

# An Investigation Into the Personal Interaction Items Which Best Explain the Variation in Trust Within Automotive Supply Chains

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## ABSTRACT

The sustainability of automotive component suppliers is under threat due to various global challenges. Literature suggests that only the actual personal relationship can differentiate suppliers within supply chains. Literature further encourages more insight into the conceptualization of personal interaction and trust within supply chains. This paper reports on research that tested the importance of trust and its directional linear relationship with personal interaction. Personal interaction revealed a significant correlation with trust, indicating that actions of the Tier 2 supplier during the sourcing process can substantially influence trust with the Tier 1 buyer. It is accordingly crucial for automotive component suppliers to invest in strategies to increase their personal interaction with their buyers in order to promote trust and in turn to promote perceived customer value and customer retention.

## KEYWORDS

Automotive Industry, Personal Interaction, Supply Chain Relationships, Trust

## INTRODUCTION

Globally, automotive component suppliers are under pressure from their competition (Barry & Terry, 2008; Sun, Pan, Wu & Kuo, 2014, p. 80). The numerous challenges faced by automotive component suppliers include shorter life cycles and more intense global competition (Manzouri, Ab Rahman & Arshad, 2015, pp. 85-86). Customers also constantly demand more value (Saban & Luchs, 2011) and lower prices, and they are more knowledgeable (Ambe & Badenhorst-Weiss, 2011, p. 352). In addition, customers are drastically reducing their supplier numbers in order to foster closer relationships with fewer suppliers (Ambe 2014b, p. 1539; Tolmay 2012, p. 1). Consequently, Tier 2 South African automotive component suppliers (or smaller suppliers lower in the supply chain) find their competitive position threatened and it is therefore crucial that they seek ways to sustain business and to ensure profitability in the long run. As a result of the challenges that this situation presents, automotive supply chain role-players are encouraged to constantly seek solutions to optimize their supply chains and to ensure sustainability (Manzouri et al., 2015, p. 86; Sharma, Bhat, Kumar & Agarwal, 2017, p. 21).

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Tier 2 suppliers provide components to Tier 1 suppliers (or buyers) who, in return, provide modules (complete units such as dashboards) to original equipment manufacturers (OEMs), also known as vehicle manufacturers. This seems to be a global phenomenon, because it is not only the competitive position of South African automotive component suppliers competitive that seems to be under threat: automotive component suppliers globally seem to face similar competitive sustainability challenges (Rugaff & Sass, 2016, p. 1403). Seeking solutions for this challenge in the South African context might also shed light on possible solutions to be applied by peers globally.

The current commoditized supply chain environment leaves little room for differentiation through price, product quality or logistics (Yeh, 2016, p. 137). It therefore seems that component suppliers are left with only the actual relationship through which to add value and differentiate themselves (Yeh, 2016, p. 137). It is with regard to these supply chain relationships that Tolmay (2017, p. 7) invites more supply chain research within automotive supply chains. Personal interaction is also viewed as an important value enabler and Grönroos (2004, p. 102-103) emphasizes the importance of personal interaction and communication in the day-to-day conducting of business. Yeh (2014, p. 110) supports this and states that higher value results from long-term personal interaction between buyer and seller within automotive supply chains.

Over and above personal interaction, trust can result in differentiation which may ultimately result in customer retention (Çerri, 2012, p. 78-79). Numerous authors report on the importance of trust in supply chain relationships (Cannon, Doney, Mullen & Petersen, 2010; Çerri, 2012, p. 74; Vieira, Paiva, Finger & Teixeira, 2013, p. 265). Additionally, various authors have found that higher levels of trust can lead to the retention of customers (Fang, Qureshi, Sun, McCole, Ramsey & Lim, 2014, p. 408; Saban & Luchs, 2011, p.47) as well as to commitment and loyalty (Čater & Čater, 2010, p.1321). Trust, however, is a complex and multifaceted concept and more research in this area is needed (Akrouf & Akrouf, 2011, p.2; Yaqub & Hussain, 2013, p.436). Literature also suggests that more research on trust in the supply chain (Eggert, Ulaga & Schultz, 2006, p. 20) should be conducted in different countries (Vieira, Paiva, Finger & Teixeira, 2013, p. 265), such as in South Africa (Ambe, 2014c, p. 279).

