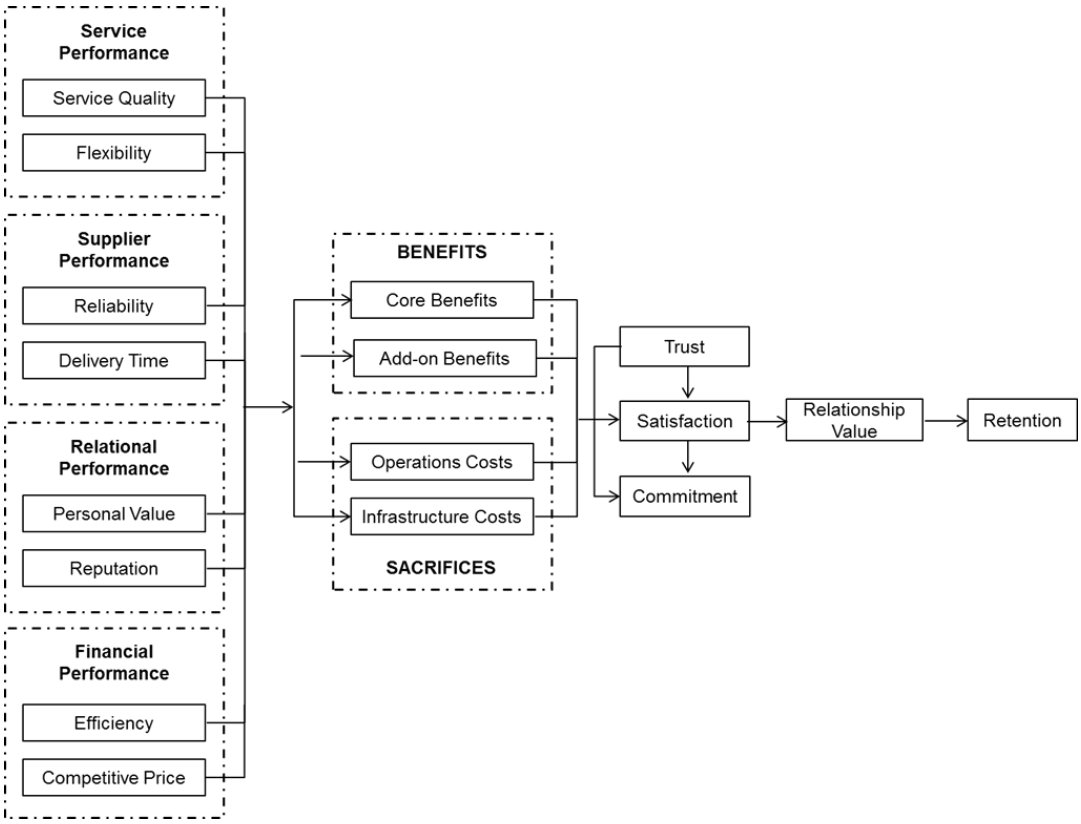

Figure 32: Proposed Conceptual Model based on the Literature Reviewed (Author)

The next step in this study was to test whether the proposed conceptual model (Figure 31), was an accurate representation of relationship value in the B2B railway industry of Southern Africa.

Based on the statistical tests conducted through SEM, the conclusion was that the measurement model (theory) differs from the structural model. The difference between the proposed conceptual model (figure 32) and the final conceptual model (Figure 33) includes that the respondents could not differentiate between the related relationship value antecedent (e.g. Service Performance) and sub-antecedents (e.g. Service Quality and Flexibility) and saw service performance as the main performance driver for relationship value in the B2B railway industry.

