

Antecedents of Supply Chain Performance: A Case of Food Retail Industry

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Abstract: Food retail industry plays an important part in gross domestic product (GDP). Buyers and suppliers in this industry work in collaboration with each other to achieve an optimal supply chain performance. The purpose of this study is to investigate the drivers of supply chain performance in the food retail industry in Gauteng province. These drivers are known as buyer-supplier trust (BST), buyer-supplier commitment (BSC) and supply chain relationship longevity (RL). This study adopted a quantitative method where a questionnaire was used to collect data from 429 food retailers in the Gauteng province. The study used a convenience sampling technique to select respondents. The Statistical Package for the Social Sciences (SPSS) 24.0 and Smart PLS were used to assist in the data analysis. The results of the research revealed that buyer-supplier trust, buyer-supplier commitment and RL have a strong, positive and important impact on supply chain performance. Based on the results of this study, it can be concluded that to achieve supply chain performance, business's operators should develop a significant relationship based on trust, commitment and relationship longevity. Furthermore, the results of this study provide useful insights on how businesses should benefit from trust, commitment and relationship longevity as well as how to improve supply chain performance. Practical and theoretical contributions, implications and recommendations are provided.

keywords: *Food retail, buyer-supplier trust, buyer-supplier commitment, supply chain relationship longevity, commitment-trust theory*

1. Introduction

The importance of the study is to investigate the influence of buyer-supplier trust (BST), buyer-supplier commitment (BSC) and supply chain relationship longevity (RL) on supply chain performance (SCP). The pioneering research of supply chain relationship performance is an important point of study for new generations of researchers and practitioners in conducting research. For retailers and suppliers, it is relevant and critical to know and understand how to build long-lasting relationships among partners in a competitive environment characterised by success and customer satisfaction. Through relationship longevity, firms adopt a long-term approach with joint efforts by each partner to create unique value that neither partner can create independently (Nyaga, Whipple & Lynch, 2010). Organisations have to do so, in order to achieve efficiencies, flexibility, an economical advantage and supply chain performance (Nyaga et al., 2010). In fact, many researchers have investigated supply chain performance from a different perspective. Wang, Chang and Wang (2009) investigated supply chain performance in relation to product development strategy focusing on efficiency, but not necessarily the potential benefits sought by supply chain members. Regarding competitive and cooperative positioning in supply chain logistics relationships, Klein, Rai and Straub (2007) as well as Bichescu and Fry (2009) researched supply chain performance in relation to decision making. According to Gavrea, Ilies and Stegorean (2011), achieving supply chain performance is the focus of any organisation, because it is only through performance that organisations are able to grow and progress.

Supply chain performance is one of the most important variables in management research and possibly the most important indicator of organisational performance. For a firm to achieve supply chain performance, it is important for partners to enhance the relationship by building trust and commitment (Nyaga et al., 2010). The influence of trust is crucial to the success of the supply chain system. In fact, Ghosh and Fedorowicz (2008) examined the influence of trust among the collaborative, planning, forecasting and replenishment processes and found that trust is critical in the implementation and improvement of supply chain performance. In addition, Panayides and Venus Lun (2009) indicate that trust is of fundamental importance to supply chain operators since without it many of the supply chain systems that are implemented practically would not have functioned efficiently. In this sense, trust is relevant in supply chain, because it is a critical component for building and maintaining healthy long-term relationships among partners (Pinto, Slevin & English, 2009). This study provided a discussion on buyer-supplier relationship practices from a service industry perspective, which is beneficial to the food retail industry in Gauteng province.

Problem statement: According to the Industrial Development Corporation (2013), the food retail industry is one of the most important industries in driving the South African economy, since it employs millions of people and is responsible for ensuring the survival of people in the country by providing them with food. This importance attracts the need for continued research in this industry in order to generate information that may be used in both problem solving and decision making. Supply chain management is important to the food retail industry since it facilitates the efficient movement of required materials and information, and transportation of the products from the factories to markets that are closer to consumers (Levy & Weitz, 2009). With the continuous growth and increasing complexity of the supply food retail industry in South Africa comes various mounting supply chain-related challenges that demand effective business strategies. Examples of such challenges include exchange rate fluctuations, intense competition, inter-organisational relationship conflict, and the lack of trust and commitment between business partners, which have the effect of reducing both business and supply chain performance. It becomes necessary then, to direct empirical attention on these issues in order to cultivate a better understanding of the developments occurring within the industry (Dos Santos, 2010)

Trust is an important factor in promoting commitment among partners in the supply chain and the presence of trust increases chances of supply chain success (Agha Mohammadi, Bazrafshan, Naeimi & Rad, 2014). Besides studies by Xiao, Zheng, Pan and Xie (2010) as well as Nyaga et al. (2010) there is limited evidence of previous research that has examined similar constructs. In addition, limited research has been conducted in the field of supply chain management concerning buyer-supplier relationships in South Africa. In the same context, there is a research gap in the relationship between buyer-supplier trust, buyer-supplier commitment, and supply chain relationship longevity and supply chain performance in the food retail sector. Prajogo and Olhager (2012) also add that internationally, most studies investigating the relationship between buyers and suppliers have been less than encouraging. This provided evidence that more studies focusing on these constructs were still required in South Africa. Therefore, the purpose of this study was to investigate the drivers of supply chain performance in the retail food industry in Gauteng province.

2. Literature Review

For Stefanie, Philip, Kim and Helmut (2010) trust is the firm's (food retailer) faith that another partner (supplier) will achieve actions that will have positive results for the firm as well as not take unanticipated actions that will result in negative consequences. Buyer-supplier commitment is seen as a long-term relationship between the informal food retailer and the supplier in engaging their capital resources to improve and develop common benefits (Tungjitjarurn, Suthiwartnarueput & Pornchaiwiseskul, 2012). In addition, supply chain relationship longevity or relationship longevity is the commitment of a buyer to a lasting affiliation with a supplier (Flynn, Morita & Machuca, 2011). Lastly, supply chain performance is defined as the ability of any food retailer to deliver products with good quality and the required quantity at low cost and at the precise time (Zelbst, Green, Baker & Sower, 2010).