This paper investigates collaborative relationships between first and second-tier suppliers (component manufacturers) in the South African automotive supply chains. As personal interaction (Yeh, 2014, p. 110) and trust (Ebrahim-Khanjari, Hopp & Irvani, 2012, p. 447) have the potential to promote the retention of business in supply chains, the paper aims to address the following research question: “What is the relationship between trust and personal interaction in the automotive supply chain relationship between Tier 1 and Tier 2 suppliers?” Therefore, the objective is to clarify whether personal interaction can be positively correlated with trust. Secondly, if the former statement proves to be true, the paper aims to identify which personal interaction items best explain the variation in trust within the South African automotive supply chains.

The remainder of the article focuses on a review of the relevant literature, the methodology used in the study and the presentation of findings and conclusions.

## **OVERVIEW OF THE AUTOMOTIVE INDUSTRY**

The automotive industry is one of the largest economic and socioeconomic contributors both globally (Bronkhorst, Steyn & Stiglingh, 2013, p.1282) and in South Africa (Ambe & Badenhorst-Weiss, 2013, p.3). The Triad economies of North America, Europe and Japan, although declining, still comprised 42,3 million units (or 48.5% of global vehicle production) in 2013 (AIEC, 2014, p. 8). Developing countries and regions provide lower-cost manufacturing and huge market growth potential for both the global automotive supply and demand sides and are, as a result, increasingly becoming important industry focus areas (AIEC, 2015, p. 7). Although the South African automotive industry produces less than 1% of the world’s automobiles, it is regarded as a strategic asset for the country (AIEC, 2015, p. 13) as it is the largest manufacturing sub-sector and contributes 7.2% towards the country’s GDP.

The automotive industry is thus of the utmost importance to the South African economy (Lamprecht, Rudansky-Kloppers & Strydom, 2011, p. 61; AIEC, 2015, p. 9).

The South African automotive industry is inclusive of a complete supply chain comprising several tiers of suppliers. First, second and third-tier automotive component suppliers provide manufactured components and accessories to OEMs (Lamprecht, 2009, p. 137). First-tier suppliers (also known as sub-assemblers or Tier 1 suppliers) supply components (or modules) directly to the OEMs, while second and third-tier suppliers (Tier 2 and Tier 3 suppliers) provide parts and subcomponents to the first-tier suppliers and also to OEMs (Lamprecht, 2009, p. 137), depending on their requirements. First-tier suppliers are generally large global companies that can capitalize on resources from their parent company, whilst Tier 2 suppliers and other suppliers lower down in the supply chain are generally local South African companies without the valuable global resources of Tier 1 suppliers (Tolmay, 2012, p. 245). Hence, the Tier 1 suppliers represent different cultural backgrounds than do local Tier 2 suppliers and this might account for differences between them as regards management cultures or styles (Ambe, 2014a: p. 47).

South Africa's vehicle manufacturing industry is concentrated in three of the country's nine provinces, namely Gauteng, the Eastern Cape and KwaZulu-Natal, and in close proximity to its suppliers. However, increasingly, some automotive development is also taking place in the Western Cape and North West provinces (AIEC, 2017, p. 22). Six OEMs are represented in South Africa, namely BMW, Ford, Nissan, Volkswagen, Toyota and Mercedes-Benz. As a result, Asian, American and European business cultures are represented within the South African automotive supply chains (Ambe, 2014a: p. 57). Culture, according to Hofstede, Jonker and Meijer (2006: 122), does not necessarily lie in the attributes of individual people, but is rather an attribute of a group that exhibits itself through the behaviours of its members.

The automotive industry faces numerous challenges, such as increased competition (Muneer, Iqbal & Long, 2014, p. 42; Ambe, 2014b, p. 1539), whilst innovation and quality (Ambe, 2014b, p. 1541), coupled with profitability and supplier retention, are expected to stay intact (Aflaki & Popescu, 2013, p. 415; Friend, Hamwi & Rutherford, 2011, p.383). Strategically, many supply chain role-players are also reducing their supplier base (Friend, Hamwi & Rutherford, 2011, p. 383) in order to maintain long-term relationships with fewer suppliers. As a result, automotive component suppliers are competing for their positions in order to retain business (Friend et al., 2011, p. 383) that will ultimately result in profitability and a competitive advantage.