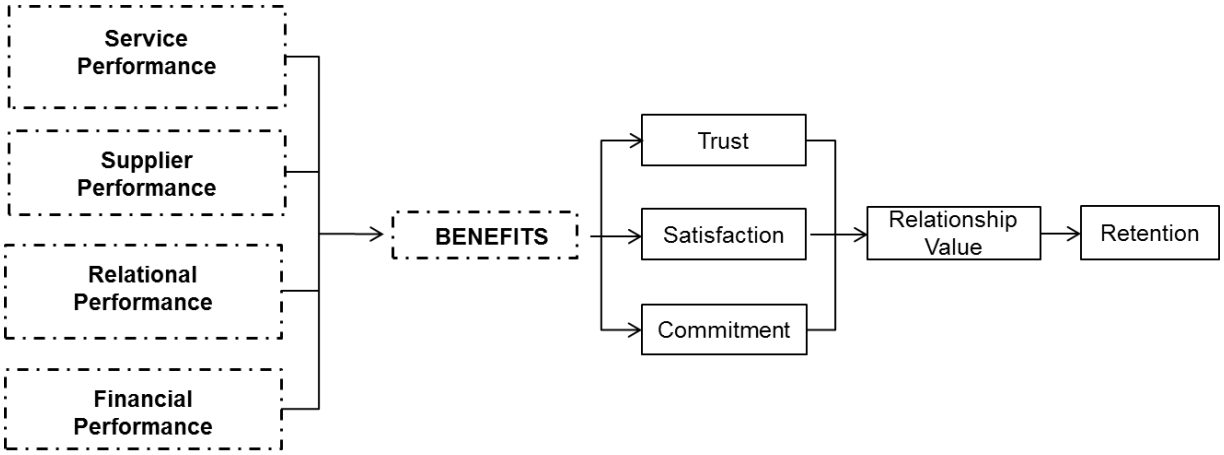

Figure 33: Final Conceptual Model for Relationship Value for the B2B Railway Industry (Author)

In addition, the proposed conceptual model (Figure 32) included *"sacrifices"* (operational and infrastructure costs). Within the final conceptual model (Figure 33) only benefits remain, because the data gathered from respondents indicated operations and infrastructure costs did not have an impact on relationship value in the B2B railway industry. This can be since operations and infrastructure costs related to railway services in Southern Africa are fixed and therefore might not have an impact in relationship value.

Another difference between the proposed conceptual model (Figure 32) and the final conceptual model (Figure 33) is that respondents could not distinguish between core benefits and add-on benefits. Although the literature reviewed clearly stated the

difference between core and add-on benefits, the respondents evaluated it as one single item or concept, which is 'benefits' which contributes towards relationship value in the B2B railway industry of Southern Africa. In other words, the respondents did not categorise add-on benefits, for example, after-sales support, and benefits such as product quality, as two separate concepts – the respondents' group these together under *"benefits"*.

7.2.2 The strength of the relationship between antecedents constructs and mediator constructs

As part of the secondary objectives of this study, the strength between the antecedents and mediators were determined by the results, conducted through extracting relationship value factors through CFA following the simulation of the valid factors through SEM, which revealed the strength of the regression coefficients (beta-loadings) between the various relationship value constructs (see figure 34 below).

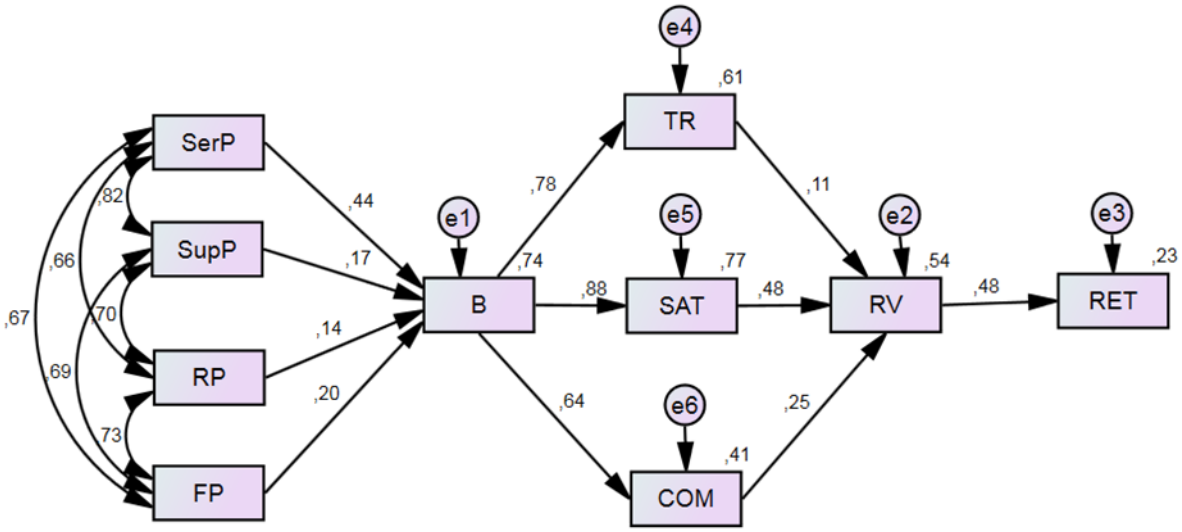

Figure 34: The Path Regression Coefficients for the structural model (Author)

As discussed within this Chapter, the final simulated model was consistent with the relationship value models evaluated through literature, although some variations between the measurement and structural model (developed and tested for the B2B Railway Industry) exist.