The Commitment-Trust Theory: This study is based on relationship marketing, namely the commitment-trust theory of Morgan and Hunt (1994). The theory emphasises on illustrating the development of long-term relationship between exchanges partners (Li, Browne & Wetherbe, 2006) such as informal food retailers and suppliers. The key evidence of this theory is the adoption of commitment and trust as inseparable and essential elements for the development and continuing business relationships between exchange parties. According to Morgan and Hunt (1994), the commitment-trust theory inspires individuals such as food retailers and their suppliers who are engaged in making purchase decisions to work at preserving relationship investments by working together with exchange partners. With this kind of relationship, it is sure that a long-term relationship is possible between informal or independent food retailers and their respective suppliers. In accordance with the theory, Ideet and Wanyoike (2014) say that the two fundamental factors, which are trust and commitment, must exist for a relationship to be successful. Consistent with Li, Humphreys, Andy, Yeung and Cheng (2007), for buyer and supplier to achieve successful relationships with long-term goals and vision, the establishment of trust and commitment is vital. For mutual benefit, if they do not establish trust and commitment there will be no relationship between exchange partners. Instead of focusing on short-term profits, businesses are committed to the principles of relationship marketing in order to forge long-term promises with their buyers. Therefore, buyers have the ability to trust the suppliers and

this creates a mutual loyalty that helps both parties—buyers and suppliers, to satisfy their needs (Ideet & Wanyoike, 2014).

Food Retail Industry: In South Africa, an increasing food retail industry with a population close to 49 million individuals, holds an up-to-date infrastructure associated relatively with efficient suppliers of goods to metropolitan centers, cities and rural regions across the country (Ntloedibe, 2011). Therefore, in South Africa, food retail is defined as an extreme level of competition, attentiveness and a unique South African customer base, which varies from the poor rural areas to the rich cities metropolis (Ideet & Wanyoike, 2014). During the apartheid era, large food retailers did not serve townships. Due to that, informal food retailers were created to supply the population with goods via independent grocery stores known as tuck shops and spaza shops (Ntloedibe, 2011). Since the end of apartheid in 1994, the food retail sector has grown rapidly (Edwards & Jenkins, 2015). Throughout the years, the food retail sector has been urbanized through an increased number of shopping centers in the country (Gauteng Province, 2012).

South Africa is the African leader in terms of economic growth with approximately 55 percent share of hypermarkets in global food retail. The food retail industry includes two subdivisions: the informal or independent subdivision including hawkers, small stands and spaza shops, and the formal subdivision involving large hyper- and supermarkets (Pereira & Ruyselaar, 2012), such as Shoprite, Pick and Pay, Spar and Woolworths. Being a good developing country, South Africa ensures corporate sustainability that combines social, environmental and economy impact of the industries. Therefore, numerous sectors such as food retail have initiated a change to sustainability in order to improve the state of the economy through social and environmental enhancement measures (Christelis, 2013).

Buyer-supplier trust and buyer-supplier commitment: Based on the study of Eden (2008), buyer-supplier trust and commitment are important for supply chain partners because these two concepts lead to positive assistance that greatly improves the performance of businesses such as informal food retailers. The same author goes further by saying that trust and commitment are linked to social elements such as active communication, cultural sensitivity and the friendliness of the partner. Thus, the finding of Frassetto, Calderon and Cervera (2012) reveal that there is a direct relationship between trust and commitment and due to that, the relationship between the partners is improved. When investigating the link between trust and commitment, some scholars concluded that trust precedes commitment (Tan & Lim, 2009; Lacey & Kennett-Hensel, 2010; Aysel, Sevtap, Burcu & Hatice, 2012). In other words, trust impacts on commitment (Abdullah & Musa, 2014). This is possible because trust has an added significant importance and it is becoming one of the top main concerns of perpetuating the relationship among supply chain partners (Yeung, Selen, Zhang & Huo, 2009).

While some authors imply that it is commitment that improves trust (Harris, Kuivalainen & Stoyanova, 2012), others simply imply that trust and commitment are not just social matters, they are important drivers of business performance (Eden, 2008). In the same vein, Rehman, Shareef and Ishaque (2012) argue that trust and commitment are powerfully associated to each other. Buyer-supplier relationships can exist only if there is commitment and trust (Jie, Parton & Mustafid, 2016). For this reason, it is significant for formal food retailers and their suppliers to build a relationship based on trust and commitment. In addition, trust and commitment impact on the performance of food retailers, whether formal or informal; based on this, positive results increase implicitly and the relationship is maintained (Palmatier, Jarvis, Bechko & Kardes, 2009). Based on the above mixed findings, the following hypothesis is suggested:

Buyer-supplier trust and supply chain relationship longevity: Many researchers have made an effort to understand the acceptance of long-term relationships within the retail sector, emphasising the fundamental role of trust for both parties to maintain the relationship (Bordonaba-Juste & Polo-Redondo, 2011). According to Abbad, Pache and Fernandez (2013), trust impacts on relationship longevity between buyer and supplier in three ways; first, it decreases the opinion of risk related to opportunist behaviours by the supplier, secondly, it increases the assurance for both buyer and supplier that short-term problems and disparities will be solved in the long-term and, thirdly, it reduces transaction costs in exchange relationships. Additionally, as proven by Leonidou, Talias and Leonidou (2008), relationship longevity, developed through trust, ends up with positive results and avoids negative activities. To achieve efficiency in supply chain, trust must be built

up in the supply chain longevity relationships between suppliers and buyers (Ha, Park & Cho, 2011). Buyer-supplier trust requires longevity relationships to ensure that mutuality can happen (Tidd & Bessant, 2009) and this leads to satisfaction of the supplier's members and future business growth as well as profits. Therefore, in the above view, the following hypothesis is worth exploring:

H1: There is a positive and significant relationship between buyer-supplier trust and buyer-supplier commitment.

H2: There is a positive and significant relationship between buyer-supplier trust and supply chain relationship longevity.

Buyer-supplier commitment and supply chain relationship longevity: The study of Jie et al. (2016) reveals that commitment is characterised by a supply chain relationship longevity, which can be seen as the willingness of members to continue the relationship. According to Tidd and Bessant (2009), the existence of commitment between buyers and suppliers allows the parties to continue the relationship. In accordance with these authors, Lee (2015) adds that the objective of buyer and supplier commitment is to achieve long-term relationships in order to cultivate respect, friendship, trust and reciprocity over time and decrease the costs of transactions. Additionally, commitment is a long-term relationship between buyers and suppliers to increase the quality, technical-, delivery- and cost capabilities and to foster ongoing improvements of the supplier (Handfield, Krause, Scannell & Monczka, 2006). Commitment develops quality attitudes between the supply chain parties and continuously focuses on quality of the goods, production and performance (Aslan, Elif, Orhan & Cetin, 2011). Commitment helps to improve the capabilities of the suppliers and the knowledge transfer from the buyer to the supplier (Wagner, Coley & Lindemann, 2011). To develop supply chain longevity relationships between buyers and suppliers, both partners start with determining which suppliers will benefit from long-term goals (Kumar, Clemens & Keller, 2014). Therefore, after the above explanation, the following hypothesis can be formulated:

H3: There is a positive and significant relationship between buyer-supplier commitment and supply chain relationship longevity.