South African automotive component suppliers also face additional challenges (Ambe, 2014b, p. 1539), including competition from cheap imported products originating from countries such as China and Korea where the costs of manufacturing are low (Kaggwa, 2008, p. 7; Lamprecht, Rudansky-Kloppers & Strydom, 2011, p. 56), the lack of Tier 2 automotive component supplier performance (Naude & Badenhorst-Weiss, 2011, p. 279), and limited component design capabilities (Kaggwa, 2008, p. 10).

As quality, pricing and logistics are prescriptive requirements in the automotive supply chain, it is difficult for automotive component suppliers to differentiate on the basis of price or product and service quality. With so little room for differentiation available to them, the only way in which these suppliers can differentiate is by securing long-term relationships with clients (Čater & Čater, 2010, p. 1321).

In the light of all these challenges, Ambe (2014c, p. 279) states that optimized supplier performance, specifically in the South African automotive supply chain, is a topic that needs to be further investigated. By evaluating supply chain performance, a greater understanding of how to improve supplier performance overall can be created (Ambe, 2014c, p. 279).

Literature suggests that the conceptualization of trust (Akrouf & Akrouf, 2011, p. 2), and more specifically the conceptualization of trust within the supply chain, can be expanded (Çerri, 2012, p. 75; Yaqub & Hussain 2013, p. 436; Eggert et al., 2006, p. 20). Furthermore, since trust in the supply chain is a very complex and multifaceted concept which is viewed differently in different theoretical

perspectives, Vieira et al. (2013, p. 274), as well as Yaqub and Hussain (2013, p. 436), suggest that more research relating to trust, especially in different countries, is required. Finally, it is also suggested that the influence that certain preceding factors have on trust in the supply chain remains to be investigated (Vieira et al., 2013, p. 274).

Literature further suggests that, in order to create value in the supply chain, trust and the importance thereof, has received some attention (Hemmert, Kim, Kim & Cho, 2016, p. 25). Personal interaction, however, has been less widely reported on (Rhodes, Lok, Loh & Cheng, 2016, p. 60). The limitations in the extant literature mentioned above present scope for the investigation of trust and personal interaction in the South African automotive supply chains. Therefore, this paper reflects on how perceived personal interaction influences trust between the Tier 1 (buyer) and Tier 2 suppliers in the South African automotive supply chains. These two constructs (trust and personal interaction) were tested by means of linear regression.

## TRUST IN THE SUPPLY CHAIN

The word ‘trust’ is often used without considering the actual meaning of the word. In the literature, trust is conceptualized as an assurance of developed reliability and integrity between the customer and the supplier (Gounaris, 2005, p. 127). Gounaris, (2005, p. 127) asserts that “[t]he more the customer trusts the supplier, the higher the perceived value of relationship”. Hence, trust increases the likelihood that the customer will remain in the relationship and that increased business will result. According to Dwyer and Oh (1987, p. 348) “Trust refers to a party’s expectations that another party desires coordination, will fulfil its obligations, and will pull its weight in the relationship”. Uslander (2002, p. 3) views trust and corruption as polar opposites. With soaring corruption levels globally, as well as in South Africa, a lack of trust was found to be a problem in the South African automotive supply chain (Naude & Badenhorst-Weiss, 2011, p. 93).

With these definitions in mind, trust highlights the importance of confidence on the part of the trusting party. This will result in the trustworthy party being perceived as reliable as well as with a high degree of integrity, which is associated with such qualities as commitment, competence, honesty, fairness, responsibility, helpfulness and benevolence (Morgan & Hunt, 1994, p. 23).

Literature suggests that trust is of major importance in supply chain relationships (Çerri, 2012, p. 75) and the majority of studies undertaken reveal that trust enhances many advantages in supply chain relationships, for example, increased innovation, supplier performance, sustainability, information and knowledge sharing, customer satisfaction and commitment (Table 1). In the light of these advantages of trust (Table 1), it is important that component suppliers should employ all possible measures to enhance trust within automotive supply chains in order to capitalize on the benefits.