The exclusion of sacrifices (operations and infrastructure costs) was based on the low statistical outcome of the final simulated model, which indicates that costs associated with the function of railway as transport method, is fixed, and non-negotiable.

Therefore, the costs are included within the price of the user regardless of who use and owns what segment (operations or infrastructure) of the railway industry.

Secondly, factors with two proposed sub factors (2-factor models), such as Service Performance (Service Quality and Flexibility), Supplier Performance (Delivery Performance and Reliability), Relational Performance (Personal Value and Reputation), Financial Performance (Efficiency and Competitive Pricing) and Benefits (Core and Add-on Benefits) indicated a high percentage variance (< 50%) during Harman's single-factor test. These factors were tested for sub-factor correlations.

The result was a high correlation between sub-factors (>0,85), which is indicative of low discriminant validity, and was therefore treated as single-factor constructs, meaning that the respondents could not differentiate between the sub-factors, and therefore viewed the factors as a single item.

Figure 34 illustrates this based on the strength, or high beta-loadings, between exogenous variables such as Service Performance, Supplier Performance, Relational Performance and Financial performance. This is revealing that the antecedents of the in Figure 33 are highly correlated, confirming the strength of the relationship between antecedents' constructs.

The endogenous variables within the model (Figure 34) indicate that Benefits correlate highly with proposed mediators trust (β =.78), satisfaction (β =.88) and commitment (β =.64). This is suggestive of the exogenous variables being seen by the B2B Supplier as a benefit that strongly correlates with trust, satisfaction and commitment and therefore confirming the strength of the relationship between mediating constructs.

7.2.3 How trust, satisfaction, and commitment correlate to relationship value

Another secondary objective of this study was to determine how trust, satisfaction, and commitment as proposed mediators correlate to relationship value. According to the structural model (figure 33), trust (β=.11), satisfaction (β=.48) and commitment (β=.25) lead to relationship value.

A very interesting discovery within this study, is the low the beta loading of trust towards relationship value (β=.11). According to the literature reviewed, trust is the most

important element in the success of a business relationship, and lead to value creation within this business relationship.

A probable explanation for the low beta loading of trust within the structural model of this study might be that mediators such as trust, commitment, and satisfaction could be seen as performance drivers of relationship value. Within the context of the study, the rail suppliers were convinced that satisfaction (with the higher beta loading) (β=.48) lead to relationship value, which is substantive of prior literature on satisfaction within the passenger railway environment.

Similarly, commitment, which is seen as a key relationship marketing concept resulting in value creation, has a moderately low beta loading (β=.25). A potential explanation in the context of this study could be that B2B suppliers did not evaluate commitment as mediators to relationship value in the B2B railway industry, possibly due to the psychological disposition that might be associated with a particular rail operator as railway service provider within Southern African environment.

Seeing commitment as a psychological state, desire, or belief to develop a stable relationship could potentially be valuable to rail operators within the Railway Industry of Southern Africa in order to gain further understanding on how to increase confidence in developing sustainable relationships between B2B suppliers and rail operators.

7.2.4 Determine the connection between relationship value and retention

The final objective of this study was to determine the connection between relationship value and retention. Consistent to the literature reviewed, the results of this study indicate that there is a clear correlation between relationship value (β=.48; α = 0. 0,897) and retention. This means thatthe respondents recognised ‘retention’ as an outcome of a relationship between customers and the rail operator, as service provider.

A contribution of this study to the body of knowledge is that relationship value revealed the true mediating characteristics between trust, satisfaction, and commitment and how it leads eventually towards retention, which is a special finding in the B2B railway Industry of Southern Africa.

7.3 Recommendations based on the Findings and Results of this Study

The results and findings of this study indicate that relationship value is recognised and considered to be important within the B2B Railway Industry of Southern Africa. In terms of determining customer expectations of services in the future of freight rail in Southern Africa, this study can serve as a guidance on what should be provided by operators, to retain customers and ensure that they do not turn towards road hauliers in the future.

7.3.1 Recommendations to Rail Operator Managers

Through the results of this study, rail operator managers can seek new avenues to retain its relationships by adding relationship value antecedents reviewed in this study to its business operating strategy. These managers can now recognise that in providing a rail service to their suppliers might lead to the competitive edge over road transportation, which could enhance retention, and start moving goods from road to rail.

