The role of personality and organisational cultural differences in the success of salesperson-buyer dyads

By

Westley Hammerich

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Supervisor: Professor Gregory Lee
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Abstract

Arguably the most important function a business focuses on is revenue generation, which is ultimately achieved through immediate sales and the inculcation of future customer spend. For many businesses, notably in the business-to-business realm, salespeople are still required to form relationships with key customer buyers and to achieve or facilitate sales through this "dyadic" interpersonal relationship. Understanding what makes relationships and interactions between customer buyers and salespeople successful – from a sales perspective – remains an important concern for organisations and marketing theorists.

In such sales relationships, the "success" of the sale and the longer term sales relationship can depend on aspects of the interpersonal relationships such as the ability of the parties to communicate well, come to agreement, and potentially even bond socially. The ability of parties to form productive and conducive interpersonal relationships in turn depends on factors such as personality and culture. This thesis argues that there is no particular "best" personality or culture for the formation of successful sales relationships, but that *match* between the personality traits of salespeople and customers as well as between their respective organisation's cultures may facilitate success in sales.

As indicated above, the thesis studies two main dependent variables, namely sales success and word-of-mouth. These variables are derived from the theory of customer equity management (Rust, Lemon, & Narayandas, 2005). The thesis argues that prior to generating income through either a sale or through word-of-mouth the organisation will need to have a relationship with the customer. Relationship marketing (Morgan & Hunt, 1994) provides a framework for understanding what constitutes a relationship. The current study aligns itself with prior literature arguing that relationship quality comprises three components specifically; trust, satisfaction and commitment.

Personality research has remained at the heart of industrial research and managerial practise. Voluminous literature has used the Big Five personality traits for understanding customer's interactions. The five personality traits include Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience (Soto & John, 2012). The current study argues that it is not the personality traits themselves which are important, but rather the similarities or differences between the customer and the salesperson.

Organisation culture has been shown to affect several different arenas within the management field, but has not been much examined within the context of dyadic relationships. The specific relationship that the study addresses is the customer-salesperson relationship. In this thesis I argue that both the customer and salesperson to some extent embody and reflect their respective organisational cultures, and in addition, sales systems can reflect organizational cultures, for instance where bureaucratic organizational culture creates sales systems with high levels of formality. In turn, match or mismatch in organizational cultures may affect sales or relationship outcomes in various ways. The well-known organisational culture index (Wallach, 1983) will be used to capture the cultures from both the salesperson and customer. The three elements of organisational culture measured by the index include bureaucratic cultural aspects, innovative cultural aspects, and supportive cultural aspects.

To test these relationships, the thesis presents an empirical study based on a cross-sectional, quantitative, survey of the SME market in South Africa. One hundred salesperson-customer dyads participated in the study, and data from each member of the dyad was surveyed separately. Statistical techniques such as partial least squares structural equation modelling and polynomial regression were used in the analysis of the data. A response surface methodology allowed for graphical representation of the polynomial regression results. These results then acted as inputs for a Bayesian Networks analysis (Charniak, 1991), which are used to improve the understanding of causality.

Results of the empirical survey indicate that trust, satisfaction and commitment affect the level of word-of-mouth while only trust and commitment have an effect on sales. The analysis indicates that matches or mismatches in the personality traits of extraversion, agreeableness, conscientiousness, neuroticism and openness do affect dependent variables of relationship quality, sales success and word-of-mouth, and do so in differing ways.

This thesis provides several unique contributions to sales theory and literature. First, although the salesperson-customer dyad has been studied before, the differences in personality traits have not been included. This is particularly true within the South African context. Secondly, organisational culture literature has been reviewed and studied but has neglected the role that organisational culture plays in the sales environment, specifically when interacting with a customer. Third, several theories are used to explain why the constructs came together; however certain aspects of these theories are questioned. Lastly, several practical applications are provided that allow organisations to improve the hiring process and implement training objectives for their sales force.

Declaration

I hereby declare that this thesis is my own unaided work except where due recognition has been given. It is submitted for the degree of Doctor of Philosophy in the University of the Witwatersrand Business School, Johannesburg. It has not been submitted before for any other degree in any other university.

Westley Hammerich

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Dedications and Thank you

There have been many people who have walked alongside me during the last few years. I would like to take the opportunity to name just a few.

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Chapter 1. Introduction

The sale of products and services is the revenue-providing lifeblood of any commercial organisation (Jain & Singh, 2002; Rust et al., 2005). Of particular importance in the sales process are interactions between salespeople and customers especially in the business-to-business market (Payne & Frow, 2005). While digital marketing channels have, to some extent, replaced inter-personal sales relationships found within some industries, this thesis argues that interpersonal relationships still retain their importance in many sales cases, and are still critical when conducting business-to-business sales. In today's competitive environment, the salespeople involved with the sale are required to operate in an ever more complex environment while maintaining ever-increasing customer value. Customer equity management shows us the importance of correctly managing a customer base to improve the short- and long-term profitability through generating revenue (Blattberg, Getz, & Thomas, 2001).

The interaction between a customer and a salesperson is complex (Rust et al., 2005), involving a wide range of psychological and economic theoretical processes. Outcomes of the interaction are variable, ranging from loss of a sale and dissatisfied customers to the gain of a sale with a satisfied customer. In both situations, customer equity management informs us that there are large implications for the value of the customer over their lifetime. The implications are particularly prevalent in the business-to-business (B2B) context. How could a salesperson increase their chances of making a sale, and of being referred by that customer to another?

This thesis argues that the match or mismatch between salesperson personality and organisational culture to that of the customer's buyer representative may have a significant effect on key outcomes in the sales

process, notably for the chances for a successful sale, good referrals, and perceived quality of the relationship.

The theoretical basis for this thesis is largely based in consumer behaviour, stemming from industrial psychology theories, behavioural economics and organisational theory. Specifically, this thesis will argue that a match or mismatch of personality and/or perceived organisational culture between salespeople and buyers may affect key interactions between the two, through theoretical processes such as social exchange theory (Homans, 1961), emotional contagion (Hatfield, Cacioppo, & Rapson, 1994), social bonding theory (Hirschi, 1969) and social network theories (e.g. homophily in Vissa, 2011 p. 7).

Consumer behaviour and marketing theories such as customer equity theory (Rust et al., 2005) predict that improvements or deterioration in such social and other exchanges may affect key sales outcomes, such as sales or intention to make a purchase, word-of-mouth, and relationship quality.

1.1. Research problem and research questions

The overall research question guiding the study is whether relative match or mismatch between the personalities and organisational cultures of customer buyers and salespeople in business-to-business contexts may affect relationship quality, sales outcome and word-of-mouth. The study will examine the following questions:

Research question 1a: Is a personality match (or mismatch) associated with sale outcomes?

Research question 1b: If personality match/mismatch affects sale outcomes, how does this occur? Does congruence or incongruence between salesperson and customer improve or harm the sale outcome; at which polar ends of congruence or incongruence do these effects occur; and are these relationships linear or nonlinear?

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Research question 2a: Is an organisational culture match (or mismatch) associated with

sale outcomes?

Research question 2b: If an organisational culture match/mismatch affects sale

outcomes, how does this occur? Does congruence or incongruence between

salesperson and customer improve or harm the sale outcome; at which polar ends of

congruence or incongruence do these effects occur; and are these relationships

linear or nonlinear?

Figure 1 provides a graphical representation for the model being used in the study.
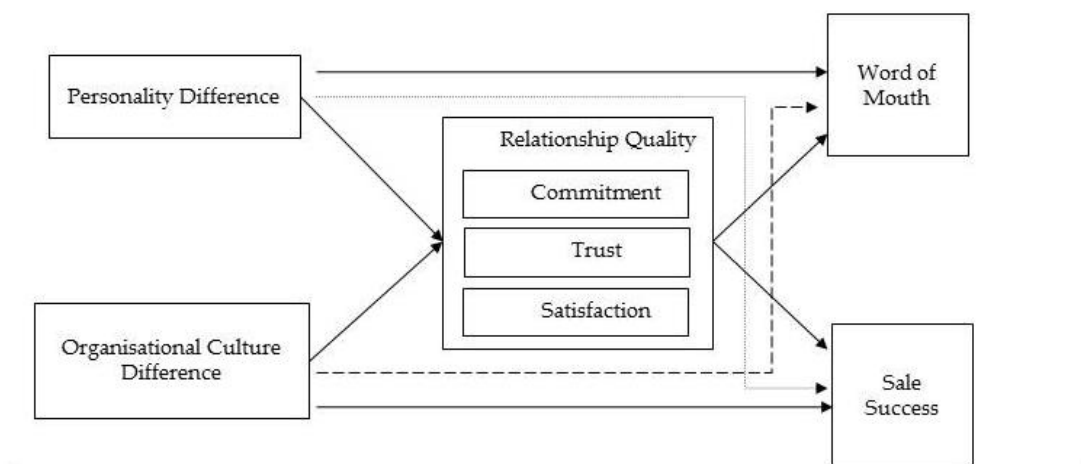
Figure 1: Graphical representation of the research

1.2. Uniqueness and contributions

This study will make several theoretical, methodological and analytical contributions and will suggest some practical applications for the results of the study.

There are four major theoretical contributions. First, the current study will look at both the customer and the salesperson in a dyadic relationship. Although this dyad has been reviewed, few have considered looking at this dyad in light of the value of the customer.

Second, the study of organisational culture will be analysed in terms of the customer-salesperson dyad. Few prior studies have considered the dyad while also accounting for the underlying independent cultures for both the customer representative and the salespeople.

Third, personality will be analysed in terms of the customer-salesperson dyad. Few prior studies have considered the dyad while accounting for the personality of both the customer and the salespeople.

Lastly, the current study will be the first to consider both the effects of personality and organisational culture on sales outcomes and word-of-mouth in one study.

Coming from a more methodological and analytical perspective the study makes three major contributions. Firstly, the sample for the study will be drawn from the South African population. Few South African based studies could be found that employed one or more of the constructs, and none which integrate these constructs.

Secondly, this thesis looks at similarities and differences (match/mismatch) between salesperson and customer, therefore employing difference score data. It employs the complex modelling techniques proposed by Edwards (2002) for this analysis, notably polynomial regression. These techniques are gaining acceptance in mainstream academia, but are still in their infancy. Since polynomial regression will be used, it may form a base for future studies.

Lastly, Bayesian Networks will be employed to allow for additional reasoning. Using Bayesian Networks for reasoning and analysis is not a new technique, but the integration of polynomial regressions with Bayesian Networks is uncommon.

1.3. Dyadic nature of the study

Social science research is increasing in sophistication, with new interactions becoming the focus of a study. Maguire (1999) explains that dyadic studies require that the unit of analysis be a dyad (pair) and must be considered from the outset of the research. In the current research, the dyad under investigation is the customer-salesperson dyad as it relates to personality and organisational culture affecting the outcome variables of sale success and word-of-mouth.

Assume for a minute that either the customer or the salesperson was studied without the other. The results would indicate a relationship, but the results may be bias towards the chosen side of the analysis. Data from both the customer and the salesperson will therefore be collected representing both sides of the relationship; Bond and Kenny (2002), Kenny, Kashy, and Cook (2006), Kenny (1996) and Maguire (1999) provide examples of how dyadic research can be done.

Using a dyadic approach is not new. Studies dating back as far as the 1940s (Becker & Useem, 1942) have employed a dyadic approach, but recently dyadic approaches have gained renewed interest. Some of the more commonly investigated dyads include the customer-salesperson relationship (Azad & Rezaie, 2015; Ng, David, & Dagger, 2013), parent-child (La Valley & Guerrero, 2012; Millings, Walsh, Hepper, & O'Brien, 2013) and leader-follower (Sue-Chan, Au, & Hackett, 2012). Although the specific dyad being studied is important, it is usually studied in certain areas (for example Ng et al., 2013, used the customer-salesperson dyad in understanding the "impact of relationship antecedents on relationship strength and its subsequent influence on attitudinal loyalty and share of wallet").

Later in the thesis, personality is explained in terms of both the customer and the salesperson, but it is deliberately done independently of the chosen dyadic side. Personality, in light of the customer-salesperson dyad, has

previously been investigated within several different arenas. Homburg, Bornemann, and Kretzer (2014) empirically examined the effects of misinterpretation of communication by the salesperson with their customer. They used a backdrop of personality research and argued that several personality antecedents caused the misinterpretation of communication. In the customer-salesperson dyad, both sides of the dyad are people and, as such, each has a personality which needs to be accounted for independently. The current study will not only use a backdrop of personality but, importantly, will also give a detailed account for the dyadic nature of personality traits.

Organisational culture is also of importance and will be discussed with awareness that people in any organisation would embody their respective organisational cultures in different ways. This thesis intends to examine how the customer and the salesperson independently embody their respective organisational cultures. Few studies have accounted for dyadic relationships in the area of organisational culture (Bititci, Mendibil, Nudurupati, Garengo, & Turner, 2006). Some prior research has used a dyadic analysis whilst accounting for organisational culture (for example Plewa (2005) analyses university research groups and private sector business units), but no studies could be found looking specifically at the customer-salesperson dyad in the arena of organisational culture.

1.4. Chapter outline for the thesis

The thesis will be broken into several chapters in order to highlight each of the arguments.

Chapter 2 examines the outcome variables of sale success, word-of-mouth and relationship quality. This chapter broadly presents and discusses issues pertaining to use of the outcome variables as they apply to both customers and salespeople.

Chapter 3 examines personality and organisational culture. Personality is discussed in terms of the well-known Big Five personality traits. The chapter also provides some background information into the arena of personality research. A discussion is provided and concerns itself with the embodiment of organisational culture and what organisational culture actually is. Additional supporting arguments concerning the use of organisational culture are presented.

Chapter 4 ties together the relationships between the outcome variables (including word-of-mouth, sales and relationship quality) and personality and organisational culture with a thorough understanding of the theory. Theories used in the study come from a strong social psychological perspective and include social exchange theory, emotional contagion theory, social bonding theory, affect-based spillover theories and lastly homophily theory.

Chapter 5 can be summarised as discussing the methods used for data collection in the thesis. This chapter discusses the research design, population, sample selection, reliability, validity and the actual measures used in collecting the data. The chapter also addresses some theoretical issues concerning the statistical techniques used.

Chapter 6 contains the analysis of the data. It explores the techniques used to collect the data. A structural equation modelling (SEM) analysis is completed which then leads into the analysis of the polynomial regression. The analysis is conducted using the framework as outlined by Edwards and Parry (1993).

Chapter 7 concerns itself with Bayesian networks. This chapter fully explains what a Bayesian network is and how one can be generated. A discussion of Bayes' theorem is followed by an outline of how to use Bayesian networks for inductive reasoning. Each of the personality traits and organisational culture aspects have a Bayesian network generated, presented and briefly discussed.

Chapter 8 discusses the results and presents several recommendations. The chapter discusses the roles that relationship quality, personality and organisational culture play in affecting the outcome variables of sales success and word-of-mouth. This chapter also reflects on the theory which was used to tie the constructs together and suggests a number of improvements. Practical implications for the study are discussed, with the chapter concluding with some limitations and directions for future research.

Chapter 2. Customer-Focused Outcome variables

2.1. Introduction

Profitability of an organisation is based largely on the income received for goods and services rendered. Behind most income generated, is an initial sale made by the organisation to a customer. As stated in the introduction to this thesis, although digital sales channels have become more common, in the B2B arena specifically, personal sales by salespeople to customer buyers have remained an important element of revenue generation.

Not only is the initial sale of crucial importance, but also the ongoing sales. Customer equity management highlights the importance of customers, and a well–known measure is the customer lifetime value (CLV) (Hogan, Lemon, & Rust, 2002; Rust et al., 2005). CLV is calculated by using a function of the retention rate, revenue and costs (H.H. Bauer, Hammerschmidt, & Braehler, 2003). H. H. Bauer and Hammerschmidt (2005) summarise CLV as being composed of three larger areas. Firstly, revenue comprises autonomous revenue, up-buying, cross-buying and word-of-mouth. Secondly, retention comprises lost-for-good models and share-of-the-customer. Lastly, costs comprise acquisition, marketing, sales and termination costs.

In the current research, revenue will be further explored. Autonomous revenue, up-buying and cross-buying are direct sales of products to customers while word-of-mouth is the reference value (H. H. Bauer & Hammerschmidt, 2005, p. 344). This research will use both the sale and the reference value, but will be operationalised as sale success and word-of-mouth.

The rest of the chapter will continue in the following manner. First, a discussion on sales success and purchase intention will be presented. The study

aims not to argue for using purchase intent over actual sales measurement, but rather conclude both should be used if possible. Secondly, word-of-mouth communications will be analysed. In this section the aim is to justify the amalgamation of electronic WOM and traditional WOM. Lastly, a discussion on relationship quality will be presented.

2.2. Sale success and purchase intent

The ultimate result of any salesperson–customer interaction is to convert the interaction between a salesperson and a customer into an actual purchase which will generate income for the organisation. The income of an organisation is just one of the many organisational performance measures to be used. There are several perspectives from which to address income. Coming from a pure accounting perspective one could look at measures such as turnover, but coming from a marketing perspective one may view income as a function of a customer's value. Because this thesis is in a social sciences arena, the question of income will be discussed from a social sciences perspective.

The ideas of what profitability exactly is have been scrutinised for several years (Mulhern, 1999). H. H. Bauer and Hammerschmidt (2005) argue that although income is widely debated, income can be grouped into different types: autonomous revenue, up-buying, cross-buying and referral activities. Conversely, Gleaves, Burton, Kitshoff, Bates and Whittington (2008) suggest an amalgamation of the accounting and the marketing perspectives should rather be used.

From the customer's perspective, a decision to purchase (or not to purchase) may be reached using the consumer decision-making process while from the salesperson's perspective the interaction can be governed from decisions in selling techniques. Although a brief discussion on both the consumer decision-making process and selling technique is presented, it is done

to provide a backdrop for understanding the antecedents of a sale. Neither the consumer decision-making process nor selling technique will be explicitly measured in the current study and the discussions can be found in the appendix.

The current research aims to better understand the direct sales and the word-of-mouth impacts that occur between a salesperson and a customer, and the work of H. H. Bauer and Hammerschmidt (2005) is most applicable. They describe autonomous revenue as "the basic revenue not including direct marketing to raise up-selling or cross-selling" (p. 335). Up-buying is described as "revenue [that] is caused by additional purchases of the same product made by loyal customers as a consequence of increased purchase frequency and intensity in long-life relationships" (p. 335). They explain cross-selling is the selling of complimentary products not previously been bought (p. 335). The last category they use is termed "referral activities," and is explained as the value of non-customers buying products because of other current customers.

There is much to discuss about referral value and it will be discussed in section 2.3. The three remaining categories of revenue will be considered as a single measure, and not differentiated.

Although a purchase may be superficially simplistic, it is preceded by several events. In certain cases, it may be better to capture the intent to make a sale as opposed to the actual sale. There are several reasons for this. Firstly, whether or not a sale occurred, does not address the notion for the completion of the decision making process. It can be argued that although the customer did not actually make a purchase now, it is not necessarily true to say they will never make a purchase.