**Table 1. Advantages of trust in the supply chain**

Advantages of Trust	Author(s)
Increased innovation	Ambe, 2014a; Saban & Luchs, 2011; Tolmay, 2012; Vieira et al., 2013
Supplier performance	Akrouf & Akrouf, 2011; Ambe, 2014a; Beneke, Adams, Demetriou & Solomons, 2011, p. 62; Ebrahim-Khanjari, Hopp & Iravani, 2012; Saban & Luchs, 2011;
Sustainability	Ebrahim-Khanjari, Hopp & Iravani, 2012, p. 447; Tolmay, 2012
Information and knowledge sharing	Çerri, 2012; Ebrahim-Khanjari et al., 2012; Saban & Luchs, 2011; Tolmay, 2012;
Customer satisfaction	Çerri, 2012; Saban & Luchs, 2011; Tolmay, 2012
Commitment	Li, Ford, Zhai & Xu, 2012; Saban & Luchs, 2011; Tolmay, 2012; Vieira et al., 2012

Literature promises that trusting supply chain relationships ultimately result in retention of business (Fang et al., 2014, p. 408; Saban & Luchs, 2011, p. 47). Trust also contains an element of risk and, in general, risky activities with untrustworthy individuals or organizations will be avoided (Uslaner, 2013, p. 630). Trust is therefore viewed as a key factor in long-term relationships between partners in the supply chain (Vieira et al., 2013, p. 266). Vieira et al. (2013, p. 266) argue that trust involves at least two parties, namely a trustor and a trustee, which will be referred to in this study as the Tier 1 customer (trustor) and Tier 2 suppliers (trustees) respectively.

However, Hofstede, Jonker and Meijer (2006:122) state that trust relates to culture and is not an attribute of individual people. They also state that there is differentiation between intrinsic and enforceable trust. Intrinsic trust, according to Hofstede et al. (2006: 124), refers to trust that accepts vulnerability, whilst enforceable trust implies trust in good performance that is backed up by the perception of the trustor resulting in reward or punishment for the trustee. It seems that enforceable trust is applicable in automotive supply chains as the trustor (customer) will suspend its contract with the supplier in the absence of performance and that such suspension will be seen as the punishment. On the contrary, the supplier (trustee) is rewarded through a long-term contract if it performs.

In recent times, trust appears to have been diminishing within the South African economy with the government also increasingly being viewed as corrupt (David, Soni & Asmal, 2016: p. 62). However, this might not be true in the supply chain environment and this paper therefore aims to determine whether this holds true within the South African automotive supply chain culture.

Apart from trust, literature also suggests that personal interaction has the potential to lead to differentiation within supply chains (Yeh, 2014, p. 110).

## **PERSONAL INTERACTION WITHIN THE SUPPLY CHAIN**

Within supplier-buyer relationships, personal interaction is viewed as an important value enabler (Grönroos, 2004, pp. 102-103; Ulaga & Eggert, 2006, p. 125) as well as a differentiator (Yeh, 2016, p. 137).

The key to supply chain management is to recognize the importance and prominence of long-term supplier relationships (Ambe, 2014a, p.47; Li, Ford, Zhai & Xu, 2012, p. 5447). Therefore, the manufacturing supply chains (and by implication the automotive supply chains) are characterized by the inclination to forge strong long-term relationships with fewer suppliers (Cadden, Marshall & Cao, 2013, p. 87). In the light of the current trend of working with fewer suppliers, supply chain buyers nowadays seem to utilize the value of determining whether to maintain, develop or divest in supplier relations (Yeh, 2014, p. 109).

The aim of personal interaction is to create value (Eggert et al., 2006, p. 26; Ulaga & Eggert, 2006, pp. 134-135). Apart from being a value creator, personal interaction enhances good working relationships which, in turn, result in sustainability and close interaction between buyer and seller within the supply chain (Rhodes et al., 2016, p. 67). As a result, personal interaction can further be viewed as a relational benefit and adds value during the sourcing process (Eggert et al., 2006, p. 21).