This study forms the basis of an existing trend, which is attempting to move goods from road transport to the railways in Southern Africa. Rail Operator Managers could use the findings of this study as reference to start asking the necessary questions in an effort to improve current reasons prohibiting goods to be moved by rail (e.g. gain understanding in what railway customers' value). According to the literature reviewed the road versus rail debate is a trending issue and still new to research that may not have been developed enough to be executed.

Another recommendation for the development of the railway industry on the continent of Africa is to increase focus and investment on industrialisation of railway supply industry. As discussed in section 5.2.8.2 of this study, the total number of railway infrastructure and rolling stock producers are too little to sustainably increase the use of railway as a transport method, in Africa.

Although natural resources and primary commodities remain a major driver of growth in Africa, their importance will continue to decline unless the development of the railway supply industry increased through innovative entrepreneurship to industrialise this market (African Economic Outlook, 2017).

Furthermore, according to the sector Overview and Competitiveness Survey of the Railway Supply Industry, (2012: 1) the rolling stock industry in Europe employs more than 160,000 people. This shows that industrialisation is a catalyst for creating jobs, increased productively and innovation (African Outlook 2017: 160) necessary to grow the supply and utilisation of railway in Africa.

7.3.2 Achieving Satisfaction in B2B railway industry of Southern Africa

Satisfaction seems from all die mediators to have resulted in the highest beta loading (Figure 29) within this study. Throughout the literature review, emphasis has been made to elevate research related to railway satisfaction, which all included research from passenger services, pointing out *"passengers are saying the quality of rail services is improving. The combination of increased income from fares, government investment and a clearer focus on performance and dealing with disruption is beginning to pay off,"* (Passenger Focus, 2012). Satisfaction is therefore considered a key concept in the railway industry, from a passenger perspective determining how successful the rail operator will be.

Within the B2B railway industry, customer satisfaction factors based on literature reviewed within this study included reliability of service/ journey time, overall service quality and on-time delivery. As further noted in the literature reviewed, satisfaction in freight transportation is becoming increasingly important for freight distributors since actively managing relationships with customers emphasises the importance of a user-oriented business.

In conclusion, greater levels of satisfaction can bring a variety of benefits for customers and operators of the B2B railway industry of Southern Africa.

7.3.3 Relationship Value in the B2B Railway industry of Southern Africa

The evolution of Relationship Marketing allowed this study to evaluate the ability to provide relationship value within the B2B railway industry of Southern Africa. According to the literature reviewed in this study, relationship value is created with the establishment and the maintenance of a positive ongoing and interdependent relational exchange between the supplier and the customer in order to deliver value for all stakeholders. In addition, relationship value is viewed as a strong mediating construct in this industry especially between satisfactions with retention (Refer to Figure 29).

Therefore, relationship value influences the on-going operations of the railway industry strongly, which will lead to an effective railway system, higher profitability, and a potential reduction from road hauliers to freight rail. Rail operator managers in Southern Africa should ensure that they recognise the importance of relationship value in order to maintain and increase the railway system entirely, not only in one country, but also across borders. Regular communication and interaction between supplier (customer) and operator can ensure better understanding of the needs of suppliers, so that to operators can react more effectively towards improving relationships, and continuously adding value to the maintenance of the relationship.

7.3.4 Retention within the B2B Railway Industry of Southern Africa

In railway, customer satisfaction is not only a factor in measuring the successful operational performance, but it also determines retention. Retention according to the literature reviewed, is improved by relationship value and retention in the B2B Railway Industry could lead to reduced acquisition cost and increase profit share from existing customers.

Retention also results in further benefits such as a direct relationship that exists from technical attributes (e.g. automation) to service encounter satisfaction and then leading to customer retention in rail transportation.

As this study indicates, relationship value leads to retention and therefore rail operator managers should start focusing on the improvement of their relationship value towards their customer (rail supplier) in order to retain the rail business within Southern Africa.

7.3.5 Recommendations to Researchers

This study did not only focus on relationship value as a marketing concept, but also aim to define customer relationship value antecedents in the B2B railway industry of Southern Africa, which is first step towards the body of knowledge contribution. Academics can now further build on this research in the effort to improve value creation and retention for the railway industry – an industry that is considered in the literature reviewed to be the backbone of a country's economic development.