A second reason for using purchase intent as opposed to sales is the time from the initial contact until the completion of the sale is extremely variable. In some interactions where the salesperson is selling something of low involvement (such as an apple or a bottle of water), the sale may occur within

minutes if not seconds. Conversely, where a sale may be of great-perceived importance or high involvement (such as purchasing a house or a car), the sale may take days if not weeks. In terms of a business environment this temporal lag is exacerbated because of other extraneous pressures (Ling, Chai, & Piew, 2010). These pressures may be as simple as getting sign-off for the purchase or as complex as meeting the requirements for putting a business proposal together. When conducting research there is a large necessity to conduct the research within a specific period and the temporal lag might cause the research to be unusable.

A third reason for using purchase intention as opposed to actual sales might be considered slightly academic. When looking at the analysis of the data using a yes/no answer, the bipolar result may not be suitable. As an example; when conducting a regression analysis with the dependant variable being a yes/no answer, logistical regression would need to be employed. This may add more complexity to the analysis than what is necessary.

To overcome the above potential problems of using actual sales, a researcher may decide to use purchase intent. Massey, Waller, Wang and Lanasier (2013, p. 9) explain purchase intent is derived from the theory of "beliefs-attitudes-behavioural" in the original work of Fishbein (1976). Other work with purchase intent generally lacks a firm definition prior to being used (Agarwal, Hosanagar, & Smith, 2011; Cobb-Walgren, Ruble, & Donthu, 1995; Kornish & Ulrich, 2014; Lohneiss & Hill, 2014; Till & Busler, 2000).

There is no point in substituting purchase intent over actual sales when one cannot predict (or at least come close to predicting) actual sales. Two notable articles address this relationship between actual purchases versus purchase intent. These articles were written seven years apart and show two different sides of the same coin. Firstly, Armstrong, Morwitz and Kumar (2000) argue that although purchase intent had previously been studied, it had never been compared to other forecasting models. They compared the accuracy of purchase

intent with other predictive models such as past sales which were extrapolated. They found purchase intent was more accurate than past sales being extrapolated to predict future sales.

Second is the work by Morwitz, Steckel and Gupta (2007). They found purchase intent and actual sales can closely correlate, but this depended largely on certain situations:

> *Specifically, the results suggest that intentions are more correlated with purchases (1) for existing products than for new products; (2) for durable products than for non-durable products; (3) when respondents are asked to provide intentions to purchase specific brands or models than when they are asked to provide intentions to buy at the product category level; (4) when purchase levels are measured in terms of trial rates rather than total market sales; (5) for short time horizons than for long time horizons; and (6) when intentions are collected in a comparative mode than when they are collected monadically.* (Morwitz et al., 2007, p. 361)

In both of the aforementioned articles, the accuracy with which purchase intentions predict actual sales is analysed and found to be fairly reliable. One found purchase intentions could better predict actual sales but the second article found that this relationship held under certain conditions. From the two articles it can be concluded purchase intentions work best for existing, branded, durable products purchased within a short time horizon and compared to other similar products prior to purchasing. In the current research, several of these conditions will not be met and therefore purchase intentions when compared to actual sales may be less accurate.

To be clear, the study is not advocating for purchase intention over actual sales figures and vice versa; it is advocating that if possible both should be collected and used. However, as explained in section 5.3. , this study does not include actual sales figures from the sample.

2.3. Word-of-mouth

Grewal, Cline and Davies (2003) broadly suggest word-of-mouth (WOM) is simply the act of exchanging marketing information. This is a rather broad definition while Faleh and As'ad (2011) draw their definition of WOM from several authors. Faleh and As'ad (2011) define WOM communication as "informal communications between private parties concerning evaluations of goods and services … rather than formal complaints to firms and/or personnel" (p. 6).

Conceptually one can see word-of-mouth as being positive or negative. Reynolds, Jones, Musgrove and Gillison (2012) remark that when a business receives positive WOM, it may be interpreted as an intention to purchase sometime in the future. Conversely, Arndt (1967) found negative WOM is more effective at changing consumers intentions to purchase when compared to positive WOM.

In viewing WOM outcomes as a dichotomy of being positive or negative is rather limiting. Additional benefits can be derived from WOM; Peres and Van den Bulte (2014) term these benefits as spillover benefits (discussed in terms of their spillover theories). In practice, a direct benefit of WOM communications may be a new customer starting to purchase your product they have previously heard about. The spillover benefits that Peres and Van den Bulte refer to is seen as new customers starting to buy additional products within your brand (they start purchasing not only the products they have heard about but also other products within the same brand).

Other studies have classified the message strategy as either informational or transformational (Golan & Zaidner, 2008; Zhou, 2013). Wu and Wang (2011) explain that an informational message strategy is one which employs the use of cognition and logic, whereas transformational message strategy is one making use of emotions and/or senses. This dichotomous perspective on message

strategy is then expanded into a more comprehensive six-dimensional perspective.

There are two types of WOM, neither is better!

More recently there has been a large push to understand the role of word-of-mouth communications in the online environment (Z. Zhang, Wang, & Shi, 2012). The online environment would typically include social platforms, blogs, online reviews and email. This type of WOM communication is known as electronic word-of-mouth (eWOM). Although there are several debatable differences and similarities between WOM and eWOM, the two will be considered as one construct for the basis of this thesis.

To fully understand the argument for the amalgamation of WOM and eWOM it is important to acknowledge the differences and similarities between the two types of WOM. The similarities and differences will be based around three central themes. First is the sender; second is the message content and last is the message audience.

Sender: The first area of discussion is the message sender or the initiator of the message. WOM is traditionally given by a person who is known and trusted, but in an eWOM environment, the anonymity of the person instigating the WOM can be maintained (and sometimes misrepresented). This presents potential issues including trust, credibility and intentions of the person initiating the eWOM communications (Senecal & Nantel, 2004). eWOM is different from WOM because in WOM the communications are personal and generally face to face, which in itself increases confidence and trust in the sender (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004).

Engaging in eWOM from behind a computer allows a person the ability to maintain their anonymity. In certain circumstances, the anonymity of the message sender may be misrepresented. The maintenance of the anonymity is

arguably different when engaging in face-to-face WOM communications. This study is arguing that in a business-to-business interaction the maintenance of anonymity is non-critical and is frowned upon. When doing business, people appreciate knowing with whom they are doing business. The focus on anonymity and therefore eWOM versus WOM is not important. In addition to knowledge of who one is doing business with, is knowledge that each salesperson or customer will belong to a company or organisation. This organisation may have an established brand that would attract a certain reputation and again will discourage anonymity in word-of-mouth communications.

In a business-to-business environment, where there is an interaction between a salesperson and a customer, the interaction is personal meaning the sender will have greater credibility when meeting face to face.

Message: It is not only the person sending the message being important in the value of WOM/eWOM, but also the message itself. A large area of eWOM research concerns itself with the location of the message. Lee and Youn (2009) argue for the independence of message content location; meaning a message sent on an electronic platform, independent of the source of the message, can be more credible than one displayed on a personal blog. Their research focused largely on eWOM as opposed to the traditional WOM; they also failed to compare the locations of eWOM to traditional WOM. In certain situations research has shown eWOM may be more credible when a comparison is drawn between "company initiated" and "independent" sources of information (Bickart & Schindler, 2001). Although the location is important, the salience of message content is also vital in WOM and eWOM communications. Sweeney, Soutar and Mazzarol (2012) suggest and discuss three characteristics of the message that play an important part in WOM and eWOM.

The first is the valence of the message. It is generally accepted that WOM communications are either very positive or very negative (Maxham &

Netemeyer, 2002). The second is the emotional aspect of the message content. Because WOM communications come from people, they would be more emotional than if the message came from a corporation. It has been found WOM communication generally contains a rich level of language (Mazzarol, Sweeney, & Soutar, 2007). There is a notable difference when comparing traditional WOM and the newer eWOM, in terms of the emotional content of a message. Relating to the message sender are the emotions of the sender, inscribed into the message content. eWOM has the unique ability to be instigated quickly and to a larger audience, meaning that when a message sender has gone through an emotional situation such as a bad (or great) service experience, they may be quick to express their emotions. This may come across to their audience as an emotional outburst that may reduce the credibility of the sender and the credibility of the message content. Compared to traditional WOM, the emotional outburst would become subdued as time passed. This would cause a less emotional transmission of communications. The last aspect associated with the message content is the rationality of the actual content (Sundaram, Mitra, & Webster, 1998). Assume for a moment the message content is rich in fact and explains how the service or product was rendered. This message content would be interpreted in a different manner when compared to a message that contained only emotive content.

A salesperson's message content is either designed prior to meeting the customer or personalised within the meeting as the meeting progresses. The process of planning would ensure there is less variance in valence, less emotion and a greater level of rationality. When a salesperson engages with a customer, this could conceivably improve the credibility of the message content.

Audience: In traditional WOM the sender would generally communicate with a close group or known people or in a one-on-one interaction, but in an electronic environment the size of the audience has increased exponentially (Hennig-Thurau, Wiertz, & Feldhaus, 2012). It can be seen this sort of increase

assists in the depersonalisation of the message. In an eWOM communication (assume any social media platform) where a celebrity has millions of followers, how personal would a message be for each of the respondents? If the same celebrity engaged with a person (or small group of people) the interaction would be much more personal. The same concept applies to a business-to-business environment. The example can be extended, where the director of a company may write an email to all their customers. This communication may not be interpreted as personal but if the same director engaged with a small group of people, the communication would be considered as personal.

When administrating any form of eWOM, there is little control on who actually receives the message. This highlights a critical factor: not all eWOM communications are designed for all audiences, and not all audiences are receptive to all communications. In other words, a given WOM/eWOM should be aimed at a specific audience (for example, market segmentation in Boone and Kurtz, 2013). Comparing WOM to eWOM, it can be argued that there is a negative relationship between the size of the audience and the intimacy of the message content (when the audience is limited there would be a better audience acceptance for a message because of the intimacy, while a larger audience would yield a wider transmission of the message but a lower personal touch to the message content). A salesperson would not walk into a meeting with a customer without preparing for the meeting; it can be assumed that prior to the meeting, a salesperson would know whom they are going to meet and would tailor their message content to ensure the customer would be more receptive to the message being given.

The above discussion on sender, message content and audience shows some of the pros and cons for eWOM and WOM. The study is not arguing for either one, but is rather trying to show for the current research, the differences between eWOM and WOM are insignificant, and the two types can be merged with little impact on the results.

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The field of WOM research

Sweeney, Soutar and Mazzarol (2014) identify four areas most WOM research can fit into. The first two categories are more prevalent in current literature while the second two are more specific to their particular research. The first category concerns research tackling the identification and modeling of antecedents to WOM communications. In this category, WOM is merely one of the outcome variables being studied. There have been numerous interesting findings relating to WOM as an outcome variable. For example Anderson (1998) looks at different levels of WOM and who engages in WOM at the different levels. His model found a U-shaped relationship between customer satisfaction and WOM. Within this group of research, the term "outcome variable" does not necessarily mean the final outcome variable. Eisingerich, Auh and Merlo (2014) analyse the effects of customer satisfaction on sales using WOM communication as a mediating variable. They find evidence that customer satisfaction affects WOM affecting sales performance. Their work is considered a part of the first category.

Their second category looks at the psychological reasons people engage in WOM. A reasonably good example of work falling into this category is that of Wetzer, Zeelenberg and Pieters (2007) and Beneke, de Sousa, Mbuyu and Wickham (2015). They both explore the reasons people engage in negative WOM. Interestingly they find the reasons are non-uniform and are rather functional. They explain people who are angry, frustrated and irritated engage in negative WOM to vent. These reactions are explained as a form of revenge. People regretful in their purchase or use of services, may engage in negative WOM to strengthen social bonds and warn others. Disappointed people would use negative WOM to search for comfort in others. Although this last example focused on the engagement of WOM based on service outcomes, there are several works that posit the reasons as being more self-centred. Yang and

Mattila (2013) argue that where luxury goods are concerned, people engage in WOM communications to increase their social status. This type of engagement is argued to occur independently of the service encounter.

The third category looks at the extraneous factors affecting WOM. Sundaram and Webster (1999) argue that brand familiarity would mediate the effects of WOM communications on the brand reputation. They found unfamiliar brands would be affected more than familiar brands by negative WOM. Using the construct "level of involvement" for the service or product is also said to be a mediator (Dichter, 1966). Gu, Park and Konana (2012) analyse several works concerning the use of involvement in WOM communications. Interestingly they note the lack of research into the mediating effect of WOM when there is a high level of involvement.

The last category suggested explores the strength of WOM communications. In this category research is largely focused on the impact the sender has when the message is instigated. Wathen and Burkell (2002) propose a model where the sender's credibility is analysed from the context of receiver, but Brown, Broderick and Lee (2007) argue it is not the credibility of the sender but rather the relationship (or in their terms the "tie strength") that matters in WOM communications.

The current research will look at WOM as an outcome variable of relationship quality. This will be done in conjunction with other variables therefore locating the current research into the first group of Sweeney et al. (2014). The research also aims to understand the role relationship quality plays in determining WOM communications, which falls under the third category. Next, additional antecedents for WOM communications are outlined.

Antecedents of WOM

WOM as an outcome variable has been studied for a long time with numerous positive and negative aspects being revealed. Using word-of-mouth communication can be more powerful than normal marketing communications because it is personal and therefore may be seen as more credible (East, Hammond, & Lomax, 2008; Muth, Ismail, & Langfeldt Boye, 2012). Since WOM is being used as an outcome variable, the question of what the antecedents of WOM are must be addressed.

Although relationship quality is explored more deeply in section 2.4. , it is appropriate to mention several antecedents of word-of-mouth within the word-of-mouth section. Customer satisfaction is highlighted as an important antecedent in a plethora of research; see the meta-analysis by Szymanski and Henard (2001), and several recent works (Lang, 2015; Ranaweera & Prabhu, 2003; Van Vaerenbergh, Larivière, & Vermeir, 2012; Wangenheim & Bayón, 2007). Satisfaction has been reviewed alongside other variables such as trust, commitment and valance. Richins and Root-Shaffer (1988) suggest opinion leadership is an antecedent for WOM communication while others focus more on the interrelationship between the members of a group (Litvin, Goldsmith, & Pan, 2008). Understandably the argument for the dispersion of WOM has become more interesting because of the ease with which people communicate over the internet.

De Matos and Rossi (2008) conduct a meta-analytic review of the antecedents of WOM communications. They hypothesise that several antecedents would be significant for WOM, specifically satisfaction, loyalty, quality, commitment, trust and perceived value. Further to these antecedents, they hypothesise WOM valence and WOM incidence would both be moderators. Their research covers 162 journal articles, and has a number of

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interesting findings, but of significance for this argument is that all the hypothesised antecedents for WOM were significant.

Why do people engage in WOM?

WOM research has been conducted for many years, and much is known about WOM. WOM communication is instigated when people have received extreme satisfaction or extreme dissatisfaction as they engage with products or services offered by companies, but in what other situations would people engage in WOM?

Alexandrov, Lilly and Babakus (2013) look at what drives consumers to engage in positive and negative WOM. Using social exchange theory (Blau, 1964) and self-affirmation theory (Steele & Liu, 1983), they find people who engage in positive WOM are motivated by the need for self-enhancement. They also find the need for self-affirmation drives negative WOM. What is of particular interest is their argument that although brand experience (brand awareness, service, quality etc.) is important, most research has excluded the possibility for personal factors to influence WOM.

Sundaram et al. (1998) argue prior research had largely concluded that negative WOM is caused by product dissatisfaction, but they question this premise. They find more personal reasons for engaging with negative WOM, including altruistic and self-enhancement reasons. Berger and Milkman (2012) agree with the argument, and suggest emotions also play an important role in the decision to engage with WOM

Sonnega and Moon (2011) suggest WOM communication can be used by people who are brand representatives/ambassadors; for a complete account of brand managers and brand management the reader is referred to the work of Low and Fullerton (1994). Prawono, Purwanegara, Tantri and Indriani (2013) suggest that brand managers should better understand who consumers come

into contact with, as WOM can be crucial in the success of the relationship. The idea is that if the role of front line employees shifted from just completing their job to becoming brand ambassadors, there may be a remarkable impact on the customers' perception of service. Morhart, Herzog and Tomczak, (2009) suggest the company can teach employees to be brand representatives through rigorous training.

When employing WOM communications the best a company can hope for is a customer or someone else who is not affiliated to the company to become a brand ambassador. Uzunoğlu and Kip (2014) emphasize for the importance of online blogging and its effects on other customers perspectives of products and services. In their research, customers of a product or service become empowered to share their experiences using the Internet. Although only an exploratory study, they allude to customers becoming brand champions.

WOM as it relates to opinion leaders

Krake (2005) defines opinion leaders as "people whose conversations make innovations contagious for the people with whom they speak." (p. 46). Li and Du (2011) state an opinion leader is "normally more interconnected and has a higher social standing, can deliver product information, provide recommendations, give personal comments, and supplement professional knowledge that help companies to promote their products" (p. 190). Interesting in the above two descriptions of opinion leaders is a distinct lack of focus on the domain (employee, customer or manager) of the opinion leader.

Vilela, González and Ferrín (2010) pose (and answer) several questions relating to the people who entertain word-of-mouth communications. They argue that people spread word-of-mouth communications as a way to express their feelings about the product or service. They further argued the value of the communication is mediated by variables of the message origin and the message

listener. Interestingly they note that word-of-mouth will generally begin with an opinion leader.

The value of opinion leaders is recognised as being very high on the priority list of marketing functions, to the extent that arguments are made for using dedicated marketing strategies (Van Eck, Jager, & Leeflang, 2011), and the value a listener may find in an opinion leader is a function of both the credibility and robustness of the leader. Can a salesperson be considered an opinion leader? In the arena of online blogging, Carr and Hayes (2014) suggest as long as a person does not misrepresent themselves, they can maintain their credibility to the people who they are communicating with. Chu and Kim (2011) explain WOM activities can be analysed from three aspects: opinion seeking, opinion giving and opinion passing. They further suggest both seeking and giving of opinions is most important in offline (or traditional) WOM. This reinforces the argument made earlier for the amalgamation of eWOM and WOM, and the argument for the salesperson being an opinion leader.

Business to Business WOM

Although word-of-mouth communications have largely been studied in the context of the consumer market, interest in B2B markets has lacked somewhat. In most of the aforementioned works, there is a large (if not complete) focus on consumer-to-consumer (C2C) communications or business-to-consumer (B2C) communications. This is of concern, and little consistency in results was found. For example, two works are compared showing drastically varied results.

Molinari, Abratt and Dion (2008) recognise the above-mentioned gap in the research and therefore investigate some antecedents of WOM communications specifically in the B2B market. They initially develop a model where satisfaction, quality and value are antecedents for repurchase intent and WOM. When testing their model against data collected from 215 customers of a freight

company, they find that relationships are not quite as expected. They find that instead of value affecting WOM it is instead WOM affecting value. They further find a lack of evidence for satisfaction driving WOM, but rather that quality drives WOM engagement.

These findings are contrasted with those of Wangenheim and Bayón (2007) who investigate B2B markets and specifically the German energy market. They look at the relationship between satisfaction and word-of-mouth and hypothesise the relationship is nonlinear. Their sample comprises 688 businesses randomly drawn from a German business database of customers of the German energy company. They find strong evidence for the existence of the relationship and indeed the relationship is nonlinear. Interestingly, they find several moderating variables.