Supply chain relationship longevity and supply chain performance: Establishing long-term relationships between buyers and suppliers is the key to the success of the retail industry (Loice, 2015). Buyers and suppliers want to build and maintain long-term supply chain relationships because the parties consider it one of the principal factors of supply chain performance success. Williams (2013) say that supply chain longevity relationship between buyers and suppliers is the principal key to the success of the food retail industry. In order to amplify the previous statement, Lin (2012) points out that it is indeed obligatory for formal food retailers to develop and preserve longevity relationships with their suppliers if they want to achieve supply chain performance. Hence, the study of Loice (2015) reveals it is necessary for supply chain partners to develop long-term relationships in order to preserve the relationship and to improve competitive advantage, as well as improving supply chain performance. According to Williams (2013), the success of supply chain performance is linked to a good relationship with the parties involved in the relationship. Thus, relationship longevity leads to the creation of value, which leads to the supply chain performance, more clearly, to the satisfaction of the end customers as well as the buyers and suppliers' future business growth. Based on the above issues, the following hypothesis is addressed:

H4: There is a positive and significant relationship between supply chain relationship longevity and supply chain performance.

Buyer-supplier trust and supply chain performance: Ryu, So and Koo (2009) found that trust is developed as a result of collaboration between two supply chain members with the objective of increasing the supply chain partner's operational performance. Trust in supply chain performance allows the parties to act in an unselfish manner in order to achieve positive results in the supply chain (Mohamed, Omar & Wei, 2015). Supply chain performance requires several factors to be achieved, which include trust, cooperation and communication, as observed in the theory (Hidayat, Hudha & Akhmad, 2015). Accordingly, trust is seen as an important predictor of positive performance results such as cost reduction, enhanced flexibility and responsiveness. In the same way of thinking, Capaldo and Giannoccaro (2015) clearly state that trust is a central forecaster of positive supply chain performance. Furthermore, trust increases the possibility for informal food retailers and suppliers to exchange information and exploit new opportunities, with significant

impacts on performance (Lado, Dant & Tekleab, 2008). Therefore, in the above view, the following hypothesis is worth exploring:

H5: There is a positive and significant relationship between buyer-supplier trust and supply chain performance.

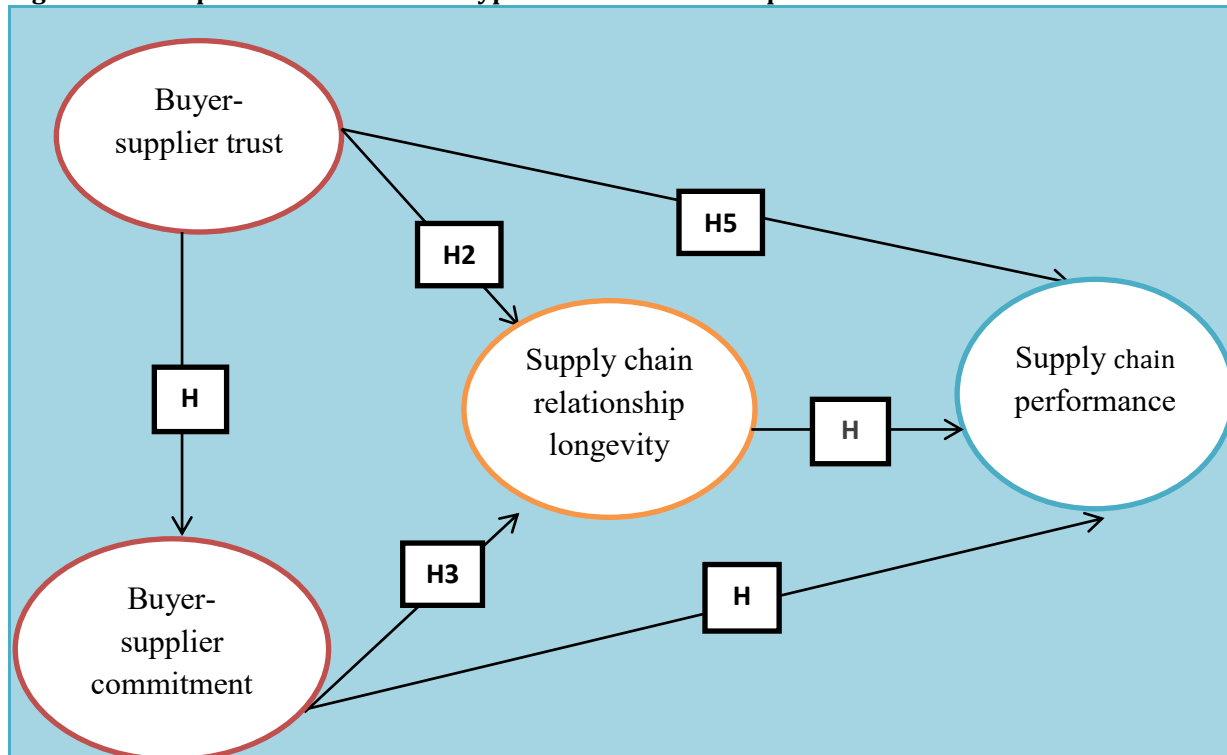
Buyer-supplier commitment and supply chain performance: To show the relationship between buyer-supplier commitment and supply chain performance, the study of Gupta, Choudhary and Siraj-Alam (2014) reveals that commitment has a direct and positive impact on supply chain performance. In the same view, Khan, Liang and Shahzad (2015) argue that buyer-supplier commitment allows buyers and suppliers to realise favourable or positive results for each party. Furthermore, Styles, Patterson and Ahmed (2008) state that commitment of both buyers and suppliers is related directly to the supply chain performance of the business. This means that commitment cannot be separated from the performance of any organisation. Crook, Giunipero, Reus, Handfield and Williams (2008) state that when autonomous businesses such as formal food retailers join forces with suppliers and other retailers they can attain the advantages beyond what could be achieved in arm's length exchange. This study proposes that a relationship between food retailers and suppliers characterised by commitment might lead to improving supply chain performance considerably. Therefore, based on the above mixed findings the following hypothesis is suggested:

H6: There is a positive and significant relationship between buyer-supplier commitment and supply chain performance.

Conceptualised Framework and Research Hypotheses Formulation: The aim of this study is to investigate the drivers of supply chain performance in the food retail industry in Gauteng province.

Conceptualised framework: A framework was conceptualised specifically to study the relationship between buyer-supplier trust, buyer-supplier commitment, supply chain relationship longevity and supply chain performance. In this framework, buyer-supplier trust and buyer-supplier commitment are the predictor variables, supply chain relationship longevity is the mediator variable and supply chain performance is the outcome construct. The figure shows a framework of the constructs and hypothesised relationships investigated in the study.