Ulaga and Eggert (2006, p. 123) state that personal interaction relates to the fact that the supplier should be in regular and personal contact with personnel of the customer (buyer) and maintain good working relationships with management on all levels. Therefore, personal interaction is associated with good personal relationships, with the provision of valuable advice and with problem-solving, and is viewed as important in different national contexts (Wuyts, Verhoef & Prins, 2009, p. 42). Eggert et al. (2006, p. 21) visualize personal interaction as the display of efficient communication and problem-solving abilities, and working towards mutual goals with the customer.

Eggert et al. (2006, p. 26) as well as Ulaga and Eggert (2006, p. 134-135) suggest that suppliers who wish to sustain business with their buyers (or customers) should pay attention

to personal interaction as a strategic approach. Chen and Lin (2011, pp. 32-33) affirm that relational benefits originate from personal interaction, and Tolmay (2017, p. 3) supports this view for the South African automotive supply chains and encourages personal interaction as a value enabler.

Rhodes et al. (2016, p. 65) confirm that customers and suppliers do not trade solely on the exchange of goods and services, and they state that there are other social elements, such as personal interaction, that make one service provider more attractive than the other. Unfortunately, the practice of personal interaction with suppliers has largely been ignored and the associated benefits have been lost (Rhodes et al., 2016, p. 60). Furthermore, although trust and personal interaction have been investigated in past studies, there is still a paucity of literature in which these constructs are clearly conceptualized within supply chains (Rhodes et al., 2016, p. 60). With these limitations in mind, the aim of this article is to enhance the conceptualization of personal interaction and trust within the South African automotive supply chains. The correlation between personal interaction and trust within the South African automotive supply chains was tested by means of linear regression.

## **RESEARCH METHODOLOGY**

As part of a larger study, a quantitative research methodology was followed and the questionnaire for the research was based on the seminal Key Mediating Variable (KMV) work of Morgan and Hunt (1994) relating to trust (Table 3). The questions relating to trust were obtained from the research conducted by Morgan and Hunt (1994, p. 35). One of the questions from Morgan and Hunt (1994: 35) was adapted from a negative statement to a positive statement as follows: “In our relationship with supplier A, our firm feels that Supplier A can be trusted”.

The questions relating to personal interaction were obtained from the prominent study of Eggert et al. (2006) (Table 3). However, the number of personal interaction items was reduced from seven to four with the aim of compiling a shorter questionnaire and preventing duplication (Table 3). In total, seven closed-ended questions were included, each utilizing a bipolar seven-point semantic-differential scale where respondents had to choose their perception of a statement relating to their best supplier (Supplier A). The respective respondents had to indicate their perception from “strongly disagree” to “strongly agree”.

In preparation for the research, a questionnaire validation process was conducted with industry experts in the South African automotive supply chain. The purpose of this process was to determine whether the questions were applicable to the South African automotive supply chain context and to identify additional constructs unique to the context. Following the finalization of the questionnaire, an email invitation containing a link to the web-based survey hosted by SurveyMonkey was sent to respondents. Those who did not respond were contacted telephonically to encourage them to participate in the research.

The survey targeted managers from Tier 1 suppliers in the South African automotive supply chain, all of them members of the National Association of Allied and Automotive Component Manufacturers (NAACAM). Emails were forwarded to all managers listed in the NAACAM membership list, representing a total of 140 managers. This membership list of managers therefore constituted the sampling frame. The survey requested managers to indicate their designation as either: CEO/Senior manager, Technical manager or Administrative/Procurement manager.

## **RESEARCH FINDINGS**

The respondents’ profiles are presented, followed by the analysis of the relationships between trust and personal interaction.

## Profile of Respondents

The responses suggested that decision makers in Tier 1 automotive component manufacturers in South Africa were thoroughly represented (see Table 2 for a summary of respondent profiles).

Most respondents (about 71%) had some form of international shareholding. Most respondents were from fairly large companies, with about 78% representing companies with a turnover of more than R50 million per annum, and almost 89% having more than 50 employees. Respondents were concentrated in the major car manufacturing regions of Gauteng (47%), the Eastern Cape (32%) and the Western Cape (11%).

Respondents were mostly senior decision makers, with more than half at CEO or senior manager level, about 38% were procurement decision-makers and 10% technical managers.