The two cases show two sides of the same coin. In the first paper, there is a lack of evidence for the relationship between satisfaction and WOM, suggesting B2B interactions are completely different to those found in the B2C research. In the second paper, strong evidence is found for the relationship between satisfaction and WOM, suggesting B2B markets are similar to B2C markets. There are several potential reasons for this. Firstly, the studies consider two very different markets. The first market may have been more competitive with numerous freight companies while the second was an energy company where a monopoly could have skewed the results. Product offerings within each market were also very different; they provided completely different services and products to their respective markets. Secondly, the sample size is smaller than in the first case and that could have played an important part in the lack of evidence. Lastly, organisational culture could have played a part in the different results been reported. The first research used customers from the USA who may have had different values and beliefs while the second research was conducted using a German based sample.

Work done in WOM communications supports the similarity between B2C and C2C relationships in a B2B environment, but some sources have certain caveats or exclusions. For example Rauyruen and Miller (2007) investigate relationship quality and its effects on purchase intentions and attitudinal loyalty within the courier industry in Australia. They find evidence for the relationship between satisfaction and WOM, and between service quality and WOM, but lack evidence for the other relationships despite there being a solid theoretical framework. Perhaps the reason for the conflicting results and numerous caveats is that there may be a large gap in B2B markets between the purchaser and the user (Chakraborty, Srivastava, & Marshall, 2007). In B2C and C2C markets there is a sound theoretical understanding for the relationship between satisfaction and WOM, and this is argued to be because the user and the purchaser are generally the same. In a B2B market, this may not necessarily be the case because of purchasing departments and purchasing agents.

WOM conclusion

WOM communication is considered to include all personal exchanges between two parties. These communications are said to contain evaluations and judgements of products and services supplied by organisations. WOM communications can have numerous positive and negative effects. Positive effects include increased organisational performance and attraction of new customers, but negative WOM can be even more destructive for an organisations. Historically, WOM communications were conducted only in a face-to-face environment, but as time has progressed so has the use of technology.

In an environment where many people are consistently online and have access to lots of information right at their fingertips, there is a large debate concerning the effects of eWOM and traditional WOM. A discussion has been

presented where WOM and eWOM are compared and, it is argued, in the current research they could be considered the same. This discussion is framed around the sender, message and recipient. In the current research, the sample will be drawn from a B2B market. It is argued that the use of face-to-face interactions would stimulate confidence and trust in the relationship, allowing better credibility. From a message perspective, WOM is better received when the message is personal, and independent. In the current study, the salesperson is surely not independent, but the message would be personal. The research argues the message content would be well-thought-out and free from unnecessary emotion. The last area of discussion is the audience. A big pro for using eWOM is the dispersion of the message to thousands, if not hundreds-of-thousands of people, but this is also one of the limiting factors of eWOM; since the message would be directed at many people, the recipients may feel a lack of personal touch. When engaging with traditional WOM, the size of the audience may be reduced to a handful of people and here the sender and the message would be interpreted as more personal. Similarly, when a salesperson and a customer engage, the interaction is personal.

Having given the argument for the amalgamation of eWOM and WOM, the discussion then explores what else has been done in the field of WOM. Sweeney et al. (2014) suggest four categories that most research WOM could be placed into, and this study can be placed into their first and third categories. With the research placed in a bigger picture, the antecedents were for WOM communications are then explored. It is largely agreed that satisfaction is an important antecedent of WOM communications, while trust and commitment (among others) are also shown to be significant. In the current research satisfaction, trust and commitment are considered under the banner of relationship quality.

So why do people engage in WOM in the first place? Evidence has been presented that it may fulfil personal needs such as self-enhancement or

altruism, and may be as simple as people just wanting to share their experiences with others.

The discussion then turns to opinion leaders. An opinion leader is someone whose conversations become contagious within social circles. It is recognised that opinion leaders are important and are generally high on the list of marketing agents, and some argue that a salesperson could become an opinion leader in the same way that a customer could.

Given that this study is conducted in a business-to-business environment, a discussion was presented on the differences between B2B and B2C WOM communications. The research indicates that prior research has yet to find a common understanding across the board; however there is a general consensus that satisfaction does lead to WOM.

When a salesperson engages with their customer, they have a unique opportunity to instil a sense of trust and commitment in what they are saying to their customer. Further, to that it is hoped that the customer will engage in additional WOM communications after the salesperson has concluded the meeting. This may occur for any number of direct reasons (e.g. if the customer has experienced extreme service, positive or negative; is satisfied with the services or product; is loyal to the brand etc.) or indirect reasons (including personal characteristics). Regardless of why the customer engages in WOM, the salesperson has the ability to control certain variables (e.g. message content or the manner in which the specific customer is addressed).

In the current research, it is argued that when a seller and a buyer have a high relationship quality the seller would conduct word-of-mouth communication that is beneficial for the relationship.

2.4. Relationship Quality

Introduction

Since the initial work of Berry (1983), relationship marketing has become a common topic in most marketing discussions. Before the 1980s, marketing research mostly focused on attracting customers as opposed to retaining customers. Now, it is largely accepted that attracting a customer base is important, but retaining one is even more so. A pronounced feature of relationship marketing is relationship quality and it has received much attention over the years. The following discussion will begin with exploring relationship marketing; it will be followed by presenting a background of relationship quality and will lastly delve into the specific components of relationship quality: Trust, Satisfaction and Commitment. This section aims to describe the constructs being used and additional theory will be provided in later sections.

Relationship marketing

Relationship marketing is broadly defined as the activities associated with retaining customers through mutually beneficial relationships. For example, Morgan and Hunt (1994, p. 22) state "relationship marketing refers to all marketing activities directed toward establishing, developing and maintaining successful relationship exchanges." There are several benefits to be derived from relationship marketing, but it is important to note that relationship marketing is a practice primarily aimed at stimulating customer value in the long-term (Gummesson, 2002). A large part of relationship marketing is about building relationships with the current customers and maintaining these relationships and is especially evident in the services industry (Richard P. Bagozzi, 1975).

There are numerous research arenas within the relationship marketing field, including (but not limited to) leveraging the marketing mix to improve relationships (Pavlou & Stewart, 2015), using relationship marketing as a segmentation tool (Rupp, Kern, & Helmig, 2014) and relationship marketing as a long-term strategic advantage (Hamid & McGrath, 2015). Relationship marketing is conducted to increase a customer's value over time, or customer lifetime value, coming from the base of customer equity management; the aim of relationship marketing is to form a relationship with a customer and then maintain the relationship for a longer period, in the hope that customers will increase their lifetime value by making several repeat purchases. A key component of relationship marketing is relationship quality.

What is relationship quality?

Despite all the attention associated with relationship quality, a solid definition of what relationship quality actually is has yet to be agreed upon. Hyun (2010) defines relationship quality as "customers' cognitive and affective evaluation based on their personal experience across all service episodes within the relationship" (p. 253). Liu, Guo and Lee (2011) looked at relationship quality, determined by both satisfaction and trust, and its effects on customer loyalty. They find superb reliability scores and verify the hypothesised relationship.

It is mostly accepted that relationship quality must be thought of as a "meta construct" containing several components (Hennig-Thurau, Gwinner, & Gremler, 2002) and Dorsch, Swanson and Kelley (1998) explain that relationship quality is a higher-order construct comprising several distinct, although related, dimensions. It is further accepted that the higher order construct of relationship quality comprises trust, commitment and satisfaction (Bataineh, Al-Abdallah, Salhab, & Shoter, 2015; Crosby, Evans, & Cowles, 1990; Kannan & Choon Tan,

2006; Mpinganjira, Bogaards, Svensson, Mysen & Padin, 2013). Understanding relationship quality is important and necessary as it can shed light on the future wellbeing of long-term relationships (Athanasopoulou, 2009). It is because of this importance that other factors have been included under the tree of relationship quality and a brief discussion is now presented on some of these other factors.

Lages, Lages and Lages (2005) present a framework to better understand relationship quality, known as the RELQUAL scale. They posit relationship quality is composed of four basic components: the amount of information sharing, communication quality, long-term orientation and satisfaction with the relationship. They argue relationship quality had only been viewed from the perspective of the customer, and not from that of an organisation. Their model shows good reliability and validity (convergent, discriminant and nomological). Although they provide a new perspective on relationship quality, they end up using satisfaction as part of their model, and further, the model is tested on a very specific sample of UK exporters. The RELQUAL scales have been applied to other settings such as retailers (Azila & Aziz, 2012), IT purchasing (Sriram & Stump, 2004) and channel power as it relates to relationship quality (Chang, Lee, & Lai, 2012).

Storbacka, Strandvik and Grönroos (1994) make an interesting argument revolving around the perceived simplicity of relationship quality. They argue that the conceptualisation of relationship quality was lacking a dynamic nature (Naudé & Buttle, 2000) and develop a model for relationship quality which is more dynamic. They further argue that it is not relationship quality per se that researchers should be interested in, but rather relationship profitability (i.e. the ability to convert a relationship into profit). Their model includes 15 constructs with numerous relationships between the different constructs. Their work is thought-provoking, but as initially presented, lacks empirical evidence. Little

evidence could be found in support of the more complex understanding of relationship quality.

Without going into more detail about other areas relating to relationship quality, it should be noted there are other constructs or dimensions of relationship quality. Willingness to invest, conflict and expectations of continuity were examined by Kumar, Scheer and Steenkamp (1995), while customer orientation and seller expertise have also been included under the umbrella of relationship quality (Bonney, Plouffe, & Brady, 2014; Dorsch et al., 1998). Wilson and Jantrania (1994) suggest that for a business to business relationship to be considered successful, there are seven attributes needing to be fulfilled, including goal compatibility, trust, satisfaction, investments, structural bonds, social bonds and relative investments of other relationships.

The first two examples in this section above are provided in more detail to show the variable nature within a more structured framework while the third set of more abbreviated examples shows the expanse of areas in which relationship quality has been included. Despite the above examples, it is well-accepted that relationship quality should be viewed as a meta-construct comprises trust, satisfaction and commitment. The following section will describe each of these three components of relationship quality.

Trust

The importance of trust is well-established in prior literature (Payan & Tan, 2015). Trust is considered a critical variable in most relational research and the importance of trust cannot be understated. Berry (1995) observes that not only is relationship quality built on a base of trust, but so indeed is the larger understanding of relationship marketing. In a discussion of retaining customers, Reichheld and Schefter (2000, p. 108) state that "building trust leads

to more enduring relationships – and more profits." To fully appreciate the importance of trust, we need to grasp what exactly trust is.

Blois (1999) analyses how trust has been defined and used in other studies. It is noted that few studies attempt to define what trust is, while other works simply refer to prior definitions; mostly there is an assumed or implied understanding of the concept of trust. Lai, Chou and Cheung (2013) draw their definition from the work of Sirdeshmukh, Singh and Sabol (2002) and define trust as "the expectation by the customer that the service provider is dependable and can be relied on to deliver on its promise" (Lai et al., 2013, p. 140). Crosby et al. (1990, p. 70) define trust "in the context of relational sales as a confident belief that the salesperson can be relied upon to behave in such a manner that the long-term interest of the customer will be served." This is one of the most extensively used definitions and is the one which will be used for the study.

Trust is regarded as a component that when combined with commitment and satisfaction makes up the meta-construct of relationship quality, but trust has not been only studied using this perspective. Trust has been used in other disciplines such as sociology, anthropology, organisational behaviour and e-commerce (Bhattacherjee, 2002). Within each of these disciplines, there exists a common understanding that trust becomes important when there is a level of uncertainty and/or some risk.

Over the years, there have been several models for conceptualising trust. Earle (2010) summarises several models which are based in risk management. They included the TCC (trust, confidence and cooperation) model (Das & Teng, 1998), the associationist model (Eiser, Miles, & Frewer, 2002) and the consumer confidence model (de Jonge, van Trijp, van der Lans, Renes, & Frewer, 2008). Using trust has become a popular construct within the context of the Internet (Abdul-Rahman & Hailes, 2000; Kuo & Thompson, 2014) and without going into much detail there is a plethora of work concerning trust and anything

virtual: virtual teams (Hoch & Kozlowski, 2014), virtual communities (Shafique, Ahmad, Kiani, & Ibrar, 2015), virtual experiences (Piyathasanan, Mathies, Wetzels, Patterson, & de Ruyter, 2015) and virtual brands (Lau, Kan, & Lau, 2013) to mention a few. Returning to a marketing perspective, de Ruyter, Moorman and Lemmink (2001) posit that trust is generated from three different areas: offer characteristics (conceived as product-related), relationship characteristics (including ideas of support, co-operation and conflict) and market characteristics (including irreplaceability, switching costs and switching risks).

It is recognised when people and relationships are involved trust is an important construct. Despite the importance of trust as a construct, the current study will only use trust within the context of relationship quality.

Satisfaction

Boulding, Kalra, Staelin and Zeithaml (1993) present an interesting argument. They show evidence for two interpretations of satisfaction as a construct. Their first interpretation is one where satisfaction is viewed at a transactional level. This perspective of transactional satisfaction is when a service satisfies (or dissatisfies) the customer for that particular transaction. Their second interpretation of satisfaction is at a cumulative level. This view of cumulative satisfaction occurs over time. Once the customer has established a level of satisfaction for several individual transactions, the cumulative result is known as cumulative satisfaction. Prior literature has focused on transactional satisfaction (Anderson, Fornell, & Lehmann, 1994), suggesting that in the context of any particular research, transactional satisfaction is more important. However, when considering the larger context, cumulative satisfaction can provide more rich information about the customer. Definitions of satisfactions generally align themselves to one of these two schools of thought.

Studies using transactional satisfaction would include the definition like the one given by Kärnä (2014), who defines customer satisfaction as "a function of perceived quality and disconfirmation – the extent to which perceived quality fails to match repurchase expectations" (Kärnä, 2014, p. 68).

The idea behind cumulative satisfaction is that it is an accrual of all previous satisfaction evaluations; effectively it is an all-encompassing construct capturing the full customer satisfaction. From this perspective, Johnson and Fornell (1991) define customer satisfaction as a customer's overall evaluation of the performance of an offering to date. Van Dolen, de Ruyter and Lemmink (2004) recognise there is a distinction between the two schools of thought and therefore presented definitions relating to each:

> *"Research suggests that customers distinguish between encounter and relationship satisfaction. Encounter satisfaction will result from the evaluation of the events and behaviours that occur during a single, discrete interaction. Overall satisfaction, on the other hand, is viewed as a function of satisfaction with multiple experiences or encounters with the firm"* (p. 438)

Understanding satisfaction from the customer's perspective can be viewed as a comparative analysis of whether any service has met their expectations. L.-W. Wu (2011) used the definition of Oliver (1980), defining satisfaction as "a function of a cognitive comparison of expectations prior to consumption with the actual experience."