Figure 1: Conceptual framework and hypothesised relationships



3. Methodology

This study was subject to the cross-sectional survey design. The cross-sectional survey design was selected in this study to show that relationships exist between the different constructs. In this study, the quantitative approach was adopted. Since this study tested relationships between several variables and hypotheses were tested, a quantitative approach was selected. Convenience sampling was used because of the ease of access, geographic closeness and the disposition of the sample unit to participate in this study. Moreover, the advantages of convenience sampling, namely the target population was easy to reach; the least expensive and the least time consuming technique are the reasons why this method was used in this study. In this study, the target population consisted of food retailers located in Gauteng province because of easy access and time saving. The sample size for this study was 429 formal food retailers. Several scholars and academics such as Joshi and Mani (2016) and Vera and Rozida (2016) have used a sample size of 400 and have obtained significant, accurate and reliable results. In total, 483 questionnaires were distributed; out of this, 429 were retained and 54 questionnaires were unusable because of errors such as uncompleted questions. The respective response rate of the 429 was 89 percent. This response rate was acceptable because it is above the 50 percent minimum threshold suggested by Kidder (1981).

Measurement instruments: The questions for this study were developed from pre-existing scales in the literature. The existing items were adopted to suit this study. For this reason, questions were reformulated. The measurement instruments were measured using five-point Likert-type scales with the following representative values: 1=strongly disagree, 2=disagree, 3=moderately agree, 4=agree and 5=strongly agree. Buyer-supplier trust was measured with five questions adopted from Chen, Wang and Yen (2014). Buyer-supplier commitment was measured with five items adapted from Aziz and Noor (2013). Supply chain relationship longevity was measured with five measurement items adopted from Chen, Lee and Paulraj (2014) and supply chain performance was measured with six measurement instruments adapted from Qrunfleh and Tarafdar (2014).

4. Results

Psychometric properties of the measurement scale: Psychometric properties of the measurement scale are reported in Table 2, which presents the research constructs, Cronbach alpha test, composite reliability (CR), average variance extracted (AVE) and item loadings. Convergent validity is a technique to assess construct validity (Ghadi, Alwi, Bakar, & Talib, 2012). In the current study, convergent validity was determined through item to total correlation and factor loading. Item to total correlation and factor loading were assessed using SPSS. For consistency to assess the items, factor loading should be greater than 0.5 (Fornell & Larcker, 1981). As seen in Table 2, the factor loadings of all the measurement instruments are within the range of 0.615 to 0.910. All the items are greater than 0.5. These results mean that all the items are acceptable and that there is a relationship between each construct and each item. To evaluate the internal consistency of the research constructs, CR was conducted in this study.

The following formula was used to calculate CR. $CR = \frac{(\sum \lambda_{yi})^2}{(\sum \lambda_{yi})^2 + (\sum \epsilon_i)}$ CR= (square of the summation of the factor loadings) / [(square of the summation of the factor loadings) + (summation of error variances)] According to Hair, Babin, Anderson and Tatham (2010), CR greater than 0.7 reflects a good consistency of the variable. As shown in Table 2, all four constructs in this study had a CR between 0.76 and 0.81. Therefore, these results prove the existence of a good internal reliability of the constructs in this study. According to Chin (1998), the AVE of the research constructs should be greater than 0.5. The AVE was calculated by using the following formula of Fornell and Lacker (1981:64): $VE = \frac{\sum \lambda_{yi}^2}{(\sum \lambda_{yi}^2 + \sum \epsilon_i)}$ AVE= summation of the square of factor loadings / [(summation of the square of factor loadings) + (summation of error variances)] The values of AVE of the research constructs are between 0.51 and 0.65(as presented in Table 2), these values exceed the recommended threshold of 0.50 (Fornell & Larcker, 1981). Therefore, these results are acceptable.

Path modelling results: After confirming the reliability and validity of the measurement instruments (reported in Table 2), the study proceeded to test the proposed hypotheses. In total, there are six hypotheses that are tested. Figure 2 provides the proposed hypotheses and the respective path coefficients. The same

results of the path coefficients are tabulated in Table 2 depicting the item to total correlations, AVE, CR and factor loadings.

Path model results and factor loadings: Figure 2 indicates the path modelling results as well as the item loadings for the research constructs. In figure 2, BST stands for buyer-supplier trust; BSC for buyer-supplier commitment; RL stands for supply chain relationship longevity and SCP for supply chain performance.

Table 1: Accuracy analysis statistics

Research constructs		Descriptive statistics		Cronbach's test		CR value	AVE value	Factor loading
		Mean	SD	Item-total	α value			
Buyer-supplier trust	BST1			0.693				0.740
	BST2			0.794				0.735
	BST3	3.637	4.200	0.722	0.86	0.76	0.56	0.802
	BST4			0.752				0.858
	BST5			0.779				0.824
Buyer-supplier Commitment	BSC1			0.766				0.898
	BSC2			0.799				0.856
	BSC3	3.942	4.147	0.728	0.90	0.81	0.65	0.796
	BSC4			0.698				0.809
	BSC5			0.812				0.910
Supply chain relationship longevity	RL1			0.687				0.872
	RL2	3.791	3.228	.0720	0.79	0.73	0.51	0.896
	RL3			0.529				0.753
	RL5			0.505				0.615
Supply chain performance	SCP1			0.672				0.800
	SCP2			0.725				0.727
	SCP3		5.035	0.716	0.91	0.79	0.63	0.773
	SCP4	3.775		0.894				0.913
	SCP5			0.800				0.909
	SCP6			0.888				0.906

Note: BST= Buyer-supplier trust; BSC=Buyer-supplier commitment; RL=Supply chain relationship longevity; SCP= Supply chain performance; CR: Composite reliability; AVE: Average varianceextracted

Results of the Hypotheses: As presented in Table 4, the levels of the coefficients of all the six hypotheses are significant at a level of $p < 0.01$. All the hypotheses present three stars (***) According to Chinomona, Lin, Wang and Cheng (2010), significant levels of $p < 0.05$, $p < 0.01$ and $p < 0.01$ are indicators of positive, strong and significant relationships between the research constructs. Based on that, it can be concluded that the hypotheses in this study are significant and acceptable. Table 2 shows a positive significant correlation between the different constructs. The correlation between BSC and BST has a value of ($r = 0.705$; $p < 0.01$). Moreover, the correlation matrix describes a positive relationship between RL and BST with a value of ($r = 0.661$; $p < 0.01$) as well RL and BSC with a value of ($r = 0.796$; $p < 0.01$). Furthermore, the same type of correlation exists between SCP and BST ($r = 0.618$; $p < 0.01$); SCP and BSC ($r = 0.681$; $p < 0.01$) as well as SCP and RL ($r = 0.691$; $p < 0.01$).