In general, a good representation was obtained and a total of 114 (out of a possible 140) responses were received. This represents a very high response rate of 81.4%.

## Analysis of the Relationship Between Personal Interaction and Trust

The research aimed to test the directional correlation between personal interaction and trust in the South African automotive supply chains and a linear regression model was therefore employed.

Table 2. Profile of respondents

Profile		n	%
Shareholding	Local shareholding	31	29.2%
	International shareholding	47	44.3%
	Mixture – local and international shareholding	28	26.4%
	Total	106	
Company turnover	R0 – R5 million	5	5.0%
	>R5 million – R50 million	17	16.8%
	>R50 million – R200 million	25	24.7%
	>R200 million	54	53.5%
	Total	101	
Employees	1 – 20 employees	2	1.9%
	21 – 50 employees	10	9.3%
	51 – 200 employees	40	37.4%
	>200 employees	55	51.4%
	Total	107	
Province	Gauteng	49	46.7%
	KwaZulu-Natal	10	9.5%
	Eastern Cape	34	32.4%
	Western Cape	12	11.4%
	Total	105	
Position	CEO/Senior manager	51	52.0%
	Technical manager	10	10.2%
	Administrative Procurement manager	37	37.8%
	Total	98	

Preceding the linear regression, an exploratory factor analysis (EFA) was included in the data analysis to explore the interrelationships among a set of variables/items and also to confirm the underlying factor structure (Pallant, 2011, p. 181).

Firstly, principal component analyses were conducted, using principal component extraction and Varimax rotation, to determine the unidimensionality of each of the constructs ‘trust’ and ‘personal interaction’ as represented in the questionnaire. The rotated solution revealed the presence of a simple structure (Thurstone, 1947), with each of the two constructs revealing strong loadings (Table 3). The Varimax rotation method was utilized since it results in a clearer separation of factors (Pallant, 2011, p. 185). For the extraction method, the set of items was subjected to Principle Axis Factoring (PAF) using SPSS18.0 software to extract the communalities.

A preliminary analysis was performed to ensure that there were no violations of the assumptions of normality, linearity and homoscedasticity. The inspection of the correlation matrix revealed the presence of many coefficients of 0.5 and higher, motivating the sustainability for factor analysis. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was 0.906 and 0.898 for trust and personal interaction, respectively. The Bartlett’s Test of Sphericity was significant ( $p < 0.001$ ) for both constructs, indicating that factor analysis was appropriate in each case.

The analyses confirmed unidimensionality for both trust and personal interaction (sourcing process). The analyses identified only one factor in each case, based on the eigenvalue criterion (eigenvalue greater than 1). The factor loadings of trust and personal interaction are shown in Table 3, and the single factors, respectively, explain 37.31% of variance in the trust scale and 17.90% of variance in the personal interaction scale.

**Table 3. Construct scales for trust and personal interaction**

Constructs	Questions	Factor Loadings	Cronbach’s Alpha for Construct	Mean of Individual Items	Std. Dev. for Individual Items	Factor Mean	Std. Dev. for Factor
<b>Personal Interaction</b>	Supplier A has the ability to provide us with appropriate information.	0.745	0.904	5.842	1.001	5.697	0.968
	Supplier A has the ability to give us a feeling of being treated as an important client.	0.740		5.728	1.131		
	Supplier A offers good working relationships.	0.703		5.779	1.041		
	Supplier A has the ability to provide general know-how.	0.588		5.434	1.217		
<b>Trust</b>	In our relationship, my firm feels that Supplier A can be counted on to do what is right.	0.906	0.917	5.786		5.866	0.929
	In our relationship with Supplier A, our firm feels that Supplier A can be trusted.	0.938		5.939			
	In our relationship, Supplier A demonstrates a high level of integrity.	0.935		5.800			

In testing for internal consistency (reliability), Cronbach’s Alpha coefficient for trust and personal interaction was found to be 0.917 and 0.904, respectively. Both these values are deemed highly satisfactory as the acknowledged threshold of 0.7 was exceeded (Table 3) (Pallant, 2011, p. 6). This suggests that there is agreement amongst respondents regarding personal interaction and trust within the South African automotive supply chains.