Adequate   Desired

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            ┌─────────────────────────┐
            │      Zone of Tolerance   │
   ◄────────┤                          ├────────►
     Low    │                          │   High
            │                          │
            └─────────────────────────┘
```
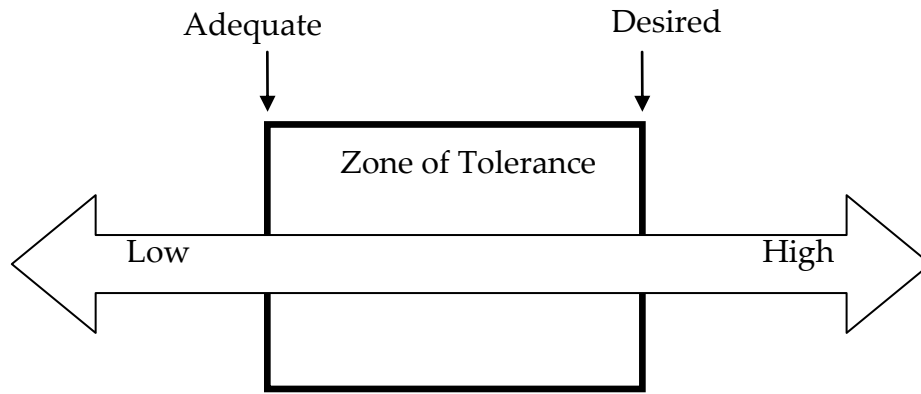
Figure 2: Graphical representation of the zone of tolerance

Figure 2 shows a framework used most often in the comparison between expected and actual experiences. This framework is known as the zone of tolerance (Hsieh, Sharma, Rai, & Parasuraman, 2013; R. Johnston, 1995; H. Zhang, Cole, Fan, & Cho, 2014). Customers have two levels of expectations with regarding service outcomes. The first expectation is what they will accept as adequate service while the second expectation relates to the desired service level. Between adequate service levels and the desired service levels is what is known as the zone of tolerance. If the customer experiences levels above the desired levels, they would have a high level of satisfaction, otherwise known as delight. Conversely, any service received below their adequate level would be interpreted as less satisfying. This raises a fascinating perspective for the continuum of satisfaction.

Should satisfaction be interpreted as a continuous construct running on a spectrum from high satisfaction (satisfied) to low satisfaction (dissatisfied) or should satisfaction and dissatisfaction be treated as two separate constructs? To be clear, for the current study, satisfaction will be used in the greater context of relationship quality, but it is interesting to note that other perspectives have been adopted. Kueh (2006) and Bianchi and Drennan (2012) argue that satisfaction and dissatisfaction have different drivers and therefore should be

treated and measured as two separate constructs. On the other hand Douglas, Douglas, McClelland and Davies (2015) as well as Bayraktar, Tatoglu, Turkyilmaz, Delend and Zaim (2012) argue that satisfaction and dissatisfaction are merely two ends of the same spectrum.

Commitment

It is generally accepted there are two dimensions of commitment – affective and calculative (Meyer & Allen, 1984; Randall & O'driscoll, 1997). These two dimensions are characterised by differences in the underlying psychological processes. S. Q. Liu & Mattila (2015) explain that affective commitment is "an emotional attachment to the organization such that a strongly committed individual identifies with, is involved in, and enjoys their membership in the organisation" (p. 214). They continue explaining that "[calculative commitment] reflects a more rational and economic-based dependency that might result from switching cost or lack of choice" (p. 214). Some researchers have suggested a third dimension is applicable and is called normative commitment (Allen & Meyer, 1990; Ganesan, Brown, Mariadoss, & Ho, 2010). S.-M. Lin, Wang and Chou (2014) explain that normative commitment comes from social pressures or some perceived social obligation. More recently, Keiningham, Frennea, Aksoy, Buoye and Mittal (2015) argue for inclusion of two further dimensions, specifically economical commitment and habitual commitment. They find evidence for these two new dimensions being distinct from the prior three.

Despite the differing views of the dimensions of commitment, the importance of it is well accepted. The construct of commitment has largely been used in conjunction with relationship quality, and also in conjunction with word-of-mouth. For example, Harrison-Walker (2001) analyses two dimensions of commitment (affective and calculative) and their effects on word-of-mouth communications. While the term "high sacrifice commitment" is used to

describe calculative commitment, affective commitment is found to have had more of an effect on word-of-mouth communications than calculative commitment did.

The understanding of commitment can also be seen as contextual. Most studies used the understanding of commitment in a relationship commitment context, although commitment has also been used in studies relating to brand loyalty. The argument made is that when customers are committed to a brand, they are in essence being loyal to the brand (Fullerton, 2005). Another less-researched area in which commitment is used in a context other than relationship commitment, is in terms of segmentation. Hultén (2007) explains that although understanding a customer base is important, more important is how an organisation uses this base to attract additional revenue. The argument is that when customers are more committed to the organisation they would be more involved and more active, and, further, a firm could focus on the more committed market segments to increase revenue with little increase in the costs.

The aforementioned discussion relates to how commitment has been used outside of relationship commitment, but how is commitment used within the understanding of relationship commitment? Wieselquist, Rusbult, Foster, & Agnew (1999) look at commitment, pro-relationship behaviour and trust in close relationships. They argue commitment is more cumulative than transactional and should be analysed more as a process than as a construct. They present evidence of four aspects guiding this process of commitment: commitment levels, commitment orientation, psychological attachment and communal orientation. In more applied terms, they argue when someone stands to lose something due to the decay of a relationship or gain something substantial because of the relationship, they would become more committed to the relationship. Secondly, a person seeing the relationship as a long-term goal would be more committed than if they saw the relationship as a short-term goal. Thirdly, when the necessity for the relationship becomes personal, people

may see the relationship as part of themselves. This would suggest that if the relationship failed, it would be seen as a personal failure. The last aspects talks to the idea of a person feeling the need to reciprocate social interactions.

Čater and Čater (2010) explore relationship quality through the deconstruction of commitment. A relationship by itself, they argue, is not good enough for sustainability, but rather both parties need to be committed to the relationship for it to mean anything. They are implicitly saying commitment is more of a psychological state than a function. This implicit argument is supported by other literature (Moorman, Deshpande, & Zaltman, 1993; Morgan & Hunt, 1994).

To be clear, commitment in the current study is an underlying construct of relationship quality. It will not be split or analysed from multiple dimensions. The above section is to provide some additional context for how commitment has been used in other studies.

Trust, satisfaction and commitment

Relationship quality is considered to be a meta-construct, which in this research has three sub-ordinate constructs. In the above three sections, the study described each of the constructs as individual areas of research, but most research suggests they are related in some way. Most relationship quality studies recognise there are relationships between the constructs, but fail to explicitly state what these relationships are. The following discussion will be broken into four areas using several specific examples to show the interrelatedness of the constructs. The first area will be largely covered using the work of Fletcher, Simpson and Thomas (2000), which shows evidence for the interrelatedness of all the sub-ordinate constructs of relationship quality. The second area describes a theory relating to the relationship between trust and commitment known as commitment-trust theory (Morgan & Hunt, 1994).

Although examples of work using satisfaction and trust, without commitment are scarce, the third discussion relates to the relationship between satisfaction and trust. The last area of discussion concerns itself with the relationship between trust and commitment.

Fletcher et al. (2000) present an analysis of relationship quality specifically focused around a confirmatory factor analysis model fit. They propose four models for the interpretation of relationship quality, shown in Figure 3.
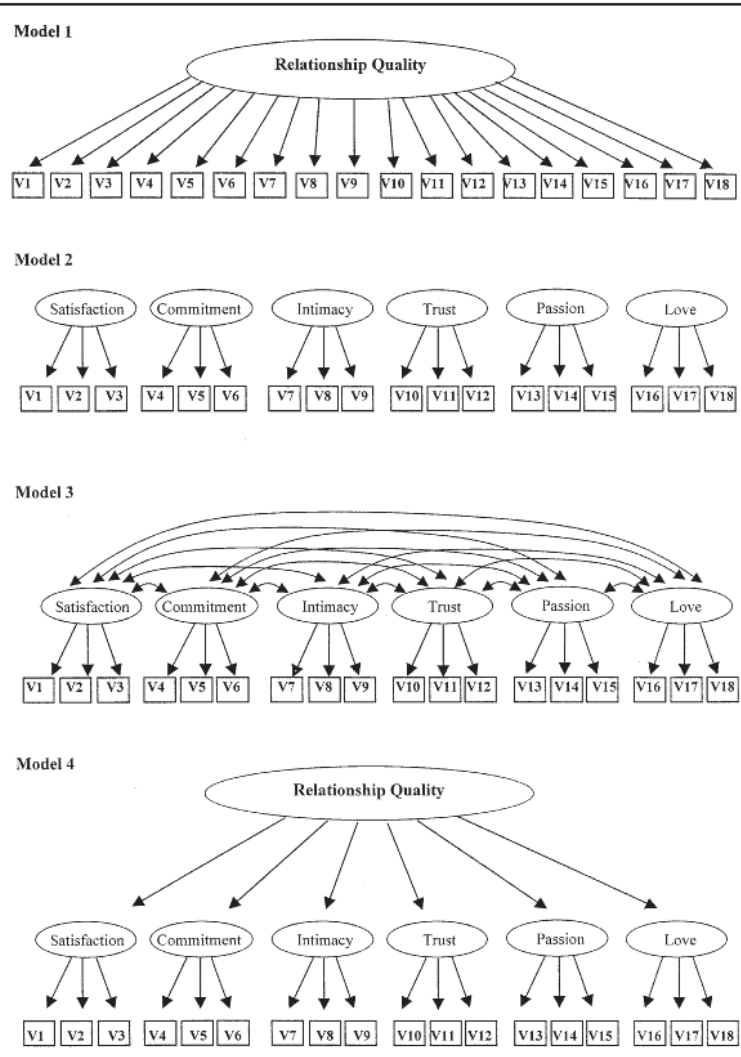
Figure 3: Different models used in the work of Fletcher et al. (2000, p342)

Their first model hypothesises that relationship quality is a first order construct having several manifest variables. In this model, the different domains (satisfaction, trust or commitment among others) are simply amalgamated into a global construct called relationship quality. The argument

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for this model is that the domains are so interwoven that assimilating the items into the different domains is not possible and the items together should measure the larger construct of relationship quality.

Their second model is more complex than the first as it removes the perspective of relationship quality as a global construct and suggests people hold varying evaluations of each domain. In this model, the domains are not linked to relationship quality and should rather be treated as independent constructs. They comment that in practice, this model is not very plausible due to the numerous accounts presented in other academic work.

Their third and fourth models are similar in that they both suggest the different domains are related in some manner. Model 3 acts as a benchmark comparison for Models 1, 2 and 4 to be compared to, but they note that the comparison of Model 4 is what the research is focused around. Model 3 sees each domain as separate, yet interrelated, while Model 4 sees each domain as being related through a higher order construct, namely relationship quality.

Their study tests each of the four models across two data collections. They find that Model 1 has the worst fit to the collected data. Model 2 has an improved fit when compared to Model 1, but does not fit as well as Model 3 or 4. Model 3 and 4 showed similar fits, both being substantially better than the other two models. In their discussion of the results they argue Model 3 and Model 4 are very similar and in the context of the presented theory, Model 4 makes more sense. Their study shows that the view of relationship quality as a meta-construct having several subordinate constructs is a more plausible perspective when compared to a single order construct. They also showed that the sub-ordinate constructs are interrelated.

Next, commitment-trust theory, which states that for any relationship to be a success, both commitment and trust must exist, is examined. Although this is a theory used by several sources (Hashim & Tan, 2015; He, Lai, Sun, & Chen, 2014), it is the seminal work by Morgan and Hunt (1994) which will be

discussed. They hypothesise that commitment and trust would act as mediation variables between the antecedents and outcomes of relationship marketing. Figure 4 is taken from their work and shows their key mediating variables.

FIGURE 2
The KMV Model of Relationship Marketing
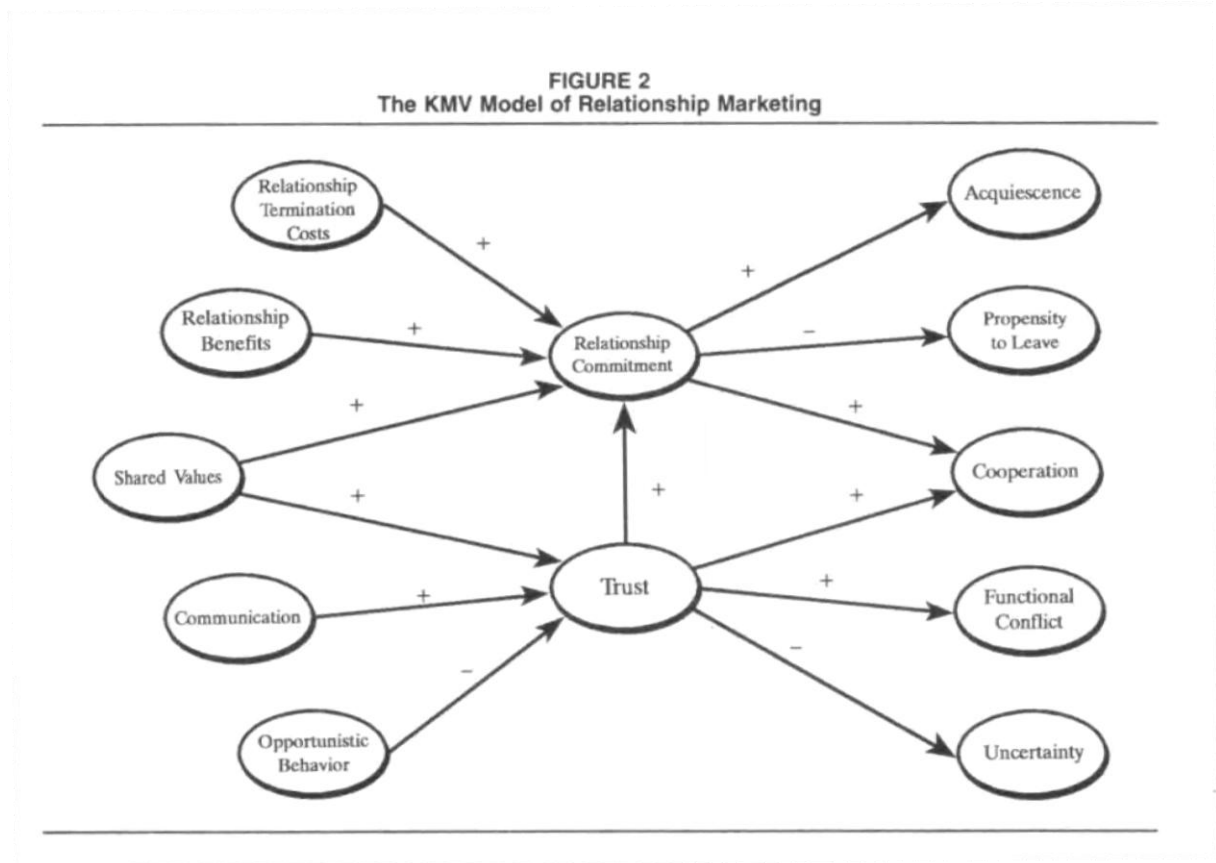
Figure 4: Key mediator variables of commitment-Trust theory taken from Morgan and Hunt (1994, p22)

They argue that prior work focuses on the direct relationships between the antecedents and outcomes of relationship marketing and ignores any potential mediating effects of trust and commitment. They find evidence for each of the hypothesised relationships, showing that trust and commitment are both mediating variables between the antecedents and outcomes. It is interesting to note the lack of satisfaction as a construct anywhere in their model. Their work highlights the strong relationship between trust and commitment in an environment independent of satisfaction.

The next relationship to be discussed is the one existing between trust and satisfaction. In prior literature, there is a lack of any one significant source examining trust and satisfaction without including commitment and still considering relationship quality. Lagace, Dahlstrom and Gassenheimer (1991) show the importance of the satisfaction-trust relationship within the relationship quality perspective. This work in isolation may be considered outdated, but there are more recent examples which highlight a similar understanding (Chen, Chang, & Lin, 2012). Both sources argue that relationship quality depends on two distinct constructs, specifically satisfaction and trust.

The last discussion pertaining to the interrelationships between the relationship quality sub-constructs is around the relationship that exists between trust and commitment. Eastlick, Lotz and Warrington (2006) hypothesise a direct relationship between trust and commitment. Their work was centred on the comparison between traditional business-to-business relationships and online information-intense relationships. Not only did they find strong evidence that a traditional B2B framework can be applied to online relationships, but they also remarked the strongest relationship found in their study was the relationship between trust and commitment.

Relationship quality can be viewed in the context of a supplier-customer relationship, an area of study known as supply chain relationships. Some argue relationship quality differs when looking at supply chain relationships (Naudé & Buttle, 2000) and Fynes, de Búrca and Voss (2005) explain that when analysing supply chain relationships there are four key constructs that underlie the meta-construct of relationship quality: trust, adaptation, communications and cooperation. Their study aims to understand the relationship between these constructs and supply chain performance, and it can be argued that in the context of their research, "supply chain performance" can be substituted with "customer satisfaction." They conclude by showing evidence for the relationship between relationship quality and performance. Of relevance to the

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current research, Fynes et al. (2005) show evidence that trust leads to customer satisfaction.

Although relationship quality is important, understanding how each construct relates to the others is as important. Several examples of work are shown where each relationship has been analysed independently. Some work where all relationships are analysed has also been reviewed. These works show reasoning for considering relationship quality as a meta-construct with three subordinate constructs specifically; trust, satisfaction and commitment.

Outcomes of relationship quality

A large portion of relationship marketing activities goes towards improving the relationship between the customer and the firm. In the prior section, relationship quality is explained as a meta-construct, comprising three underlying constructs, but the question of what relationship quality leads to, has not been discussed. Relationship marketing activities can ultimately be a success or failure based on the performance of the organisation, but few studies empirically show this. For example Bard, Harrington, Kinikin and Ragsdale (2005) found only 10% of executives surveyed attained the expected benefits from their relationship management programs. We know having a relationship with your customer is important, so what then are the benefits of having this relationship?

To understand better the associated benefits of relationship quality, the perspective of relationship management will briefly be adopted. The terms customer relationship management (CRM) and relationship marketing are often used interchangeably (Parvatiyar & Sheth, 2001) and in rather broad terms, relationship management or customer relationship management is "attracting, maintaining and enhancing customer relationships" (Berry, 1995, p. 25). Wang, Po Lo, Chi and Yang (2004) indicate that CRM activities lead to better customer

retention, increased customer repurchases and greater likelihood of customers engaging in word-of-mouth activities. Roh, Ahn and Han (2005) and Buttle (2004) argue that CRM activities have positive effects for a company's managerial indicators and ratios.

It is hypothesised in the current study that having a relationship would lead to increased purchase intent or sales. This hypothesis is not new and is well accepted in the literature, but there have been some studies showing things are not that simple. For example, Seiders, Voss, Grewal and Godfrey (2005) review the relationship between satisfaction (one variable within the meta-construct relationship quality) and the customer's intent to repurchase. They argue that the relationship is not a direct relationship but rather is heavily moderated. They suggest three types of moderating variable (customer moderators, relational moderators and market place moderators) which alter the relationship, and find that convenience, competitive intensity, customer involvement and disposable income are significant moderators.

Another well-accepted outcome of relationship quality is that of word-of-mouth (T. J. Brown, Barry, Dacin, & Gunst, 2005; Hennig-Thurau et al., 2002). For example, Hudson, Roth, Madden and Hudson (2015) study the relationship between a customer and the brand within the music tourism industry. They provide an interesting argument for using a customer-brand relationship as opposed to a customer-firm relationship. They define brand relationship quality as "a customer-based indicator of the strength and depth of the person-brand relationship" (p. 71), and employ the brand relationship quality framework for their study (Fournier, 1998). Despite the difference in relationship quality understanding, they found that there is a highly significant relationship between brand relationship quality and word-of-mouth.

Relationship quality conclusion

It is well-accepted that a large part of relationship marketing is relationship quality. Several differing perspectives have been provided for the interpretation of relationship quality, but for the current research, a mainstream approach to understanding relationship quality will be adopted. The construct of relationship quality is theorised as being a meta-construct comprises satisfaction, trust and commitment and will be measured accordingly. A brief discussion was presented on the sub-constructs of trust, satisfaction and commitment, to allow a wider understanding of how each of the independent constructs has previously been used. Initially, it was thought the components of relationship quality were independent, but there have been several studies showing that these constructs may be interrelated. It is finally argued relationship quality leads to a sales outcome (either through increased purchase intention or actual purchases) and improved word-of-mouth.

2.5. Concluding Remarks for outcome variables

This chapter has defined the major outcome constructs used in the current study. The model for the research suggests there are three outcome variables, specifically relationship quality, word-of-mouth and sales intent. The relationships between these variables have been explained and analysed. The next chapter addresses personality and organisational culture.

Chapter 3. Personality and organisation culture as core independent constructs

This chapter aims to explore and understand personality and organisational culture. It will further explore some relationships between sub-constructs for each of these areas but will do this in each area independently of the others.

3.1. Personality

Personality is a psychological construct understood as "a stable set of responses that individuals have to their environments" (Kassarjian, 1971). Personality has remained at the heart of industrial psychology research and managerial practise. It has been the focus of numerous studies in several different contexts in just about every country around the world over the last few decades (see the meta-analyses by Lord, de Vader and Alliger, 1986, and Rauch and Frese, 2007), and has enhanced our understanding of differences between people.

Understanding the differences between two sets of personalities is of paramount importance, and this section aims to explore and relate personality differences to the current study. To be upfront about the usage of personality in the current study, the usage and context will be briefly explained in this introduction and later elaborated upon.

In the current study, personality will be viewed as a set of traits which when brought together form a person's personality. The primary traits considered in the current study are known as the Big Five personality traits and include: *Extraversion*, *Agreeableness*, *Conscientiousness*, *Neuroticism* and *Openness to Experience*. There have been hundreds, if not thousands, of studies using

these traits to explain a person's personality, but less often have personality differences been scrutinised. In the current study, it is not personality per se being examined, but rather the difference in personalities between two people. Assuming, for example, that both a salesperson and a customer have similar extraversion traits, would this mean the two people have a better relationship and therefore would do more business with each other?

Using this understanding as a base-line, the section on personality will continue in the following manner. First, it presents an overview of different emphases in personality studies over the past decades. Second, it explores personality as a general construct and argues that personality can be considered as an amalgamation of traits. Specifically, it highlights the importance of the Big Five personality traits that have dominated recent understandings of personality, and offers a critique, suggesting these personality traits are not the only way to perceive the make-up of personality. Thirdly, since personality is not constrained to industrial psychology, other contexts for understanding personality will be analysed. Fourth, research into personality differences is reviewed. Finally, there is a discussion of how all of this applies to the current research.

Personality themes through the years

Over the last 30 years, personality research has maintained a presence, but it has done so through different perspectives. In the 1980s personality research looked at outcomes that had a large medical focus (Hacking, 1986). Both Pope Jr, Jonas, Hudson, Cohen and Gunderson (1983) and Cloninger, Sigvardsson and Bohman (1988) serve as examples of research that looked at personality as it relates to medical outcomes of personality disorders and addiction. During the 1990s, research concerning personality shifted focus towards understanding how personality and the "self" interact (Elliott, Herrick, MacNair, & Harkins,

1994; Thoms, Moore, & Scott, 1996). More recently outcome variables in personality research have had a lot to do with personality and inter-group interactions (as an example, Judge, Bono, Ilies and Gerhardt, 2002, p. 772, show personality traits to have a correlation of .48 with leadership).

The Big Five personality perspective