Table 2: Correlations between constructs

Research construct	Construct correlation			
	BST	BSC	RL	SCP
Buyer-supplier trust (BST)	1.000			
Buyer-supplier commitment (BSC)	0.705**	1.000		
Relationship longevity (RL)	0.661**	0.796**	1.000	
Supply chain performance	0.618***	0.681**	0.691**	1.000

** Correlation is significant at the 0.01 level (2-tailed)

Figure 2: Path modelling and factor loading results

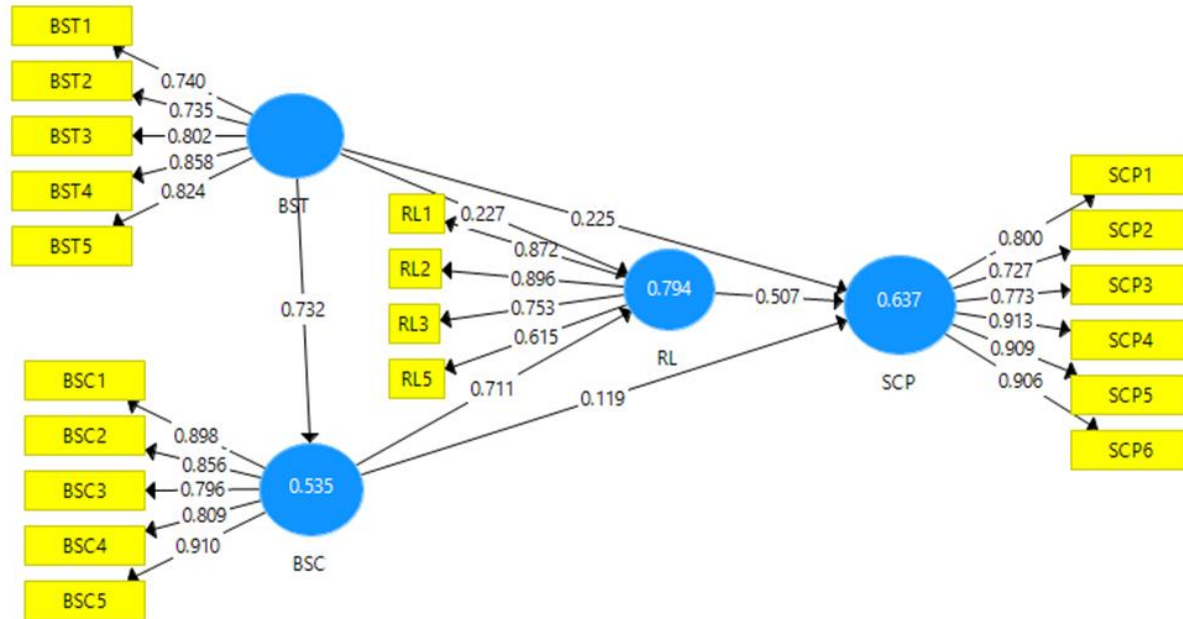


Table 3: Results of hypotheses testing (path modelling)

Proposed hypothesis relationship	Hypothesis	Path coefficient estimates	Decision
Buyer-supplier trust→Buyer-supplier commitment	H1	0.732***	Accepted
Buyer-supplier trust→Supply chain relationship longevity	H2	0.227***	Accepted
Buyer-supplier commitment →Supply chain relationship longevity	H3	0.711***	Accepted
Supply chain relationship longevity → Supply chain performance	H4	0.225***	Accepted
Buyer-supplier trust → Supply chain performance	H5	0.119***	Accepted
Buyer-supplier commitment →Supply chain performance	H6	0.507***	Accepted

Discussion of the Results: The following section discusses the result of hypotheses that are indicated in the Table 3.

(H1): The first hypothesis (H1) in this study stated that buyer-supplier trust has a significant impact on buyer-supplier commitment. The 0.732 is the path coefficient of (H1); this value indicates a very strong relationship between buyer and supplier in the food retail industry. Thus, the p value is significant at 99 percent ($r=0.001$), which means that this hypothesis is supported and significant. These results are in line with a study conducted by Mpinganjira, Roberts-Lombard and Svensson (2017) who show that buyer-supplier trust positively influences buyer-supplier commitment in a business relationship. Additionally, Abdullah and Musa (2014) confirm that buyer-supplier commitment considerably influenced buyer-supplier trust; the authors go further by saying that the impact of buyer-supplier trust on buyer-supplier commitment is greater and more significant. The results of this study agreed with the results of a study conducted by Hashim and Tan (2015) on the mediating role of trust and commitment on members' continuous knowledge sharing intention. The authors found that trust is the key factor to develop and increase commitment for both parties involved in a relationship.

(H2): With reference to the second hypothesis (H2), the study hypothesized that buyer-supplier trust significantly influenced supply chain relationship longevity. Table 3 indicates a path coefficient value of ($r=0.227$) with ($p<0.001$) for H2; the results are significant and confident at 99 percent. The path coefficient confirms the existence of a reasonable relationship between buyer-supplier trust and relationship longevity. The positive correlation found between buyer-supplier trust and supply chain relationship longevity is consistent with the results provided by Mugarura (2010) as well as Ziggers & Henseler (2016). Drawing from a study conducted by Ahimbisibwe, Nangoli and Tusiime (2012), trust is an indispensable precondition for operational relationship between buyer and supplier. From this study, it can be said that supply chain relationship longevity between buyer and supplier built on trust has the ability to increase the performance of the supply chain members and consequently it is advisable to invest in relationship longevity.

(H3): A positive correlation was hypothesised between buyer-supplier commitment and supply chain relationship longevity. After testing H3, a path coefficient of ($r=0.711$) was obtained. The result confirms that there is a positive relationship between BSC and RL. The relationship between these two constructs is highly significant at 99 percent indicated by a ($p<0.001$). The results confirm or validate the existence of the relationship. These results are consistent with the results of Le Tuong and Vo Hong (2014) where commitment is the most significant factor to influence supply chain relationship longevity. Moreover, the study of Cambra-Fierro and Polo-Redondo (2011) reveals that commitment influences buyer-supplier to carry on with relationship in the future. This means that once buyer and supplier are committed in the relationship, the establishment of the association between them is possibly to have a long lasting direction. Therefore, supply chain members are willing to sacrifice short-term welfares to preserve the relationship.