Another way in which academics can further research within the B2B railway industry is through revising the existing data collected and use other measures such as semi-

structured interviews with rail operators in Southern Africa, to get insight into perceived relationship value antecedents from a rail operator's perspective. Different data analysis methods (regressions, ANOVA etc.) can be used to add to the existing body of knowledge.

An important question that came evident during this study *is 'how can freight rail compete with road freight transportation?'* Comparing the two modes of freight transportation was not the aim of this study, although both transportation methods contribute positively and negatively towards society, the economy, and the environment. Consequently, it might be important for future research to investigate the impacts freight rail and road freight transportation has on society, the economy, and the environment of Southern Africa.

The respondents for this study originated from the B2B Railway Industry within Southern Africa, therefore a specific sector in a specific geographical area, where the sampling frame consists of an existing database with information regarding the B2B supplier utilising freight rail in Southern Africa. Based on the demographic results of this study, it was discovered that 84.5% of the respondents were men, and only 15.5% of the respondents were women.

It is clear that the rail industry needs to shift its gender balance. According to previous literature reviewed in Chapter 2 of this study, it became clear that more women is required in leadership positions within Southern Africa, and that companies with a greater number of women in leadership positions tend to manage risk better, additionally help companies relate to their customers better. This is a potential future research topic that can be further investigated.

In addition, various relationship value mediators have been discussed based on the literature reviewed. Although commitment, trust and satisfaction are important mediators as indetified in this study, other mediators such as cooperation, equity, relational norms, and so forth might also be important for future studies involving relationship value in the B2B railway industry. The relationship value framework is a multidimensional concept which should be evaluated from different dimensions and perspectives.

Lastly, researchers should investigate other customer-focused antecedents in the railway industry, such as efficiency, technical competence, product customisation,

investments, and so forth, to identify other drivers of relationship value from the customer's perspective. In addition, this study reviewed both the customer and supplier's perspectives on creating relationship value. Although the relationship value from the customer's perspective was further analysed and tested in this study, researchers should investigate relationship value from the supplier's perspective in more detail, in order to advance understanding into relationship value as a multifaceted exchange.

7.4 Conclusion of this Study

Revolutionising the way, in which relationship value is enhanced and presented to a customer, is one of the most captivating and certainly the most compelling challenge for retained competitive advantage in the B2B operating environment of our time.

Since the railway industry is the backbone for public, and freight transportation, and a pivotal measurement in economic development for any country and therefore through this study, it was crucial to investigate the relationship value within the B2B railway industry of Southern Africa. The reason for this is to enrich the limited understanding of relationship value, especially focusing on what it can signify for rail-related companies in Africa.

By starting to introduce relationship value, rail operators and companies create value for customers (suppliers) and gain competitive advantage, and by simply being market orientated, are not sufficient anymore.

Building and maintaining those relationships to ensure retention are essential, especially in freight transportation businesses, since it highlights a customer-centric business.

7.5 Future Research

Firstly, the purpose of this study was not to compare the two modes of freight transportation, namely road and rail, however, to emphasise that railways are facing strong competition from road haulage and consequently negatively affects an efficient and cost-effective railway service to its customers (Transnet, 2015). Therefore, it is vital for future research to continue investigating how freight can yet again migrate back to rail and provide a consistent focus in increased capacity within the transportation industry.

Secondly, it has been mentioned before that, the respondents for this study stem from the B2B Railway Industry within Southern Africa, where the majority of the responses came from men, whilst only 15.5% of the respondents were women. Historically, men have dominated the rail industry, but industry declared 2018 as the *"Year of Engineering",* in addition to the 100th anniversary of women achieving the vote (Hayward, 2018). This is a great opportunity to propel future researchers and practitioners alike to focus their efforts in encouraging women to become a greater part of the railway industry.

Moreover, the age of digitalisation and industry transformation created an opportunity where women can increase their roles and responsibility, altering the rail industry, once bound by 19th Century propriety and traditions (Hayward, 2018).

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Annexures

Annexure A – The Final Questionnaire

Annexure B – Consent letter as part of the questionnaire

Annexure C – B2B Rail User Database in Southern Africa

Annexure D – Frequency Distribution Table Results

Annexure E – KMO and Bartlett's Test Results

Annexure F – Item-analysis results from the SPSS Tool

Annexure G – Model Fit Indexes and results measured as part of CFA

Annexure H – One-Sample Test Table & Results

Annexure I – Correlation Matrix

Annexure J - Standardised Regression Weights

Annexure K – Hypothesis Statement for Path Analysis

Annexure L – Letter for permission to use internal Company customer profile data-base