Subsequently, the factor scores were calculated as the mean score of the variables included in each factor. The descriptive statistics for the factor-based scores of trust and personal interaction reveal that the standard deviations are similar. The mean scores of these constructs were higher than 5 for both trust (Mean = 5.86) (SD = 0.93), and personal interaction (Mean = 5.70) (SD = 0.97), indicating relatively high levels of trust and personal interaction.

The skewness values (trust -.86 and personal interaction -1.15) and kurtosis values (trust 1.13 and personal interaction 3.71) for the two constructs do not show deviations from normality (Table 4).

Thereafter, a linear regression was utilized to evaluate the directional relationship between the independent variable (personal interaction) with the dependent variable (trust)(Std. beta = 0.972) ( $p < 0.01$ ). The regression results are presented in Table 5.

It was found that personal interaction revealed a significant correlation with trust, indicating that actions from the Tier 2 supplier during the sourcing process can substantially influence trust with the Tier 1 buyers. Therefore, the regression model reveals that personal interaction is a strong, positive, statistically significant predictor of trust at the 1% level of statistical significance. This might suggest that trust and personal interaction are seen as highly relevant in the South African automotive supply chains. Although the South African economy and business culture are generally seen as being untrustworthy (David et al., 2016: p. 62), this finding (Table 5) might suggest that the South African automotive supply chains highly value trust brought about through personal interaction, irrespective of cultural background.

**Table 4. Statistics – trust, and personal interaction (n = 114)**

Construct	Trust	Personal Interaction
Mean	5.86	5.70
Std. Deviation	.93	.97
Skewness	-.86	-1.15
Kurtosis	1.13	3.71
Minimum	2.33	1.00
Maximum	7.00	7.00

**Table 5. Regression model - Personal interaction and trust**

Regression model (dependent variable = trust, independent variable = personal interaction)	
Standardized Beta (personal interaction) Trust (p value)	0.792(.000**)
F (p value)	188.997(.000**)
R Square	0.628

Note: \* $p < 0.05$ , \*\* $p < 0.01$

Following the first linear regression analysis, the secondary aim of the research was to determine which of the personal interaction items had the highest correlation with trust. Coefficients for item i (Sig. = .828) and iv (Sig. = .278) were statistically nonsignificant (refer to Table 6). In contrast, item ii and iii were significant (Sig. = .000) (refer to Table 6). Item iii, namely; “Supplier A offers good working relationships” reported the highest standardized beta (0.439; Sig. = .000), followed by item ii; “Supplier A has the ability to give us a feeling of being treated as an important client” (Std. Beta = .341; Sig. = .000) (Table 6).

In line with this finding, it appears that the Tier 1 suppliers (customers) place a lot of value on the actual working relationships they have with their suppliers and that they appreciate being treated well. With this emphasis on the actual working relationships within the South African automotive supply chain, a conclusion and recommendations will be formulated in the next section.

## CONCLUSION AND RECOMMENDATIONS

This paper reports on research that investigated the collaborative relationships between first and second-tier suppliers (component manufacturers) in the South African automotive supply chains. The Tier 2 South African automotive component suppliers are under pressure in the global arena due to various factors, such as the reduction of suppliers, cost reduction and constant added-value requirements, all of which affects their sustainability. With little room for differentiation through quality and price, Tier 2 suppliers are left only with the actual supplier relationship to add value in the supply chain.

Literature suggests that personal interaction as part of the sourcing process (Eggert, et al., 2006, p. 24), along with trust, can greatly enhance supplier relationships and result in customer retention. However, in existing literature, it is not always clear what the respective roles of personal interaction and trust are with regard to the supply chain. Therefore, more research relating to personal interaction and trust within supply chains is encouraged by the literature. The research question reported on in this paper was: “What is the relationship between trust and personal interaction in the automotive supply chain relationship between Tier 1 and Tier 2 suppliers?” Secondly, the paper aimed to determine which personal interaction items best explains the variation in trust.