(H4): The fourth hypothesis (H4) showed that supply chain relationship longevity is strongly associated with supply chain performance. The relationship is validated based on the result of the path coefficient ($r=0.225$) and the regression path highly significant ($P<0.001$) at 99 percent of confidence interval. Accordingly, the current study validates and supports that supply chain relationship longevity positively influences supply chain performance. The results of this study are consistent with the results of a study conducted by Adams, Khoja and Kauffman (2012), whereby supply chain relationship longevity is positively associated with supply chain performance. The results are also in congruence with previous studies by Prajogo & Olhager (2012) and Moshkdanian & Molahosseini (2013). In addition to the results of this study, it emerged that buyers and suppliers in the food retail industry are seeking supply chain relationship longevity to achieve firm's performance.

(H5): The fifth hypothesis (H5) was supported and accepted in this study. To confirm this decision, there was a positive and significant correlation ($r=0.119$; $p<0.001$) between buyer-supplier trust and supply chain performance. This relationship is validated at 99 percent. These results are consistent with previous studies (Sung & Kang, 2013; Nyakundi, 2014). Hence, these results support a study conducted by Revilla and Knoppen (2015) by confirming that buyer-supplier trust is positively associated with supply chain performance. The results of this study show that it is very important for supply chain members to develop

trust in their relationships in order to achieve supply chain performance. Relationship longevity and supply chain performance associated together demonstrates a perfect connection for a firm's success.

(H6): With regard to the sixth hypothesis (H6), it has been found that there is a positive relationship between buyer-supplier commitment and supply chain performance with positive path coefficient of ($r=0.507$; $p<0.001$) that validates the hypothesis. These results are in line with the studies of Ziaullah, Feng and Akhter (2015) who found that commitment strongly impacts on supply chain performance. In this study, commitment is one of the key factors to achieve supply chain performance. A relationship associated with commitment between supply chain partner results in improving the performance of the firm involved in the relationships. Therefore, it is clear that no relationship exists without commitment.

5. Conclusion and Recommendations

In order to improve buyer-supplier trust, food retailing firms are encouraged to develop a reliable communication; through communication supply chain partners will be able to have a healthy relationship, in which important information will be shared. They should also ensure transparency through technology. Trust is an important factor to develop buyer-supplier relationships and the best way to develop trust is to create transparency. In order to improve buyer-supplier commitment, food retailing firms respect and consider the needs and ideas of the other party, which clears the ground for supply chain partners to work in methods, which maximise the welfares of both parties. In addition, maximum attention should be given to commitment because it leads to long-term relationships. Therefore, they have to enrich commitment to achieve competitive advantage, which will lead to enhanced supply chain performance. In order to improve supply chain relationship longevity, food retailing firms are encouraged to establish relationships longevity with their buyers; suppliers have to deliver quality products and ensure services. Also, knowing the partners; through relationship longevity supply chain partners know with whom one cannot conduct business with.

In order to improve supply chain performance, food retailing firms are encouraged to inspire buyers and suppliers to agree on common objectives of engagements, so that they can both be satisfied with the results. Supply chain partners should engage in mutual and forecast activities with each other in order to reinforce their relationship and to achieve common goals. Lastly, it should be required that the longer the relationship, the lower the costs. This paper makes both a theoretical and a practical contribution. To the best of the researcher's knowledge, this is the first paper that applied the commitment-trust theory in the organisational behaviour literature, which means the theory added new knowledge to the existing literature on organisational behaviour. The paper includes the practical contribution to managers or owners of food retailers to practice good management relations to have greater BST, BSC, SCRL and SCP.

References

- Abbad, H., Pache, G. & Fernandez, D. B. (2013). Building a long-term relationship between manufacturers and large retailers: Does commitment matter in Morocco? *The Journal of Applied Business Research*, 29(5),1367-1380.
- Abdullah, Z. & Musa, R. (2014). The effect of trust and information sharing on relationship commitment in supply chain management. *Procedia-Social and Behavioral Sciences*, 130, 266-272.
- Adams, J. H., Khoja, F. M. & Kauffman, R. (2012). An empirical study of buyer-supplier relationships within small business organizations. *Journal of Small Business Management*, 50(1), 20-40.
- Aghamohammadi, R., Bazrafshan, F., Naeimi, M. R. & Rad, A. E. (2014). Examining trust and commitment in supply chain. *Management Research Report*, 2(5),90-97.
- Ahimbisibwe, A., Nangoli, S. & Tusiime, W. (2012). Moderating effect of buyer-supplier trust on the relationship between outsourced formal contracts and supplier delivery performance: An empirical study of public sector. *Journal of Business and Social Science*, 3(17), 50-71.
- Aslan, I., Elif, S., Orhan, C. & Cetin B. (2011). Improving short and long term supplier development plan. *Economics and Management*, 16(1), 647-653.
- Aysel, E., Sevtap, U., Burcu, C. & Hatice, Y. (2012). The effect of brand satisfaction, trust and brand commitment on loyalty and repurchase intentions. *Social and Behavioural Sciences*, 58, 1395-1404.