It is well-accepted that personality comprises several traits which, when combined, form a person's (Ajzen, 2005; Arnould, Price, & Zinkhan, 2004; Moutafi, Furnham, & Crump, 2007; Roberts & DelVecchio, 2000; Rothbart, Ahadi, & Evans, 2000; Zhao, Seibert, & Lumpkin, 2010; Meiring,Van de Vijver, Rothmann & Barrick, 2005; Nel, Valchev, Rothmann, Vijver, Meiring & Bruim, 2012). Arguably, the most common theory used in personality studies is that of the Big Five personality traits.

The history of the Big Five personality traits began through better understanding the natural language of personality descriptions. John and Srivastava (1999) present a comprehensive explanation for the development of the Big Five personality traits. In summary, the Big Five personality traits began to appear through the combination of multiple descriptions of personality culminating in the work by Cattell (1943, 1945a, 1945b, 1957). The term 'Big Five' was first suggested in the 1960's, however the original term 'dependability' was changed to well known term 'conscientiousness' (Norman, 1963). In the early 1980's there was a renewed interest in the area of personality and it was at this time that the Big Five personality traits become popular.

Soto and John (2012) explain the Big Five personality traits are comprised of five different traits including: *Extraversion*, *Agreeableness*, *Conscientiousness*, *Neuroticism* and *Openness to Experience*. Other naming conventions have also been proposed (for example, Goldberg, 1990, p. 1217, argues that the five traits should rather be named: *surgency*, *agreeableness*, *conscientiousness* (or

dependability), *emotional stability* and *culture/openness* or *intellect*), but the underlying meanings of each trait remain the same. A detailed discussion on each of the traits will now be presented.

Extraversion

Understanding extraversion as a trait can be seen from a social perspective. Grant, Gino and Hofmann (2011) explain that "extraversion is best understood as a tendency to engage in behaviours placing oneself at the centre of attention, such as seeking status and acting dominant, assertive, outgoing, and talkative" (p. 528), while Moore and McElroy (2012) suggest extraversion is a measure of the "extent that individuals are social, cheerful, optimistic, active and talkative" (p. 268). Recently there has been a large focus of understanding online social platforms, such as Facebook, through users' personalities. Since the trait of extraversion relates especially to sociability, it is this trait that has been singled out for understanding the online social environment (Correa, Hinsley, & de Zuniga, 2010; McElroy, Hendrickson, Townsend, & DeMarie, 2007).

Since extraversion relates to being social, one would think extraverted people would tend to gravitate towards a career in sales (Barrick, Mount, & Judge, 2001). Prior studies have presented conflicting results for the success of extraverted people in a sales environment (Barrick, Mount, & Strauss, 1993; Thoresen, Bradley, Bliese, & Thoresen, 2004). Grant (2013) provides an interesting explanation for the conflicting results, suggesting two key reasons for the conflict. Firstly, extraverted people may focus more heavily on their own perspectives than on those of their customers, and secondly, extraverted people may be perceived as over-excited or too enthusiastic about their products or services. He finds evidence for an inverted U shaped relationship between extraversion and sales performance. Perhaps there is another reason for the conflicting results. Grant focuses on the salesperson and does not account for the customer, but in the current study, it is believed the relationship should be

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based on the dyad of the customer and the salesperson, and not only on the salesperson.

Few studies have been conducted where the focus is placed specifically on the personality trait of extraversion while remaining within a dyadic relationship between a customer and a salesperson. Although not in the exact context of a customer-salesperson, two studies are noteworthy, highlighting the importance of understanding extraversion in the context of a dyad.

S. Yang, Hsu and Tu (2012) analyse the investor-trader dyad looking at extraversion as a moderator. They hypothesise that a traders' personality would moderate the relationship between investor confidence and trade volume, arguing that a person with high levels of extraversion would tend to be more sociable and active. These characteristics would lead to positive emotions which in turn would allow the investor to obtain more diverse information. They find evidence to support their hypothesis, but suggest that to account for the moderation effects; one would need to include the demographic variables.

T. N. Bauer, Erdogan, Liden and Wayne (2006) conduct a study to better understand the reasons for top-level executives leaving companies. They hypothesise that the leader-member dyad is moderated by the level of extraversion of the leader. They examine the link between the propensity of successful executives for networking, developmental job assignments and novel social situations, and the characteristics of extraversion. They argue that people who have high levels of extraversion seek out social interactions and find opportunities within their social network, and suggest that executives who are successful are less likely to leave. They found executives with low levels of extraversion are more likely to leave the organisation due to the leader-member exchange.

The Big Five personality traits are comprised of five traits and extraversion is one of them, but it is believed extraversion is in itself made up of several different sub-constructs. Soto and John (2012) suggest gregariousness, social

confidence and assertiveness make up what is known as extraversion. Another well-known study (Costa Jr & McCrae, 1980) suggests extraversion comprises activity, assertiveness, excitement-seeking, gregariousness, positive emotion and warmth. They further explain each of these six areas has several sub-areas that should be analysed. However, since the current study is focused on personality as a construct having five sub-constructs of which extraversion is just one, further exploration into the depths of this construct may become misleading.

Agreeableness

The term *agreeableness* relates to how people interact with other individuals. It is believed those people who have a high level of agreeableness may come across as kind, friendly or considerate for needs of others. Conversely people with a low level of agreeableness are said to be less concerned about the greater society. These individuals may also be seen as more sceptical towards others.

Agreeableness is similar to extraversion but as a construct, agreeableness attempts to account for the type of social interaction between two people while extraversion aims to account for the quantity of social exchanges (Costa Jr & McRae, 1985). Nettle and Liddle (2008) highlight that agreeableness is negatively associated with argumentativeness, aggression or anger towards others. They further suggest that although we know much about personality (and specifically agreeableness), research needs to move towards understanding sub-constructs.

Our understanding of agreeableness (as it relates to personality) is mostly derived from our understanding of the Big Five personality traits, but there are two main areas where evidence could be found for using agreeableness outside of the construct of personality. Although the current research does not, in any way, use the following two areas, it is presented to show that agreeableness has been considered outside the arena of personality.

The first area is concerned with corporate image. Minkiewicz, Evans, Bridson and Mavondo (2008) and Abd-El-Salam, Shawky and El-Nahas (2013) highlight agreeableness as a factor in corporate image and both sources suggest corporate image is made up of five elements. Earlier works (for example, G. Davies, Chun, da Silva & Roper, 2004) are used to support these elements which include competence, agreeableness, enterprise, chic and ruthlessness.

A second area of interest views agreeableness as an element within a set of social skills. When this perspective is adopted, agreeableness is studied in terms of team development, member association or within the leader-member exchange. The leader-member exchange is a large area; the interested reader is referred to the meta-analysis of DeChurch, Hiller, Murase, Doty and Salas (2010). Ismail and Velnampy (2013) draw on the work of the leader-member exchange to understand the employee satisfaction better, positing that one element in understanding employee satisfaction is a psychological aspect.

Graziano and Tobin (2009) believe that agreeableness should be viewed as a meta-term used to describe people as kind, considerate and warm. This ideology resonates with the broader literature, where agreeableness is said to be comprised several of facets. Ismail and Velnampy (2013) suggest there are five elements within the psychological factor of agreeableness, including positive attitude, negative attitude, assertiveness, agreeableness and workload. A popular framework for understanding the underlying facets of agreeableness is the NEO Personality Inventory measures (Costa Jr, McCrae, & Dye, 1991; Costa Jr & McCrae, 1992). Within this framework, agreeableness comprises six facets: trust, straightforwardness, altruism, compliance, modesty and tender-mindedness. Outside the NEO personality inventory, few other examples of facets making up agreeableness could be found.

Conscientiousness

The third dimension in the Big Five personality traits is *conscientiousness*. The term is used to describe people who are thorough, vigilant and careful. People who have a high level of conscientiousness may also be described as being ambitious, hardworking and persistent while Azeem (2013) also includes descriptions such as being dutiful and self-disciplined. Conversely people who exhibit low levels of conscientiousness may be considered as easy-going, lazy, aimless and negligent (Spangler, House, & Palrecha, 2004).

Conscientiousness has largely been studied in the realm of personality, but it has also been related to goal commitment and self-setting of goals (Barrick et al., 1993; Gellatly, 1996), academic success (Furnham, Chamorro-Premuzic, & McDougall, 2002; Lounsbury, Sundstrom, Loveland, & Gibson, 2003; Wagerman & Funder, 2007) and educational performance (Mervielde, Buyst, & de Fruyt, 1995). More recently there have been several meta-analyses completed which show consistent correlations with academic success and educational performance (Noftle & Robins, 2007; Poropat, 2009), confirming prior works. Research into conscientiousness has not been excluded from dyadic relationships; for example Mawritz, Dust and Resick (2014) analyse the moderating effect conscientiousness has within the employee-supervisor dyad.

The trait of being conscientious may be seen as a positive trait, but not all outcomes of being conscientious are considered positive. When people take being conscientious to the extreme, they may be considered workaholics or extremists (Carter, Guan, Maples, Williamson, & Miller, 2015; Mazzetti, Schaufeli, & Guglielmi, 2014), and again, people with extremely high levels of conscientiousness have been associated with workaholism because they demonstrate increased willingness to attain their goals at any costs (Porter, 1996).

Much like the other dimensions of personality, conscientiousness has several sub-constructs or facets. In the current study, items which constitute conscientiousness come from the work of Benet-Martinez and John (1998), but

there have been several studies to suggest different items. Thompson (2008) suggests conscientiousness has facets that include being organised, systematic, efficient and neat. MacCann, Duckworth and Roberts (2009) review several different works which all used the term conscientiousness in different ways, finding a total of eight facets including industriousness, perfectionism, tidiness, procrastination refrainment, control, cautiousness, task planning and perseverance.

Neuroticism

The fourth dimension of the Big Five personality traits is *neuroticism*. This dimension is characterised by several negatively perceived elements such as fear, anxiety, frustration, jealousy and loneliness. Ireland, Hepler, Li and Albarracín (2015) define neuroticism by chronic negative effects, including sadness, irritability, anxiety and self-consciousness. Neuroticism has also been referred to as a trait that relates to emotional stability (Long, Alifiah, Kowang, & Ching, 2015) and may therefore include elements such as being moody or tense. The study of neuroticism, as a personality characteristic, has been associated largely with job performance and job stress (Abdullah, Rashid, & Omar, 2013; Cox-Fuenzalida, Swickert, & Hittner, 2004).

In another context, the field of emotional intelligence has used an underpinning of neuroticism just outside the arena of personality. Szabo and Urbán (2014) attempt to understand whether or not being an athlete would improve one's emotional intelligence. They analyse people doing two types of sports and compare the results to a control group. They find athletes "may foster its development" (p. 56). Another study by Prentice and King (2011) uses neuroticism to better understand front-line casino employees. Although the study makes use of the five-factor model of personality, the focus is on the management of emotions for the improvement of customer (or player)

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retention. They find employees who could better manage their own emotions are less likely to adopt a sense of emotional dissonance towards the customers.

A second area that has attracted attention, when using neuroticism as a construct, is leadership. M. E. Brown and Treviño (2006) suggest several characteristics that determine whether or not a person is an ethical leader. These include moral reasoning, agreeableness and conscientiousness. They also suggest some characteristics associated with unethical leadership, and include neuroticism and Machiavellianism. These relationships were later confirmed (Mayer, Aquino, Greenbaum, & Kuenzi, 2012).

To be clear, in the current research, neuroticism will be used in the context of personality and further discussion on neuroticism will be presented within the context of salespeople, customers and the dyadic relationship between the two.

Teng, Huang and Tsai (2007) look at the relationship between salesperson and customer as it relates to service quality. They find, among other results, that neuroticism is negatively related to service quality; meaning that when the salesperson is perceived as being neurotic the perception of service quality decreases. Although the relationship may be intuitive, they provide empirical evidence to substantiate the relationship.

Coming from a slightly different perspective, Loveland, Lounsbury, Park and Jackson (2015) pose the question of whether a salesperson is born or made. They argue that emotional stability (the inverse construct of neuroticism) plays a large role in job satisfaction and performance. Their findings suggest a successful salesperson needs to have certain biological characteristics including emotional stability. Their results align closely to the person-career fit theory as discussed by Holland (1996).

Openness to Experience

The construct of *openness to experience* (or just "openness" for short) is arguably the most debated construct of the Big Five personality structure. The construct has been interpreted in numerous ways over the years. According to Goldberg (1981) and Digman and Inouye (1986), this construct should rather be known as Intellect while according to Borgatta (1964) this construct should be known as Intelligence. Despite the ongoing debates, "openness to experience" which was initially suggested by Costa Jr and McRae (1985) has become more accepted within personality studies. Digman (1990) presents an argument, based on an analysis of the sub-constructs, that although the terms are different, perhaps the last construct of the Big Five personality traits is Intellect, Intelligence and Openness.

Traits commonly associated with "openness to experience" include being "imaginative, cultured, curious, original, broad-minded, intelligent and artistically sensitive" (Barrick & Mount, 1991, p. 5). DeYoung, Quilty, Peterson and Gray (2014) argue that one should rather understand "openness to experience" as involving several difference mental processes which require a more cognitive approach to situations and suggested an important trait is cognitive exploration (p. 46). One of the most comprehensive analyses of sub-traits comes from the work by Goldberg (1990). Although the work focuses on the complete five-factor model, it begins by using 2800 trait terms to describe personality. This is eventually narrowed down to just 44 traits (framed as phrases) used to describe openness, such as "is original, comes up with new ideas"; "is ingenious, a deep thinker" and "values artistic, aesthetic," to mention just three of the suggested 10 phrases.

Due to the large debate concerning the naming of the trait, combined with questions of what actually constitutes the sub-traits, it is not surprising that there is a large focus around these two areas (B. S. Connelly, Ones, & Chernyshenko, 2014). There are several areas that have been amalgamated with other constructs; two notable areas will be discussed.

The first area of note is the learning environment. Jackson, Hill, Payne, Roberts and Stine-Morrow (2012) explore the idea that while improving a person's cognitive ability through training, their level of openness would increase. The study considers two groups of older people, one of which underwent a training course while the other did not, and finds evidence to support their hypothesis. Other examples within a learning environment include improving intellect within a creative arts field (Kaufman et al., 2015), predicting academic achievement (Diseth, 2013) and childhood behavioural development (Prinzie, van der Sluis, de Haan, & Deković, 2010).

The second area is within the medical field. For example, Milling, Miller, Newsome and Necrason (2013) looked at the moderating effects of openness on, and its relationship to, hypnosis for pain. Other medical areas include personality disorders (Costa Jr & McCrae, 2013), maladaptive personality traits (Ashton, Lee, de Vries, Hendrickse, & Born, 2012) and cognitive decline (Williams, Suchy, & Kraybill, 2013). Few studies could be found where openness to experience was used outside the context of personality, and of the ones that could be found most fell into the category of being within the medical field.

The Big Five Personality Perspective - conclusion

Although an understanding of the intricate facets of each of the Big Five personality traits is important, for the current study these traits will not be separated. The Big Five personality traits have become the staple framework used within personality studies, but this has not always been the case. Interestingly the categorisation of personality traits has long been debated with the specific number of traits varying (Eysenck, 1991), and not all researchers agree on using the Big Five personality traits.

Other perspectives of personality

Over the years there have been several models that have attempted to explain personality but it can be argued that all models stem from one of two perspectives. The first is the psychodynamic theory of personality. This perspective of personality explains personality as a relationship between the conscious and unconscious forces acting upon a person (Guntrip, 1995). The initial work was started by Sigmind Freud (1920, 1940) who suggested that personality comprised the id, the superego and ego. He also argued that a persons' personality is established from early childhood events. The second perspective is that of behaviourists. Unlike the psychodynamic theories of Freud, behaviourist theorists aim to understand and measure observable behaviour. There are several theorists who helped establish this perspective however two examples are Bandura (1963) and Skinner (1968). For a detailed comparison between the two overarching perspectives, I refer the interested reader to the work by Chazan (1979).

Digman (1990) provides an inclusive discussion on a few common personality models. To remain critical and more inclusive in the analysis, a summarised picture will be presented on most of the models while a more detailed discussion will be presented for one model.

The first is Cattell's system, which is rather complex. Cattell's system uses no less than 16 factors, but sadly cannot stand up to independent critique (Howarth, 1976). The second system for understanding personality is Guilford's system. This system comes from an understanding that personality is a form of intellect that has several sub-constructs. Dees (1976) heavily criticises Guilford's system as being simplistic and lacking a solid psychometric grounding. More recent work regarding this system could not be found. The third system is Murray's system of needs, developed largely using Jackson's personality research form (D. N. Jackson, 1974). It is explained that after further research

into the needs system, it is aligned closely with the Big Five, but unlike other systems, Murray's system of needs "provided clear indicants of Dimension III (Conscientiousness or will)" (p. 430). The last summarised model is one that adopts a perspective of personality named the interpersonal circle. The underlying premise is that interpersonal behaviours can be organised in a circular pattern across two axes: Love-Hate and Power. This model has been largely analysed by two research teams: Lorr (for example, Lorr, 1996) and Wiggins (for example, Wiggins & Broughton, 1985).

Eysenck's three-factor model (Eysenck, 1952, 1966, 1970, 1982) deserves more attention. His work initially began with just two factors making up personality: Neuroticism and Extraversion/Introversion as shown in Figure 5. These two factors gave rise to four dimensions or areas.
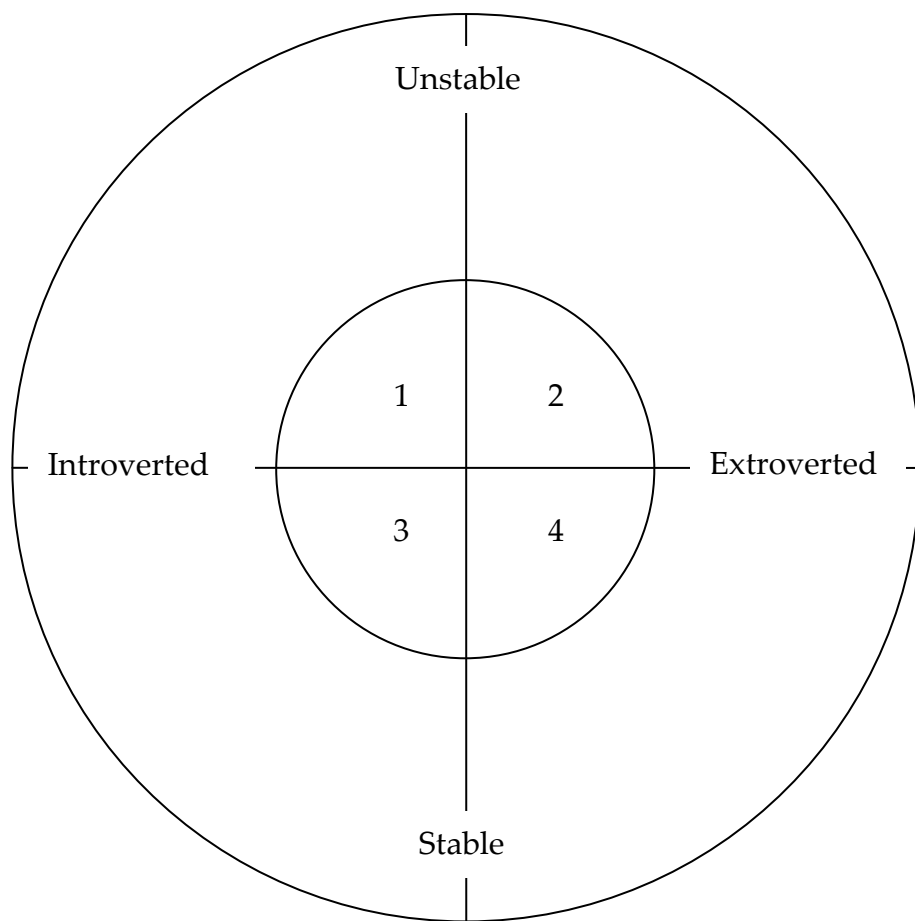
Figure 5: Diagram of Eysenck's quadrants

Each quadrant has a name (Howarth, 1988): quadrant 1 is Melancholic, quadrant 2 is Choleric, quadrant 3 is Phlegmatic and quadrant 4 is Sanguine. There have been several predictions regarding how people within each of these four groups act and behave (Eysenck & Eysenck, 1985); other work (Eysenck, 1966) adds an extra dimension to the original two. This dimension is called Psychoticism and describes a person who lacks empathy or someone who is aggressive and troublesome.

Since its initial formulation, this model has been widely studied and is still being used in recent research (for example, Eysenck's three factor model of personality has been used to understand the personality of patients suffering from different medical ailments; So et al., 2015).

Another more popular perspective of personality is Zuckerman and Kulman's alternative five, which is compared and contrasted with three more popular competing models (Zuckerman, Kuhlman, Joireman, Teta, & Kraft, 1993). The argument for looking at additional factors is centred on a psycho–biological perspective of personality, and the research was not aimed at siding with any of the models but rather presented both the pros and cons of each of the models. In their discussion, they remarked:

> *"Despite these differences between the three models, the results of this empirical analysis of the major factors in all models suggest a great deal of convergence between them, particularly the two five-factor models."* (p. 765)

Further, from the perspective of explaining personality parsimoniously, the Big Five personality traits are most useful.

Understanding how people's personalities develop as they go through life is another important facet of personality studies. There is a good understanding that personality development begins at childhood (Dubas, Gerris, Janssens, & Vermulst, 2002) and continues all the way through adulthood (Bandura & Walters, 1963; Schaffer, 2009), but other studies have shown empirical evidence for its stability over a person's life span (Costa Jr & McCrae, 1997), suggesting once a person's personality has formed, it is difficult to change.

In contrast, a 40-year longitudinal study showed personality can and does change over time (Helson, Jones, & Kwan, 2002); the authors state that an individual's personality is affected by social events and personal experiences, to name just two factors. Other studies have shown certain business variables can predict a change in personality traits (for example, Boyce, Wood and Powdthavee, 2013, find strong correlations between changes in economic factors and changes in personality traits). Another reason why a person's personality might change is for medical reasons. Research has shown

Alzheimer's disease (Robins Wahlin & Byrne, 2011) and mild traumatic brain injuries (Mendez, Owens, Jimenez, Peppers, & Licht, 2013) can change a person's personality.

Personality differences

Personality, as it relates to the customer, has been studied in several circumstances and has revealed some conflicting results. On the one hand the majority of studies (for example, Busenitz & Barney, 1997 and Amason, 1996) find that customers can relate to front line employees better when their personality traits match and that outcome variables such as loyalty and customer-firm relationships may depend on the customer's personality traits. In an online environment, customer personality has been shown to affect internet banking usage, specifically the personality trait of openness (Gogan, 1996). Conversely, Gigerenzer and Gaissmaier (2011) do not find evidence for the effects of personality traits on customer's perceptions of a firm.

Although the above research is important, this thesis argues that it lacks a critical aspect, namely the salesperson. In a sales transaction, the customer is just one side of the coin, while the salesperson forms the other side of the coin. Personality research has not neglected employees' personality, which applies to salespeople as employees of their respective firms. To mention a few examples, Spiro, Perreault and Reynolds (1976) examine the moderating effect of personality in counter-productive work behaviours of employees, when they cannot cope with stress. Walumbwa and Schaubroeck (2009) and Z. Zhang et al. (2012) consider personality while looking at the leadership–member relationship. Vilela et al. (2010) present a theory of personality as it relates to self-monitoring of salespeople's performance.

Observing either side of the salesperson-customer coin may be implicitly excluding the other, meaning both the salesperson and the customer should be considered; personality difference research provides a better understanding than to either side of the coin alone. To be clear, the term personality differences relates to the differences between the customers personality and the salespersons personality. The differences between the traits as they relate to either party are beyond the scope of this study.

Applicability to the current study

Two main outcomes will be examined in this research paper. The first outcome is the likelihood of making a sale. It is proposed that when the personality of the customer and the personality of the salesperson have appropriate similarities (or differences), the ultimate result is that a sale would be more likely to happen than to not happen. While understanding the personality of the customer is important (Stock & Hoyer, 2005), a more dyadic approach needs to be used to fully understand the relationship between the customer and the salesperson.

The second outcome to be examined is the improvement in word-of-mouth, given the match (or mismatch) in personality between the customer and the salesperson. Michelli (2006) conducts an experimental investigation into the effects of dialogs on the evaluation of a system. An automated dialog system gives advice to participants, but the dialog differs for each cohort of participants. Part of the manipulation in the study is to match the conversation personality of the automated dialog system to the personality of the participant. The study finds significant differences between submissive and dominant participants, as measured in the post session ratings of the system. Further, dominant participants were found to "be more likely to say they would

'recommend it to their friends'" (p. 350). The implication for the current research is that people who match personalities, and are dominant, could increase the amount of word-of-mouth publicity for the salesperson, the product or the company.

Although the result of a match in personality is an increased chance to make a sale and increased word-of-mouth, there is an interim step that needs to be considered. The model suggests personality matching will directly affect the quality of the relationship between the customer and the salesperson.

3.2. Organisational culture

Organisation culture has been shown to affect several different arenas within the management field. Since the publication of Peters and Waterman (1984), interest in organisational culture has not faded. Prior to delving into the complexities of organisational culture, organisational culture is defined as it pertains to the current research. To form a solid starting point, the most inclusive definition of organisational culture will be adopted; Lundy (1990) gives a generic explanation of culture as simply "the way people did things," and to begin the discussion on organisational culture, this understanding will be used.

People embodying organisational culture

In the current research it is argued the salesperson and customer would embody their respective organisations' culture, but prior business literature has largely avoided this concept (Flores-Pereira, Davel, & Cavedon, 2008). Organisational culture has been understood in terms of artefacts or traditions and rituals (Martin, 2001), and has been shown to affect different people in different ways (Drennan, 1992), but the leap to understanding how people embody organisational culture is lacking. To be clear, not all literature misses

this topic and a good base of knowledge can be found in anthropological studies. Since the current study is located in a business environment, studies that are lacking a business aspect will be largely excluded.

O'Neill (2012) looks at how people embody an organisational culture and how the organisational culture of a company drives employees to engage in certain behaviours, specifically partying. It is argued that there is a distinct expectation for employees in the hotel industry to engage in excessive partying behaviours and that these expectations come from the underlying organisational culture. As organisational culture is more geared towards a balanced work-family system, so employee expectation for partying would be less pervasive.

There exist more specific types of culture within the larger arena of organisational culture. Ethical organisational culture has recently become more prominent (Huhtala, Feldt, Lämsä, Mauno, & Kinnunen, 2011; Jondle, Maines, Rovang Burke, & Young, 2013; Mey, 2007). Huhtala, Feldt, Hyvönen and Mauno (2013) show how ethical organisational culture influences personal work goals of managers. They emphasise that as an organisation is seen to be more ethical, so the managers personal work goals align themselves to the larger organisational performance. This finding suggests managers would embody the organisational culture if they perceive the culture as positive and would reject the embodiment should the organisational culture be perceived as negative.

There is a large assumption that when people embody an organisational culture they are accepting the culture the organisation has. It is assumed the organisation has a culture independent of employee but this assumption needs to be evaluated. Does an organisational *have* a culture or *is* an organisation a culture?

Has or Is?

As the philosophical debate endures, most arguments revolve around the works by Schein (1985) and Sathe (1983). Maull, Brown and Cliffe (2001) provide a summary the debate in the context of total quality management.

On the one hand, they argue that if one is to assume an organisation *has* an organisational culture, the construct of culture needs to be seen as an independent variable. This view perceives culture as being brought to the organisation through membership. They explain there is a set of specific measurable and universal characteristics forming a "good" culture.

"The crucial assumption here is that culture is an objective and

tangible phenomenon which can be changed through the application of

direct intervention methods" (p. 304)

On the other hand, they show evidence that an organisation is perceived as a culture. They argue when an organisation is thought of as a culture-producing system, culture is a dependent variable. The culture produced by this system is based on its history, situational issues and development. During the production of organisational culture, there are several outcomes, which include rituals, legends and ceremonies. These legends and rituals can stem from the employees (Mannie, Van Niekerk & Adendorff, 2013).

In the context of the impact organisational culture has on the ethical behaviour of employees, Sinclair (1993) remarks that "this debate, which culminates in querying the existence of organisational culture at all, has attracted much academic interest but had not deterred widespread acceptance of the concept" (p. 64).

Understanding this philosophical argument is important for the current research. Assuming that the company *has* organisational culture independent of the employees, several issues arise. The most apparent may be that it could be

difficult for employees to embody the organisational culture because their own culture may not share similarities. Conforming to an organisational culture may take some time to accept, learn and use within normal business. Relating to the current context; a salesperson or customer could be in a "culture conflict" until they have accepted the organisations culture fully.

Now assume an organisation *is* a culture, meaning the organisation is a culture-producing artefact. The organisational culture is produced through social instruments such as the employees, customers and suppliers. Some argue this perspective would allow the culture to be manipulated and changed over time. The employees can embody the liquid perspective of the organisation's culture as much as the organisation can embody the employee's culture. This perspective would suggest that organisational culture is learned and is being learnt in a continuous fashion.

Proceeding in the same manner as Maull et al.(2001), this thesis acknowledges the importance of both perspectives, but for the current research it is argued an organisation *is* a culture-producing artefact. By this token, several assumptions and arguments are being made.

The first argument the research makes is that the organisational culture of the organisation is so entrenched that no single employee can substantially change the organisational culture. The second argument is that an organisational culture for any organisation comes from its own history and social context. Given that organisational culture is dynamic, the third implication is that the organisational culture is not exactly the same across all organisations. By that note, not all employees within any organisation would embody the culture in the same way.

Organisational culture forms an essential part of the general functioning of the organisation and although organisational culture has been given a vague definition, it is largely accepted that the definition for organisational culture is based on the above philosophical issue.

Definition of organisational culture

Over the years, organisational culture has been defined and redefined, with many definitions, conceptualisations and dimensions emerging. Kroeber and Kluckhohn (1952) identify 162 different definitions of culture. More recently, Martins and Terblanche (2003) define organisational culture as "the deeply seated (often subconscious) values and beliefs shared by personnel in an organisation" (p. 65). H. T. O. Davies, Nutley and Mannion (2000) provide a similar definition, qualified by the idea of organisational culture emerging from the organisation, specifically "organisational culture emerges from that which is shared between colleagues in an organisation, including shared beliefs, attitudes, values, and norms of behaviour" (p. 112). There are some authors that suggest organisational culture cannot (and should not) be defined (Pandey, 2014). Arnould et al. (2004) argues to understand culture you need to understand two elements: values and norms (p. 73). They argue that the values and norms that people have, allow them to operate in a manner acceptable to others, thus forming a culture. Given the numerous understandings of organisational culture, the definition used for this study will come from Martins and Terblanche (2003).

Organisational culture has been operationalised in several ways. Arguably, the most common way of measuring organisational culture is by using the Organisational Culture Index. Wallach (1983) has developed a classification based on the operationalisation of organisational culture. He suggests three dimensions of culture: bureaucratic, innovative and supportive. Lok, Westwood and Crawford (2005) explain the three elements by referring to the original work:

> *"Bureaucratic culture forms around values of power and control, clear delineations of responsibility and authority, and high degrees of systematisation and formality. A highly bureaucratic culture is*

characterised by a distinctive values set: "power-oriented, cautious, established, solid, regulated, ordered, structured, procedural and hierarchical" (Wallach, 1983, p. 32). Innovative cultures reflect values around change, entrepreneurialism, excitement, and dynamism. There is an acceptance of experimentation, risk, challenge, and creativity. The environment is stimulating but challenging (Wallach, 1983, p. 33). Finally, in supportive cultures the focus is on human-values and harmonious relationships with the extended family as a relevant metaphor. The pertinent values are "trusting, safe, equitable, sociable, encouraging, relationship-oriented and collaborative" (Wallach, 1983, pp. 33–34)." (Lok et al., 2005, p. 494)

Although the organisational culture index may be considered a little outdated, several recent works have been presented using this theoretical understanding (El-Nahas, Abd-El-Salam, & Shawky, 2013; Watts, Robertson, & Winter, 2013). Another way of understanding where organisational culture comes from is through a company's market orientation. When looking at organisational culture as the market orientation of a company, Jaworski and Kohli (1993) identify several sources of organisational culture. These sources would include top management (Pulendran, Speed, & Widing, 2000), risk profile (Deshpande & Webster Jr, 1989) and reward system orientation (Siguaw, Brown, & Widing, 1994).

To remain critical and complete yet pertinent, it has to be noted there are a number of additional ways to view organisational culture, but further formal discussion will not be undertaken. A complete and thorough discussion of instruments and conceptualisations of organisational culture is presented by Jung et al. (2007). Further, organisational culture has been analysed through several different perspectives allowing researchers to improve contextual

understanding. The role and affects of differences between different organisational cultures is beyond the scope of this study.

Recently there have been a number of "hot topics" that have maintained the focus of researchers and include total quality management (S. O. Cheung, Wong, & Wu, 2015; Fu, Chou, Chen, & Wang, 2015; Green, 2012; Pantouvakis & Bouranta, 2015), service delivery (Gountas, Gountas, & Mavondo, 2014; Kirkley et al., 2011; Czerniewicz & Brown, 2009) and company performance (Halim, Ahmad, Ramayah, & Hanifah, 2014; Pinho, Rodrigues, & Dibb, 2014).

Other perspectives of Culture

Taking a step back from organisational culture, acknowledgement needs to be given to other forms of culture open to different levels of interpretation. To be clear, the study will be only using culture in the context of an organisation, specifically organisational culture. The study will be discussing two additional levels of culture, one at a lower level of analysis and the other at a higher level of analysis compared to organisational culture. The study will also be discussing a common misconception concerning the relationship between organisational climate and organisational culture.
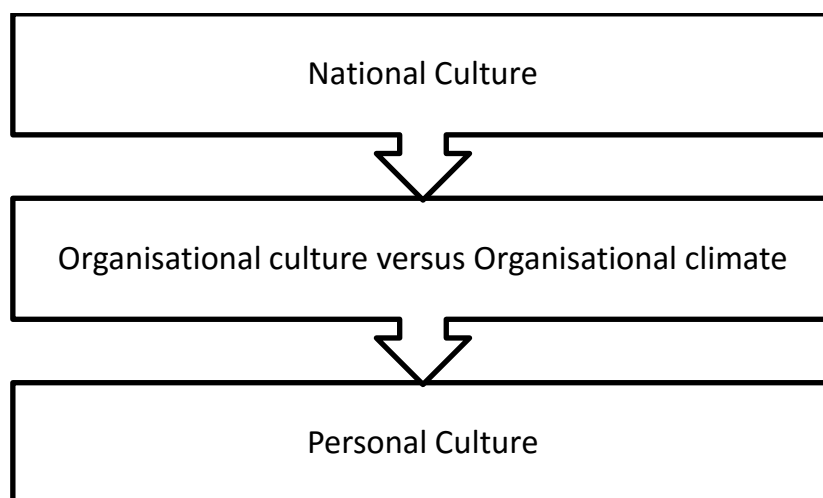
Figure 6: Graphical representation of the levels of culture

Figure 6 is a graphical representation for the discussion of the following section. The first level of analysis is commonly known as national culture. The understanding of national culture comes from a social anthropology background and analyses culture at a national level. The middle level refers to an organisational level of analysis, in which the differences and similarities between organisational culture and organisational climate will be discussed. The bottom level is commonly known as personal culture. This level of analysis is primarily done at an individual level.

National culture

Hofstede (1983) employs culture to understand similarities between groups of people distributed in a geographic manner and coined the term "national culture." He defines the term culture as "the collective mental programming of the mind which distinguishes one group or category of people from another." He suggests this view of culture comprises four dimensions: individualism versus collectivism, power distance, uncertainty avoidance and masculinity versus femininity. Later he added a fifth dimension called "Confucian Dynamism" or "long-term orientation" (Hofstede, 1991).

M. D. Myers and Tan (2003) present a meta-analysis and remark that most research into national culture makes use of the above dimensions in some manner. Hofstede's work has largely been accepted as the staple measurement tool for national culture, not that the work is without criticism (McSweeney, 2002; Tayeb, 2001), and Hofstede's fifth dimension hasn't been fully accepted into modern research when compared to the other four dimensions (Fang, 2003). Although Hofstede has been insightful in reviewing national culture, his perspective is not the only one.

Morden (1999) motivates for analysing national culture from three overarching perspectives: single-dimensional perspectives (for example, Fukuyama's Analysis of trust; Harriss, 2003) , multiple dimensional models

(including Hofstede's model and work like Trompenaars and Hampden-Turner's Analysis; Trompenaars & Hampden-Turner, 1998) and lastly historical social models (which include the Euro Management study and the south East Asian Management; Bloom, Calori, & de Woot, 1994).

Organisational climate

"Organisational culture" and "organisational climate" are terms that have often been used interchangeably with one another (Barker, 1994). In searching for a formal definition of organisational climate, some authors have found it problematic to express tangible differences between the two. In simple terms, organisational culture forms a base on which an organisational climate can be built. This relationship is sometimes portrayed as ambiguous and largely misunderstood (Ryder & Southey, 1990).

Wallace, Hunt and Richards (1999) argue that because organisational culture is defined as "a collection of fundamental values and belief systems" (p. 551), it represents an implicit side of an organisation. They further argue that since organisational climate "consists of more empirically accessible elements such as behavioural and attitudinal characteristics" (p. 551), it is more explicit. Ashforth (1985, p. 841) explains culture can be seen as a set of shared assumptions while climate is seen as a set of shared perceptions. Moran and Volkwein (1992) build upon this idea, suggesting an organisational culture is a collection of basic assumptions, with attitudes and values, while climate comprises only the attitudes and values. A common theme from the above understandings is that climate is an operationalisation of culture. In addition, to understand organisational culture is to form a tacit understanding of organisational climate. Perhaps more philosophically, the question arises, is organisational climate a complete perspective of organisational culture?

Denison (1996) argues that culture belongs to the organisation while the organisational climate is the elements of internal environment, as they are

perceived by each individual. Dastmalchian (2008) argues organisational culture cannot be encapsulated by any climate but rather that there are several contextually specific climates which together form an organisational culture. It is understandable the people within each climate will perceive the situation in different ways. Dastmalchian et al. (2015, p. 3) refer to these climates as "issue-specific climates" and provide examples such as a climate for service or a safety climate.

Personal culture

Superficially, the study of "personal culture" is something of an oxymoron. A person refers to a singular while the term culture refers to a collective. Personal culture, although used in several studies, is often misused or misunderstood. For example, Tomon, Stehlik, Estis and Castergine (2011) use personal culture interchangeably with corporate culture while Singh (2012, p. 119) haphazardly states personal culture includes, among others, regional, gender and race differences.

Research into personal culture is rather sparse and perhaps it is because personal culture is misunderstood (Kane-Urrabazo, 2006) or has been studied under different banners. Valsiner (2007) explains "the notion of 'personal culture' refers not only to the internalized subjective phenomena (intra-mental processes), but to the immediate (person-centred) externalizations of those processes" (p. 62). Byrne and Bradley (2007) argue "national culture is essentially the integrated personal values of people in society and reflects aspects of their personal culture" (p. 169).

This thesis is located in the business-to-business environment focusing on interaction between organisational employees and as such further discussion on personal culture will be omitted.