By means of a linear regression analysis it was revealed that personal interaction is a strong, positive, statistically significant predictor of trust. This indicates that personal interaction on the part of the Tier 2 supplier during the sourcing process can substantially influence trust with Tier 1 customers. Previous studies have alluded to the fact that trust might be deteriorating in South African automotive supply chains (Naude & Badenhorst-Weiss, 2011, p. 93). However, this study suggests that trust is highly valued within the South African automotive supply chains, specifically between first and second tier suppliers, notwithstanding their cultural backgrounds. Although Tier 2 suppliers are mainly of local origin, and Tier 1 suppliers represent diverse international cultures, it seems that the relationship between these two tiers of suppliers is built on trust.

Table 6. Personal interaction items

Item No.	Item Personal Interaction	Standardized Beta Coefficient	Sig.
i	Supplier A has the ability to provide us with appropriate information.	0.022	0.828
ii	Supplier A has the ability to give us a feeling of being treated as an important client.	0.341	0.000
iii	Supplier A offers good working relationships.	0.439	0.000
iv	Supplier A has the ability to provide general know-how.	0.096	0.278

Following the linear regression analysis, the secondary aim of the research was to determine which personal interaction items best explain the variation in trust. Coefficients for two items were statistically not significant, namely; “Supplier A has the ability to provide us with appropriate information”, and Supplier A has the ability to provide general know-how”. In contrast, two items were significant, namely “Supplier A offers good working relationships”, which reported the highest standardized beta, followed by “Supplier A has the ability to give us a feeling of being treated as an important client”. The latter item revealed the strongest variation in trust.

It seems that Tier 1 suppliers would like to be treated as being important and enjoy good working relationships with their suppliers. It is therefore suggested that Tier 2 suppliers that wish to sustain business in the supply chain should strategically pay attention to personal interaction as it directly results in trust. Personal attention to customers (Tier 1 suppliers) appears to be strategically important for Tier 2 suppliers and, therefore, this aspect should be given the necessary attention. In order to add value through personal interaction, Tier 2 suppliers are advised to be in regular personal contact with buyers and to maintain good working relationships with management on all levels (Ulaga and Eggert, 2006, p. 123).

Contrary to the belief that stakeholders in the South African economy might be untrustworthy (David et al., 2016: p. 62), this research suggests that trust is highly valued within the South African automotive supply chains between first and second tier suppliers. Although various assumptions are made with regard to corruption in the South African context, it seems that the South African automotive supply chains might be an exception to this rule.

Trust brought about through personal interaction is highly regarded in long-term supplier relations. Therefore, the implementation of a strategy to enhance trust (which promises business retention) through personal interaction, specifically driven by good working relationships within the South African automotive supply chain, is highly recommended. Global peers might take note of this as the same phenomenon might also affect their business sustainability.

This paper makes a valuable contribution towards the conceptualization of personal interaction and trust within the South African (and arguably global) automotive supply chains. However, it also offers several opportunities for further research.

The respondents in the current research indicated the perspectives of three role-players, namely the company CEO, the technical manager and the procurement manager. Since the results of the current research focused on the collective response, it would be insightful to analyse different viewpoints on trust and personal interaction from each of these different functional categories and to determine how their viewpoints differ (if at all) from one another.

Owing to the fact that the study addressed only the viewpoint of Tier 1 buyers (customers) as to what they require from their best Tier 2 suppliers, it would be interesting to investigate the converse, namely what Tier 2 suppliers require from their Tier 1 customers. These matching requirements could result in better supply chain management and it would also be interesting to filter this study down the supply chain and determine the relationship between suppliers lower down in the chain.

Culture plays a crucial role in the automotive supply chain. More research is required on the different cultural requirements with regard to trust and personal interaction. Supply chain role players have a range of different backgrounds and approaches and will thus differ on how to relate to the different cultures in play. This research might be applied to supply chains in other countries to test the findings. Since the current research focused only on trust and personal interaction between Tier 1 and Tier 2 suppliers in the South African automotive supply chain, a similar study could be undertaken between the OEM and the independent aftermarket role players, such as automotive dealers. These two role players have different shareholdings, objectives and values, and their interaction is often characterized by conflict.

To conclude, in the light of extreme global pressure, the survival of South African component suppliers in the automotive supply chain rests upon personal interaction which might directly influence trust with the aim of retaining business.

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