- Aziz, M. T. & Noor, N. A. M. (2013). Evaluation the effect of cost related factors on relationship quality: an investigation of retailer-supplier relationship in Bangladesh. *International Journal of Retail and Distribution Management*, 41(7), 545-558.
- Bichescu, B. C. & Fry, M. J. (2009). A numerical analysis of supply chain performance under split decision rights. *Omega*, 37(2), 358-379.
- Bordonaba-Juste, M. V. & Polo-Redondo, Y. (2011). Long-term relationships in franchised distribution systems: Analysis of mutual trust and commitment. *International Business & Economics Research Journal*, 3(6), 1-12.
- Cambra-Fierro, J. J. & Polo-Redondo, Y. (2011). Post-satisfaction factors affecting the long-term orientation of supply relationships. *Journal of Business & Industrial Marketing*, 26(6), 395-406.
- Capaldo, A. & Giannoccaro, I. (2015). How does trust affect performance in the supply chain? The moderating role of interdependence. *International Journal of Production Economic*, 166, 36-49.
- Chen, I. Y., Lee, Y. Y. & Paulraj, A. (2014). Does a purchasing manager's need for cognitive closure (NFCC) affect decision-making uncertainty and supply chain performance? *International Journal of Production Research*, 52(23), 6878-6898.
- Chen, J. V., Wang, C. L. & Yen, D. C. (2014). A causal model for supply chain partner's commitment. *Production Planning & Control*, 25(9), 800-813.
- Chin, W. W. (1998). The partial least squares approach to structural equation modelling. *Modern Methods for Business Research*, 295(2), 295-336.
- Chinomona, R., Lin, J. Y. C., Wang, M. C. H. & Cheng, J. M. S. (2010). Soft power and desirable relationship outcome: The case of Zimbabwean distribution channels. *Journal of African Business*, 3, 182-200.
- Christelis, T. A. (2013). An analysis of the state of green business in the South African retail sector. Master of Science Dissertation. The University of Cape Town.
- Crook, T. R., Giunipero, L., Reus, T. H., Handfield, R. & Williams, S. K. (2008). Antecedents and outcomes of supply chain effectiveness: An exploratory investigation. *Journal of Managerial Issues*, 20(2), 161-177.
- Dos Santos, M. A. O. (2010). Benefits derived by a major South African retailer through collaboration and innovation within its supply chain. *Journal of Transportation and Supply Chain Management*, 2, 102-119.
- Eden, L. (2008). Letter from the editor-in-chief. *Journal of International Business Studies*, 39(5), 769-771.
- Edwards, L. & Jenkins, R. (2015). The impact of Chinese import penetration on the South African manufacturing sector. *The Journal of Development Studies*, 51(4), 447-463.
- Flynn, B., Morita, M. & Machuca, J. (2011). Managing global supply chain relationships: Operations, strategies and practices. United States of America: Business Science Reference.
- Fornell, C. & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Frasquet, M., Calderon, H. & Cervera, A. (2012). University-industry collaboration from a relationship marketing perspective: An empirical analysis in a Spanish University. *Higher Education*, 64(1), 85-98.
- Gauteng Province. (2012). The retail industry on the rise in South Africa. [Online]. Available: <<http://www.treasury.gpg.gov.za/Documents/QB1%20The%20Retail%20Industry%20on%20the%20Rise.pdf>> [Accessed 9 November 2016].
- Gavrea, C., Ilies, L. & Stegorean, R. (2011). Determinants of organizational performance: The case of Romania. *Management and Marketing Challenges for the Knowledge Society*, 6(2), 285-300.
- Ghadi, I., Alwi, N. H., Bakar, K. A. & Talib, O. (2012). Construct validity examination of critical thinking dispositions for undergraduate students in University Putra Malaysia. *Higher Education Studies*, 2(2), 138-145.
- Ghosh, A. & Fedorowicz, J. (2008). The role of trust in supply chain governance. *Business Process Management Journal*, 14(4), 453-470.
- Gupta, M., Choudhary, A. K. & Siraj-Alam, S. (2014). Effect of trust, satisfaction and other relationship dimensions on supplier relationship management. *Review of Integrative Business and Economics Research*, 3(2), 11-30.
- Ha, B., Park, Y. & Cho, S. (2011). Suppliers' affective trust and trust in competency in buyers. *International Journal of Operations and Production Management*, 31(1), 56-77.
- Hair, J. F., Babin, B. J., Anderson, R. E. & Tatham, R. L. (2010). *Multivariate data analysis. A global perspective*. 7th ed. London: Prentice-Hall.

- Handfield, R. B., Krause, D. R., Scannell, T. V. & Monczka, R. M. (2006). Avoid the pitfalls in supplier development, supply chains and total product systems: *A Reader*, 1(1), 158.
- Harris, S., Kuivalainen, O. & Stoyanova, V. (2012). International business: New challenges, new forms, new perspectives. New York: Palgrave Macmillan.
- Hashim, K. F. & Tan, F. B. (2015). The mediating role of trust and commitment on members' continuous knowledge sharing intention: a commitment-trust theory perspective. *International Journal of Information Management*, 35(2), 145-151.
- Hidayat, R., Hudha, K. & Akhmad, S. (2015). Effects of supplier-manufacturer relationships on supply-chain performance of manufacturing industries in Indonesia. *Makara Journal of Technology*, 19(2), 51-58.
- Ideet, I. L. & Wanyoike, D. (2014). Role of buyer-supplier relationship on supply chain performance in the energy sector in Kenya: A survey of Kenya power and geothermal development companies. *International Journal of Science and Research*, 3(10), 2418-2424.
- Industrial Development Corporation. (2013). Driving industrial development and facilitating job creation. [Online]. Available at: <<https://www.idc.co.za/about-the-idc/overview/13-finance-by-sector/agro-industries>> [Accessed 27 July 2016].
- Jie, F., Parton, K. A. & Mustafid, A. (2016). Supply chain performance flexibility in the Australian beef industry. *International Journal of Logistics Research and Applications*, 19(4), 300-317.
- Joshi, A. & Mani, R. V. (2016). Customers' satisfaction towards price on organized retail chain in Allahabad city. *International Journal of Art Humanities and Management Sciences*, 2(8), 38-48.
- Khan, S. A., Liang, Y. & Shahzad, S. (2015). The effect of buyer-supplier partnership and information integration on supply chain performance: An experience from Chinese manufacturing industry. *International Journal of Supply Chain Management*, 4(2), 20-34.
- Kidder, L. H. (1981). *Research methods in social relations*. New York, Holt: Rinehart & Winston.
- Klein, R., Rai, A. & Straub, D. W. (2007). Competitive and cooperative positioning in supply chain logistics relationships. *Decision Sciences*, 38(4), 611-646.
- Kumar, S. C., Clemens, A. & Keller, W. E. (2014). Supplier management in a manufacturing environment: A strategically focused performance scorecard. *International Journal of Productivity and Performance Management*, 63(1), 127-138.
- Lacey, R. & Kennett-Hensel, P. A. (2010). Longitudinal effects of corporate social responsibility on customer relationships. *Journal of Business Ethics*, 97(4), 581-597.
- Lado, A. A., Dant, R. R. & Tekleab, A. G. (2008). Trust-opportunism paradox, rationalism, and performance in inter-firm relationships: evidence from the retail industry. *Strategic Management Journal*, 29, 401-423.
- Lee, S. Y. (2015). Responsible supply chain management in the Asian context: the effects on relationship commitment and supplier performance. *Asia Pacific Business Review*, 2, 1-19.
- Le Tuong, L. & Vo Hong, D. (2014). Factors affecting a long-term relationship between a retailer and a supplier: A case study from Vietnam. *International Journal of Economics, Commerce and Management*, 2(10), 1-13.
- Leonidou, L. C., Talias, M. A. & Leonidou, C. N. (2008). Exercised power as a driver of trust and commitment in cross-border industrial buyer-seller relationships. *Industrial Marketing Management*, 37(1), 92-103.
- Levy, M. & Weitz, B. A. (2009). *Retailing management*. 7th ed. New York: McGraw-Hill/Irwin.
- Li, D., Browne, G. J. & Wetherbe, J. C. (2006). Why do internet users stick with a specific web site? A Relationship Perspective. *International Journal of Electronic Commerce*, 10(4), 105-141.
- Li, W., Humphreys, P. K., Andy, C. L., Yeung, T. C. & Cheng, E. (2007). The Impact of Specific Supplier Development Efforts on Buyer Competitive Advantage: An Empirical Model. *International Journal of Production Economics*, 106(1), 230-247.
- Lin, F. (2012). Systems dynamics modelling for collaboration and information sharing on supply chain performance and value creation. *Journal of International Technology and Information Management*, 21(4), 67-80.
- Loice, K. (2015). Effect of buyer-supplier relationships on procurement performance: Evidence from Kenyan supermarket supply chain performance. *European Scientific Journal*, 1, 54-70.
- Mohamed, I. B., Omar, S. S. & Wei, L. C. (2015). Trustworthiness in buyer-supplier relation on supply chain collaboration among SMEs. International symposium on technology management and emerging technologies (ISTMET), August 25 - 27, 2015, Langkawi, Kedah, Malaysia.