Applicability to the current study

In the above discussion, much has been said about organisational culture. In this section a summary will be provided and arguments presented for the use and applicability of organisational culture to the current study.

For the current study organisational culture is defined as "the deeply seated (often subconscious) values and beliefs shared by personnel in an organisation" (Martins & Terblanche, 2003). In addition, the study will be adopting the philosophical perspective that the organisation *is* a culture-producing artefact and the organisational culture index will be used to measure the organisational culture. In the current study, the dyadic relationship between a customer and a salesperson is of particular importance, but how has this relationship been studied in the context of organisational culture?

The results of organisational culture studies can be seen in a myriad of contexts. The effects of organisational culture range from affecting the distribution of organisational resources (Mannix, Neale, & Northcraft, 1995), to empowerment and innovation capability (Çakar & Ertürk, 2010) through to staff retention (J. S. Park & Kim, 2009) and job satisfaction (MacIntosh & Doherty, 2010). Despite the large amount of research, few authors have examined the relationship between the matching of organisational culture of two different organisations.

The analysis of this relationship has its roots in the organisational performance literature, specifically looking at what happens to performance when companies merge. Cartwright and Cooper (1993) analyse the performance of two companies after merging. They argue that "cultural-fit" is more important to the success of the merger when compared to "strategic-fit". They go on to define cultural-fit as the "compatibility of two integrating firms' cultures". Cadden, Marshall and Cao (2013) recognise a "cultural dissimilarity between two integrating firms has resulted in lower productivity, lower

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financial performance outcomes, lower relationship satisfaction and higher levels of conflict" (p. 3).

T. Ward and Newby (2006) highlight the importance of understanding antecedents influencing the dyadic relationship from perspectives of both the customer and the service provider. If we were to see a salesperson as one organisation and a customer as another, the cultural fit may be seen as more important than strategic fit. As argued, the employees from an organisation will embody their respective organisation's culture. Perhaps there may be higher levels of conflict and worse levels of relationship satisfaction should the cultural fit not be satisfactory.

Lofquist (2011) presents at a case study for the failure of a Norwegian strategic change effort. The study brings attention to the relationship between organisational culture and organisational change methods. It concludes that "matching organisational culture with change implementation methods is often critical to implementation success" (p. 283). Although this is in the context of change management, the fundamental results are significant for the current study. It is clear the management of the Norwegian organisation needed to sell the idea of change to its employees for the change initiative to be successful. Imagine for a minute the managers of the Norwegian organisation were substituted for salespeople while the employees were substituted for customers. The sale would be considered a failure due to the lack of understanding of the organisational culture of the customers on the part of the salespeople.

The organisational culture index has three elements including bureaucratic, innovative and supportive. Assume two organisations want to conduct business with one another. The one organisation has a more bureaucratic culture while the other has a supportive culture. Both the salesperson and the customer have embodied their respective companies' organisational culture so the question would a disparity between the two cultures potentially cause a relationship breakdown leading to the loss of a sale?

3.3. Personality and organisational culture conclusion

Chapter 3 has presented an overview and detailed discussions on personality and organisational culture as independent constructs.

Personality is a psychological construct, understood as a stable set of responses individuals have to their environments. Personality, in the context of this study, comprises several traits with the most popular conceptualisation being taken from the Big Five personality traits, five traits that personality is regarded as comprising. The extraversion trait relates to being social, cheerful, optimistic, active and talkative. It can also be described as a tendency to place oneself at the centre of attention.

Agreeableness is similar to extraversion in capturing a social trait, but unlike extraversion, agreeableness characterises types of social interaction. People who have high levels of agreeableness may come across as kind, friendly or considerate for needs of others.

The third trait of the Big Five is conscientiousness. This term is used to describe people who are thorough, vigilant, careful, ambitious, hardworking and persistent. Conscientiousness has been studied in several areas outside of personality, including goal commitment and performance.

Neuroticism is the fourth personality trait used in the study. This trait is largely associated with perceptively negative elements such as fear, anxiety, frustration, jealousy and loneliness. The trait has also been related to chronic negative effects, sadness, irritability, anxiety and self-consciousness.

The last of the Big Five personality traits is "openness to experience." The trait has been linked to higher levels of cognitive ability, intelligence and intellect. People who exhibit high amounts of the trait are seen as imaginative, cultured, curious, original, broad-minded, intelligent and artistically sensitive.

The influence of personality traits on the customer relationship should not be denied or diminished, but it needs to be acknowledged that there are a number of other ways to perceive personality. Each way of perceiving personality has its own pros and cons, but this thesis argued that the Big Five personality traits are most stable and should be used.

Organisational culture is superficially understood as the way people do things, but the formal definition adopted here is: Organisational culture is the deeply seated (often subconscious) values and beliefs shared by personnel in an organisation. This thesis adopts the perspective that an organisation *is* a culture-producing artefact and in a similar manner to O'Neill (2012), argues that employees will embody the cultures of their organisations. In the current study it is also argued that both the customer and the salesperson will embody their respective organisations' cultures and they will do so in different ways. The current study makes use of the organisational culture index, meaning that three aspects of organisational culture will be analysed: bureaucratic, innovative and supportive.

The focus of this study is the customers-salesperson dyad as it relates to personality and organisational culture. It may be argued that some significance is lost through the exclusion of analysing the differences between personality traits and the differences between organisational cultures however it is believed that due diligence should be given to these important areas and should be considered in future studies.

Some argue that when researching the interaction between the salesperson and the customer, both sides of the relationship need to be considered simultaneously. In the current research, it is not the actual personality or organisational culture that is important, but rather the differences between the salesperson and customer which are most important. This research argues that since personality has a material effect in the evaluation of relationship quality, it should matter that personality similarities would make it easier to establish and

maintain relationships thus increasing the relationship quality. In a similar vein, when the salesperson and the customer come from companies which have similar organisational cultures, it would be easier to do business, with fewer obstacles to overcome.

Although beyond the scope of the research, a lingering question is whether or not there is a relationship between the personality of a person and the organisational culture? To be clear, this thesis argues there is no relationship between personality and organisational culture and that these constructs should be treated as independent constructs.

The next chapter, Chapter 4, will discuss and analyse the linkages between the core independent constructs and the customer focused outcome variables.

Chapter 4. Theoretical Links and Propositions

4.1. Introduction

Customer equity management theory (Rust et al., 2005) provides a foundation for including sales success and word-of-mouth; however, linkages between these two outcome variables and the rest of the constructs in the current research have not yet been discussed. Several different theories will be used for understanding why and how personality and organisational culture can affect the different sales outcomes. The theories that will be discussed in this section include social exchange theory, emotional contagion theory, social bonding theory, affect-based spillover theories and homophily theory.

So how does personality (or organisational culture) affect the outcomes of sales and word-of-mouth? Suppose the salesperson and the customer both have agreeable personalities, making it easier for them to communicate with one another. It may be that when two people are "getting on" with each other, the associated costs of the relationship would be reduced. This would make the relationship more viable. On the other hand, when considering two companies that have very different organisational cultures, the opposite may occur. Each party may regard doing business as too difficult or too cumbersome and may decide that the business relationship will not work.

A number of different theories will be used to explain the variance of outcomes based on the convergence or divergence between the supplier and customer.

4.2. Social exchange theory

Social exchange theory explains that change, specifically social change, comes about through a process of negotiated exchanges between the parties involved. Social exchange theory was initially conceived by Homans (1961). Both Blau (1964) and Emerson (1976) suggest that social exchange theory is closely related to a set of obligations. They argue that when people independently do things for others they generate an obligation which the other party is required to respond to. Lambe, Wittmann and Spekman (2001) have a different perspective and suggest social exchange theory views exchange as a social interaction which may or may not result in economic or social outcomes.

Over the years, the understanding of social exchange theory has been moulded and shaped into our current understanding. There are numerous assumptions which social exchange theory employs. Narasimhan, Nair, Griffith, Arlbjørn and Bendoly (2009) explain the assumptions:

> *"The basic assumptions of SET [social exchange theory] are (1) people are rational and calculate the best possible means to engage in interaction and seek to maximize profits/returns; (2) most gratification is centred in others; (3) individuals have access to information about social, economic, and psychological dimensions that allows them to assess alternatives, more profitable situations relative to their present condition; (4) people are goal oriented; (5) building social 'credit' is preferred to social 'indebtedness'; and (6) SET operates within the confines of a cultural context (i.e., norms and behaviours being defined by others)."* (p. 2)

The basic notion underlying social exchange theory is that within each social exchange, the concepts of cost and rewards come together. The reason social exchange theory can and should be used in understanding business relationships is it provides an applicable framework for a large number of

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contexts. Kingshott (2006) uses the understanding of social exchange theory in studying psychological contracts. Use of psychological contracts is found to build trust and commitment in the relationship. Further, the contracts are found to form a type of an obligation for each party. The idea of psychological contracts has been used in more recent works (for example, Bastl, Johnson, Lightfoot and Evans, 2012, look at the relationship between buyers and suppliers in the adoption of servitization).

Social exchange theory has been used in other contexts such as understanding attitudes and perceptions. C. Ward and Berno (2011) focus on attitudes and perceptions and argue that people within the tourist industry will have attitudes that are more positive when they benefit directly from the industry. The underlying premise is that if the rewards attained exceed the costs then the outcome is considered positive or beneficial, while if the costs incurred outweigh the rewards achieved then the outcome is negative.

Since the conceptualisation of social exchange theory, there have been several follow-on theories. Although it was not directly used, it must be noted that social exchange theory gave way to numerous other theories that review similar circumstances. For example, Lusch, Brown and O'Brien (2011) use several theoretical frameworks (including social exchange theory, relationship exchange theory and contracting theory) to explore the relationships within a supply channel.

Traditional social exchange theory lacks explanatory power for issues of power. What happens if one party in the social exchange has some legitimate power over the other? Narasimhan et al. (2009) use social exchange theory in understanding the relationship between buyers, who lack alternatives, and their suppliers. Social exchange theory has been developed over the years to form a theories able to better account for the power within social interactions; one such is exchange network theory (Cook, Emerson, Gillmore, & Yamagishi, 1983).

Without diverting from social exchange theory, it must be noted that alternative theories exist, which better account for alternative dynamics.

Using social exchange theory for understanding the specific relationship between a salesperson and their customer is not new (Crosby et al., 1990; Mullins, Ahearne, Lam, Hall, & Boichuk, 2014; Plouffe & Barclay, 2007; Wieseke, Alavi, & Habel, 2014), and is a theme that continues in this study. From the perspective of a salesperson, the rewards of engaging in a relationship with the customer is that the relationship may become more fruitful (more sales could be generated), or may turn into a longer lasting relationship (again resulting in more monetary value over time). The costs for the salesperson include the additional effort put into the relationship. From the customer's perspective, the customer may need a service or product to acquire which, they will have to begin the consumer decision-making process. If there is already a trusted salesperson that can provide the product or service required, this process is drastically reduced. The convenience would save time and effort, therefore expediting the purchasing process. When a customer has a good relationship with the salesperson, they can receive additional benefits (perhaps attaining better delivery dates, or better pricing, for example).

When customers and salespeople come together, a social exchange is occurring. This exchange has certain outcomes, which include relationship quality. From both the customer's perspective and the salesperson's perspective, it is in their best interests to engage in the relationship. Social exchange theory suggests that relationship quality can be increased or decreased through a cost-reward analysis. Suppose that a match in personality between the customer and the salesperson results in less frustration and less hassle (lower costs) when doing business, but yields a constant outcome (rewards). The theory informs us that due to the reduced costs, the relationship between the customer and the salesperson may improve which may lead to a more profitable customer.

Now suppose the customer's organisation exhibits a non-bureaucratic organisational culture while the salesperson's organisation has a very bureaucratic culture. Should the customer require minor changes to an order or a better delivery date, the salesperson may not assist immediately, because the salesperson would have to go through the correct bureaucratic channels. From the customer's perspective, this may appear as an obstacle, yielding a constant outcome (attaining the goods or services). If the costs of the additional hassle exceed the rewards or receiving the products, it may force the customer to seek alternative suppliers.

4.3. Emotional contagion theory

Emotional contagion theory explains the tendency for people to converge emotionally. Schoenewolf (1990) elegantly explains emotional contagion as a process whereby emotions flow from one person to another. Hatfield, Cacioppo and Rapson (1993) explain this emotional convergence can be achieved by two individuals through a process of mimicry. They further explain that when people mimic each other, they feel reflections of the others' emotions. Emotional contagion has largely been studied in the areas of marketing and psychology (Hennig-Thurau, Groth, Paul, & Gremler, 2006) and has been explored on the individual, group (and team) and social levels of analysis. To be very clear, the current research does not directly use or measure emotions, but it shows that emotional contagion is supported in works which study the outcome variables of relationship quality, sales and word-of-mouth.

Emotional contagion has been viewed from numerous levels of analysis. The first is when the research is conducted at an individual level. Doherty (1997) notes that the ability for people to converge emotionally can be affected by multiple personal characteristics. These include gender, personality characteristics and genetics (p. 133). These observations are found in other

works (for example Thornton, 2014, looks at how individual expectations affect emotional response when viewing happy or sad videos).

The second level for analysis is at a group level. Most research that employs emotional contagion is performed at this level of analysis. Group level of analysis using emotional contagion has looked several different relationships in numerous contexts; for example, burnout within clinical practices (Bakker, Schaufeli, Sixma, & Bosveld, 2001), and online consumers' evaluations of products purchased (J. Kim & Gupta, 2012). Emotional contagion can apply to large groups (Barsade, 2002) or even global corporations (Harvey, Treadway, & Heames, 2007). More recently have been works which examine emotional contagion from a leadership perspective. Researchers posit that followers, through the emotional contagion process, will influence how the leader actually leads (Sy, Côté, & Saavedra, 2005; Tee & Ashkanasy, 2008). Others argue leaders may be seen as a highly salient group members (S. Connelly, Gaddis, & Helton-Fauth, 2002) and good leadership is a highly sought-after commodity. Some argue one of the tools leaders can use to achieve success is emotional contagion (S. K. Johnson, 2008). The idea is if the leader projects certain emotions (for example they may project an optimistic attitude), the followers would notice the optimism and become more optimistic.

The last level of analysis is at a social level. Few studies could be found that dealt with a societal level of emotional contagion. The most convincing example for this level of analysis is the work by Kramer, Guillory and Hancock (2014), which finds evidence for what it terms a "massive-scale contagion via social networks." The sample is large (N=689 003), and is made up of people using the popular social network, Facebook. Evidence was found for the transfer of emotions to others on the social network despite the lack of personal interaction.

To be clear, the current research analyses the relationship between salesperson and customer for the benefit of certain outcome variables. It is

believed the theory of emotional contagion, used at a group level, will provide a better understanding of the relationship dynamics between a salesperson and the customer. In a similar manner to how leaders use emotional contagion, it is believed salespeople can affect the emotions of their customers and therefore affect the outcome variables. For example, Bailey, Gremler and McCollough (2001) explore the service industry and propose that emotions can and must be accounted for when dealing with customers. Further, Medler-Liraz and Yagil (2013) assess how the emotions of employees affect the customer experience. Discussing the findings, they suggest "[the] ingratiatory behaviour manifested by service employees can modify behaviours, thoughts and emotions of customers in a positive manner" (p. 271).

Emotional contagion not only comprises what is directly perceived but may include unseen or underlying facets. Barsade (2002) and Druckman and Bjork (1994) argue for (and find evidence of) both the conscious and the sub-conscious levels of emotional contagion. Hatfield et al. (1994), and more recently Hess and Fischer (2013), discuss mimicry in great detail. Considering mimicry and specifically facial mimicry, they argue people interpret and then mimic their emotions without thinking about it. This phenomenon is known as a "primitive emotional contagion" (Hess & Fischer, 2013, p. 142).

Subconscious and conscious emotions affecting outcome variables have been largely studied. For example, Barger and Grandey (2006) and later the extended work of E. Kim and Yoon (2012) show the importance of smiling, greeting, eye contact and thanking during a service encounter. Applicable to the current study is the notion that emotions are transferred and "caught" on both a conscious and subconscious level. Suppose a salesperson is generally outgoing (extraverted) and interacts with a customer who is less extraverted. The inclination of the customer to be more introverted may cause the salesperson to be less extraverted. Since emotions can be transferred on a subconscious level,

according to emotional contagion theory the salesperson would become more emotionally like the customer (or perhaps vice versa).

Under what circumstances does emotional contagion occur? What factors make people more susceptible to emotional contagion? Drawing from several different works, some of the antecedents of emotional contagion in a social environment include:

- similarity between the two people
- pre-existing rapport
- current mood
- membership stability
- social interdependence