- Morgan, R. M. & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20-38.
- Moshkdanian, F. & Molahosseini, A. (2013). Impact of supply chain integration on the performance of Bahman group. *Interdisciplinary Journal of Contemporary Research in Business*, 5(1), 184-192.
- Mpinganjira, M., Roberts Lombard, M. & Svensson, G. (2017). Validating the relationship between trust, commitment, economic and non-economic satisfaction in South African buyer-supplier relationships. *Journal of Business & Industrial Marketing*, 32(3), 421-431.
- Mugarura, J. T. (2010). Buyer-supplier collaboration, adaptation, trust, commitment and relationship continuity of selected private manufacturing firms in Kampala. [Online]. Available <https://www.mak.ac.ug/documents/Makfiles/theses/Mugarura_Jude.pdf> [Accessed 15 June 2017].
- Ntloedibe, M. (2011). This report contains assessments of commodity and trade issues made by USDA staff and not necessarily statements of official U.S. government policy. *Agriculture Information Network*, 2, 1-22.
- Nyaga, G. N., Whipple, J. M. & Lynch, D. F. (2010). Examining supply chain relationships: Do buyer and supplier perspectives on collaborative relationships differ? *Journal of Operations Management*, 28 (2), 101-114.
- Nyakundi, I. N. (2014). Influence of buyer-seller relationships on supply chain performance in the banking industry. A case of co-operative bank of Kenya. Master Thesis, the University of Nairobi.
- Palmatier, R. W., Jarvis, C. B., Bechhoff, J. R. & Kardes, F. R. (2009). The role of customer gratitude in relationship marketing. *Journal of Marketing*, 73(5), 1-18.
- Panayides, P. M. & Venus, Y. H. (2009). The impact of trust on innovativeness and supply chain performance. *International Journal of Production Economics*, 122, 35-46.
- Pereira, L. M. & Ruyselaar, S. (2012). Moving from traditional government to new adaptive governance: The changing face of food security responses in South Africa. *Food Security*, 4, 41-58.
- Pinto, J. K., Slevin, D. P. & English, M. (2009). Trust in project: An empirical assessment of owner/contractor relationships. *International Journal of Project Management*, 27, 638-648.
- Prajogo, D. & Olhager, J. (2012). Supply chain integration and performance: The effects of long-term relationships, information technology and sharing, and logistics integration. *International Journal Production Economics*, 135, 514-522.
- Qrunfleh, S. & Tarafdar, M. (2014). Supply chain information systems strategy: Impact on supply chain performance and firm performance. *International Journal of Production Economics*, 147, 340-350.
- Rehman, S. U., Shareef, A. & Ishaque, A. (2012). Role of trust and commitment in creating profitable relationship with customers. *Interdisciplinary Journal of Contemporary Research in Business*, 4(1), 606-615.
- Revilla, E. & Knoppen, D. (2015). Building knowledge integration in buyer-supplier relationships: The critical role of strategic supply management and trust. *International Journal of Operations & Production Management*, 35(10), 1408-1436.
- Ryu, I., So, S. & Koo, C. (2009). The role of partnership in supply chain performance. *Industrial Management & Data Systems*, 109(4), 496-514.
- Stefanie, L., Philip, Y., Kim, W. & Helmut, K. (2010). Relational governance mediates the effect of formal constructs on BPO performance. A paper presented at the 18th European conference on information systems (ECIS). June 8th to 9th, Pretoria, South Africa. [Online]. Available: <<http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1121&context=ecis2010>>. [Accessed 03 April 2016].
- Styles, C., Patterson, P. G. & Ahmed, F. (2008). A relational model of export performance. *Journal of International Business Studies*, 39(5), 880-900.
- Sung, S. & Kang, S. (2014). Effects of trust determinants on firm performance in the buyer-supplier Relationships: Empirical evidence from the warehousing firms in Busan, South Korea *International Journal*, 5, 667-685.
- Tan, H. & Lim, A. (2009). Trust in co-workers and trust in organizations. *The Journal of Psychology*, 143(1), 45-66.
- Tidd, J. & Bessant, J. (2009). *Managing innovation: Integrating technological, market and organisational change*. 4th ed. Chichester: John Wiley.

- Tungjitjarurn, W., Suthiwartnarueput, K. & Pornchaiwisesku, L, P. (2012). The impact of supplier development on supplier performance: The role of buyer supplier commitment, Thailand. *European Journal of Business and Management*, 4(16), 183-194.
- Vera, S. J. & Rozida, J. J. (2016). Correlation between obesity, diet, physical activity and sedentary behavior among school-aged children and young adolescents in Macedonia. *Journal of Nutritional Disorders & Therapy*, 1, 1-2.
- Wagner, S. M., Coley, L. S. & Lindemann, E. (2011). Effects of suppliers' reputation on the future of buyer supplier relationships: The mediating roles of outcome fairness and trust. *Journal of Supply Chain Management*, 47(2), 29-48.
- Wang, S., Chang, S. & Wang, R. (2009). Assessment of supplier performance based on product-development strategy by applying multi-granularity linguistic term sets. *Omega*, 37(1), 215-226.
- Williams, C. (2013). *Effective management*. 6th ed. Canada: Cengage Learning.
- Xiao, X., Zheng, X., Pan, W. & Xie, X. (2010). Trust, relationship commitment and cooperative performance: Supply chain management. *Chinese Management Studies*, 4(3), 231-243.
- Yeung, J. H. Y., Selen, W., Zhang, M. & Huo, B. (2009). The effects of trust and coercive power on supplier integration. *International Journal of Production Economics*, 120(1), 66-78.
- Zelbst, P. J., Green, K. W., Baker, G. & Sower, V. E. (2010). RFID utilization and information share impact supply chain performance. *The Journal of Business and Industrial Marketing*, 25(8), 582-589.
- Ziaullah, M., Feng, Y. & Akhter, S. N. (2015). The synergistic and complementary effects of supply chain justice and integration practices on supply chain performance: A conceptual framework and research propositions. *South African Journal of Economic and Management Sciences*, 18(4), 519-533.
- Ziggers, G. W. & Henseler, J. (2016). The reinforcing effect of a firm's customer orientation and supply-base orientation on performance. *Industrial Marketing Management*, 52, 18-26.