Drury (2006) shows that people who have similar opinions are better primed to emotionally converge than people who have very differing opinions. Chartrand and Lakin (2013) suggest people are more susceptible to emotional contagion when there is a pre-existing rapport and an intention to affiliate. Both van Baaren, Fockenberg, Holland, Janssen and van Knippenberg (2006) and Likowski, Mühlberger, Seibt, Pauli and Weyers (2008) show how the current mood will affect a person's ability to engage in mimicry and argue that for this reason, current mood is an antecedent for emotional contagion. Both Bartel and Saavedra (2000) and Sy, Choi and Johnson (2013) suggest membership stability and social interdependence are significant predictors for mood convergence.

The current research uses the above antecedents in arguing that salespeople and their customer will emotionally converge when interacting. It is believed a salesperson will have some similarity to (or at least some common ground with) the customer. The salesperson may have already spoken to the customer prior to the meeting and would therefore have prior rapport. A salesperson would have some social interdependence with the customer inasmuch as the customer needs the salesperson's products and the salesperson needs the customer's revenue. While some antecedents are not perfectly met, they may possibly be

controlled (for example, current mood is more difficult to control, but the salesperson could be conscious of their current mood and alter this prior to meeting with the customer).

Emotional contagion has been used several contexts in which dyadic analysis has not been forgotten (Hennig-Thurau et al., 2006; Howard & Gengler, 2001). It is mostly understood that when emotional convergence occurs, the outcomes (such as relationship quality) are improved. Emotional contagion theory can provide insight into why a match in personality and/or organisational culture could lead to better outcomes. It can also further provide insight into the future interactions. Emotional contagion can apply to extended interactions and minimal interactions, and can leave a permanent trace (Barsade, 2002).

4.4. Social bonding theory

Traditionally, social bonding theory comes more from a background of criminology than from an industrial psychology perspective. The origins of social bonding theory are considered to be in Hirschi's seminal paper (Hirschi, 1969). He explains: "Elements of social bonding include attachment to families, commitment to social norms and institutions (school, employment), involvement in activities and the belief that the things are important" (p. 16). Hirschi argues that instead of attempting to find out why people engage in criminal behaviour, it is better to ask: why do more people *not* engage in criminal or delinquent behaviour?

His theory involves four elements: attachment to significant other, commitment to traditional types of action, involvement in traditional activities and beliefs in the moral values of society. Özbay and Özcan (2008) explain each of the four areas that social bonding theory comprises. They explain delinquent acts or behaviours as being ones which would not occur when a youth

(meaning a non-adult) is attached to their parents, peers or teachers. Commitment is explained as driving a cost-benefit calculation for expected consequences, leading the youth not to engage in deviant or delinquent behaviours. For example, if a child is committed to getting into a good university, they would evaluate whether their actions would assist them in attaining their goals. The third area of interest is involvement. When a youth is involved in the community or social environment they would lack the time to commit deviant acts. For example, if the youth were involved with a charity or business they would spend their time doing traditional activities such as planning, preparing or attending meetings and therefore be too busy to commit deviant acts. The last area concerns itself with the beliefs of the youth. If a youth believes it is inherently wrong to commit an act of defiance, they will not commit the act, as it would be going against their own belief system.

In summary, attachment describes the level of values and norms a person holds, commitment indicates how committed an individual is to legal behaviour, involvement is used as a measure of how involved an individual is with his social group and lastly, the stronger the person's belief in common values, the less likely a person will engage in deviant behaviour.

Over the last four decades, there have been several critiques of social bonding theory. There are some general critiques concerning the initial study and can include response bias or the lack of a multi method analysis, but there are two critiques of particular concern that need to be specifically addressed.

The first critique is of preference. It has been shown social bonding theory uses four areas to explain why people do not engage in delinquent behaviours, but in the original work of Hirschi, each of the four elements were presented as having equal importance. However, Sims (2002) tests social bonding theory and finds involvement and attachment are two main factors within the social bonding theory that can be used to explain unethical behaviour. It is understood as the employee becomes more attached to an organisation and

more involved in the organisation, so they will engage in less deviant behaviour.

The second area of critique is one of applicability. Some argue social bonding theory was developed and tested within the context of "the West," suggesting the theory may not be applicable in other areas of the world. Recently there have been several studies using social bonding theory within different contexts, from around the world (N. W. T. Cheung & Cheung, 2008). For example, Özbay and Özcan (2006) find supporting evidence for social bonding theory in explaining delinquent behaviour of people in Turkey. Another area of applicability concerns itself with using social bonding theory with non-standard samples. For example, Alston, Harley and Lenhoff (1995) test social bonding theory on disabled people, finding results similar to those for people without disabilities.

The above two critiques are of particular importance due to the lack of research conducted within the South African context. Malindi and Machenjedze (2012) use social bonding theory to highlight the importance of educational institutions within a South African context, but no studies could be found explicitly using social bonding theory in a business environment within South Africa. Since no preference could be found for any one element of social bonding theory, it is expected that using all elements of social bonding theory will be applicable in the South African business context. However, people working at organisations within South Africa carry a rich sense of culture and beliefs that may not be congruent with prior studies, but the theory could apply to the South African context, as suggested by the evidence for social bonding theory being valid in cultures as different as Turkey and China, and with people who consider themselves disabled.

Despite the origins of social bonding theory being located in criminology, the theory has also been used in previous work as it relates to the corporate environment. The concept of a youth (as previously discussed) has largely been

adapted to include more corporate roles. For example, Appelbaum, Iaconi and Matousek (2007) look at deviant behaviour of employees in organisations, with a view to finding out what the impacts of positive and negative deviant behaviours on an organisation are.

Social bonding theory within a sales environment has not been excluded. Prior work has explained why salespeople would conduct themselves in a certain manner. Yoo, Flaherty and Frankwick (2014) theorise that employees who have a strong social bond with people in their own organisation would conduct themselves in a manner such that the relationship would not be placed in jeopardy. Using the first three aspects of social bonding, an explanation is offered for why salespeople would not engage in deviant behaviour. Specifically, they suggest a salesperson would trust their manager and feel attached to the relationship, motivating them to sustain the relationship as long as possible.

Social bonding theory is not without its criticism. Several critiques have been addressed over the years. Lilly, Cullen and Ball (2007, p. 120) review a number of these issues. First is the lack of indication as to which of the constructs (attachment, commitment or involvement) are more important. The second critique returns to the sampling used in his initial work. In the initial work the sample selected was typical of the then regular family, mostly white. It is expected that within each family is an underlying culture that would alter the family and therefore the belief system. The last critique mentioned is the lack of explanation of how social bonds are altered within a larger social context.

Despite the critiques found against social bonding theory there still exists substantial supporting evidence for using social bonding theory within research. The decisive evidence for the applicability of social bonding theory in numerous environments and within different contexts suggests the theory can be used in the current context with a high level of confidence. In the current

research, social bonding theory is used to explain longer-term outcomes such as word-of-mouth. The premise is that over time and through several interactions, a salesperson will become more attached to their customer's values and norms, more committed to the working relationship, and more involved with the customer. As this process occurs, the salesperson will believe more strongly that the relationship that will cause better long-term outcomes. This would alter the underlying relationship between the salesperson and the customer.

In Chapter 2 the outcome variable of relationship quality was linked to both sales and word-of-mouth, suggesting that as the salesperson and the customer begin to improve their relationship; so the intent to purchase and the possibility for the customer to spread positive word-of-mouth would increase.

4.5. The link with relationship quality

4.5.1. Affect-based spillover theories

Affect-based spillover theories are theories that can help explain the transfer of different characteristics (affects, beliefs, behaviours, skills and values) from one area to the next. The initial idea of spillover theories can be attributed to the work of Sieber (1974), which was then extended by the work of Crouter (1984) which analysed the relationship between participative work behaviours and personal development and found that when a person is more included in work activities, their non-work activities also improved. Several studies use different theories to explain the impact of effect on customers, but a better understanding of spillover theories is required.

Sirgy, Efraty, Siegel and Lee (2001) frame spillover theories in terms of quality of work-life, suggesting two types of spillover mechanisms. The first is termed horizontal spillover, explained as the influence that one domain of a person's life has on a neighbouring domain. For example, consider the two domains work and education. A negative spillover may occur when there is less

satisfaction being found at work, making the education domain also less satisfying.

The second type of spillover is known as a vertical spillover. To understand this type better, imagine each domain as being in a hierarchy. The example is given of satisfaction, as a domain, where at the top of the hierarchy is "life satisfaction". Spillover would occur when satisfaction of the upper domain spills over into a lower domain (or vice versa).

Several different theories have been developed which assist in the explanation of why and how the transfer of affects occurs. What follows is a partial list of such theories, with a brief discussion of each, focusing on how they explain the transfer of affect.

Excitation-transfer theory: This theory attempts to explain the transfer of stimuli from one emotion to the next. Prior research has used this theory to explain the benefits of non-smoking adverts before a movie (Pechmann & Shih, 1999) or the differences in aggression levels of a person who has been playing video games (Puri, 2011).

Attribution theory: Swan and Nolan (1985) explain that "attribution theory seeks to understand how people come to believe that a cause and effect relationship exists" (p. 43). Miao and Evans (2014, p. 1235) add that attribution theory is especially important for those events bearing important consequences to the individual. There are two types of attributions: the first is external while the second is interpersonal. Focussing on interpersonal attribution, for example, when another person questions one's actions or motives, justification needs to be presented, which would be biased towards a positive perspective. For example, when someone is caught cheating in an exam, they may try to shift blame to the exam for being too hard.

Politeness Theory: Politeness theory explains how people receive and deal with social affronts. Since the initial work of P. Brown and Levinson (1987), much attention has been given to understanding politeness. Westbrook (2007) utilised politeness theory in understanding the interactions between participants of a chat room, and suggested that people would engage and alter the use of polite measures based on the content of the conversation.

Social impact theory: The underlying premise of this theory is to provide a framework for modelling the influence of beliefs, behaviours or attributes of one individual on another. After the initial work (Latane, 1981), the theory has been substantially used over the years. Recently, there has been an increased usage of this theory to explain relationships in the online context (Kwahk & Ge, 2012; H. S. Lee & Lee, 2014).

The above theories are presented as some relevant examples of affect-based spillover theories, and is by no means a complete list. Understanding the essence of why and how affects from one person can be transferred to another is important. Interestingly, the above theories suggest that although there are several different ways to perceive the transfer of affect, they are mostly positive. For example, Szymanski and Henard (2001) attempt to understand customer satisfaction better by employing a meta-analytic perspective. They comment specifically on attribution theory saying there is "a positive relationship between affect and satisfaction" (p. 17).

4.5.2. Homophily theory

Homophily theory suggests that the "similarity of two individuals leads to mutual attraction, trust and consequently new tie formation" (Vissa, 2011, p. 7). Homophily theory provides reasons for people wanting to be similar to each

other. It has been used to explain why women remain in certain social networks (Suitor & Keeton, 1997) and the congruence between marketing efforts and audiences (Whittler, 1991), to name just two.

Homophily theory is also known as the "birds of a feather flock together" theory, implicitly suggesting the theory has ignored the converse. Homophily theory does not address incongruence or dissimilarity, which is noted as a caveat to the theory. The current research applies the essence of homophily to the constructs of personality and organisational culture, arguing personality and organisational culture congruence is important and can affect the relationship quality.

4.5.3. Conclusion

The above theories are presented as a means to link the constructs of personality and organisational culture with the outcome variables of relationship quality, sales and word-of-mouth. The next section will explain the research questions and propositions of this study.

4.6. Research questions and Propositions

The overall research question guiding the study is whether or not a match or mismatch between B2B customer's and salespeople's personalities and organisational cultures affect the relationship quality, sales outcome and word-of-mouth. Figure 7 gives an overall pictorial summary of the model proposed here.
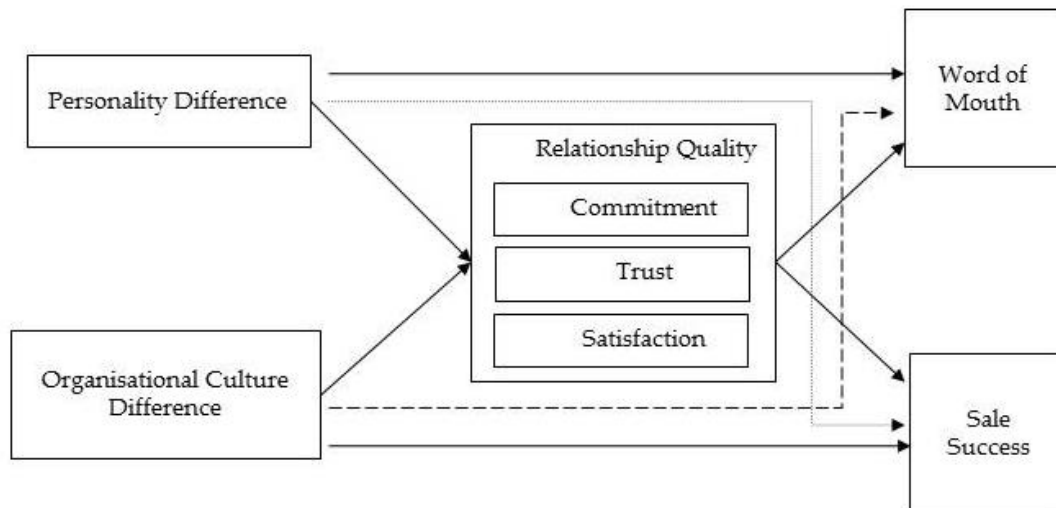
Figure 7. The proposed model.

Broad Research Questions

This section discusses broad research questions, and the next discusses those more precise propositions that can be argued and expressed.

Many of the effects of personality and culture match/mismatch on customer outcomes will remain in exploratory research question format, with limited precision in specific propositions, for two reasons.

- First, although this thesis has so far argued generally that a match in salesperson-customer personality or organisational culture will facilitate customer sales-related outcomes, the exact nature or shape of those relationships has not been defined for lack of theoretical foundation. This thesis will explore and include the possibility of complex nonlinear relationships between the salesperson and customer key attributes (personality and culture) and sales outcomes (Edwards, 2002).
- The second reason for not listing exhaustive hypotheses flows from the first. As will be seen later in the methodology chapter, the methodology being

employed to analyse personality and culture match/mismatch on customer outcomes (namely difference score regression analysis; Edwards, 2002) explores multiple (nine) linear and nonlinear models for every possible combination of one predictor variable (e.g. extroversion) and one outcome (e.g. sales) at a time. This requires numerous analyses to be conducted, and if specific statements were hypothesised it is estimated over 250 hypotheses would be needed. This would be excessively cumbersome.

Accordingly, this thesis keeps the form of general research questions and uses more precise propositions where this would seem defensible and feasible.
Therefore, the broad research questions regarding the relationship between match/mismatch of salesperson-customer personalities and sales-related outcomes are:

Research question 1a: Is a personality match (or mismatch) associated with sale outcomes?

Research question 1b: If personality match/mismatch affects sale outcomes, how does this occur? Does congruence or incongruence improve or harm the sale outcome, at which polar ends of congruence or incongruence do these effects occur and, are these relationships linear or quadratic? How can sales outcomes be achieved?

Second, the broad research questions regarding the relationship between match/mismatch of salesperson-customer cultures and sales-related outcomes are:

Research question 2a: Is an organisational culture match (or mismatch) associated with sale outcomes?

Research question 2b: If an organisational culture match/mismatch affects sale outcomes, how does this occur? Does congruence or incongruence improve or harm

the sale outcome, at which polar ends of congruence or incongruence do these effects occur and, are these relationships linear or quadratic? How can sales outcomes be achieved?

Specific Propositions within the Research Questions

To assist in answering these research questions, a number of limited propositions is presented. Using propositions is preferred to reduce the complexity and provide a framework for later discussion.

Figure 8 below is similar to Figure 7, but Figure 8 shows the relevant propositions as they fit into the larger research.
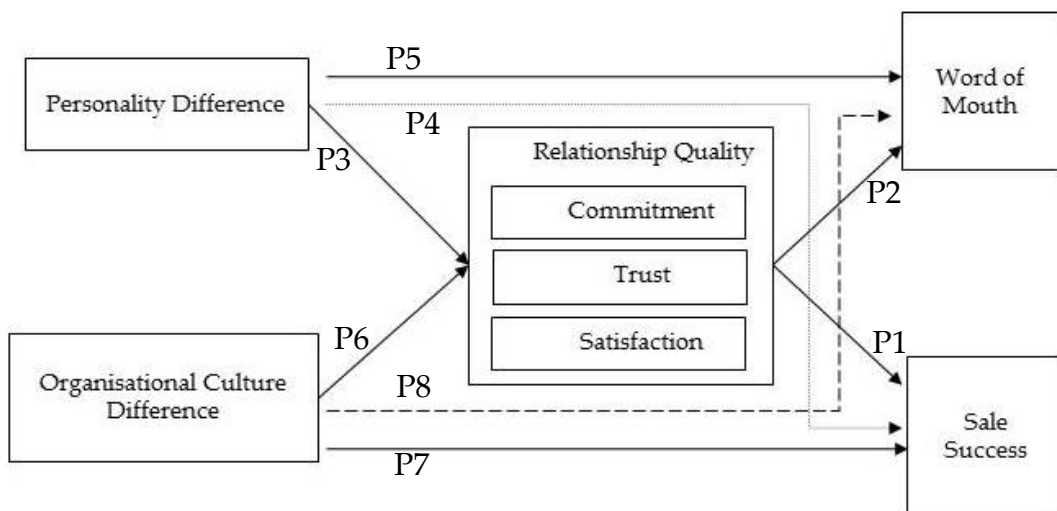
Figure 8: The position of propositions in relation to the model

First, several concrete propositions govern expectations about relationships *within* the sales outcomes. Customer lifetime value comprises several facets, of which revenue is a large focus. In Chapter 2, it is argued that revenue comes from sales success and word-of-mouth. In every interaction between a customer and a salesperson the outcome is twofold. From the customer's perspective, they would want to receive the product or service while from the salesperson's perspective they would want to receive compensation for the product or for services rendered.

In the prior sections, evidence for the relationship between the construct of relationship quality and the outcome variables (WOM and purchase intent) has been shown. The following propositions are therefore presented relating to the effects of relationship quality on sales success and WOM.

> P_1: Increased Trust, Satisfaction and Commitment will be associated with sales success.

> P_2: Trust, Satisfaction and Commitment will be associated word-of-mouth communication.

Second, the thesis notes results such as those of Walsh, Gouthier, Gremler and Brach (2012) and Kossinets and Watts (2009). Walsh et al. (2012) use a combination of homophily theory and attribution theory (from the affect-based spillover theories in section 3.3.1) to explain how customers perceive the outsourcing of call centres. Kossinets and Watts (2009) argue that people feel more comfortable with other people with whom they have similarities. Both Kossinets and Watts (2009) and Walsh et al. (2012) have the underlying argument that people are more satisfied when similarities occur. Applying the theories as outlined earlier in this chapter in the framework provided in Section 3.1. ., the following propositions are suggested to assist in the first research question:

> P_3: The personality match between the customer and the salesperson will affect the quality of the relationship.

> P_4: The personality match between the customer and the salesperson will affect the sale outcome.

> P_5: The personality match between the customer and the salesperson will affect the word-of-mouth.

Answering the second part of the first research question will need to be done within the discussion using a global perspective of all results.

The second research question addresses the relationship between the outcome constructs and organisational culture differences or similarities.

The theory of homophily can be used as an explanation for the similarities in personality, but there are several problems with the theory when applying it to organisational culture. A noticeable problem is that prior to a sales engagement the customer and/or salesperson may already have a preconceived notion of the other's organisational culture. Two theories (homophily theory with expectation theory) are brought together to supplement the solution to this problem.

Expectation theory suggests that both the salesperson and the customer pre-empt the engagement and alter their expectations so as to avoid any potential dissonance. When expectations are met, expectation theory informs us that the level of satisfaction increases. Combining expectation theory with homophily theory, the following propositions relating to organisational culture are put forward:

P_6: The organisational culture match between customer and salesperson will affect the quality of the relationship.

P_7: The organisational culture match between customer and salesperson will affect the sale outcome.

P_8: The organisational culture match between customer the salesperson will affect word-of-mouth.

The second part of the second research question will again require a global perspective of results from the study and will be done within the discussion.

Chapter 5. Methods

5.1. Research design

The study makes use of quantitative analysis of survey data, designed to elicit the personalities and perceived company culture of matched pairs of salespeople and buyers and consider the impact of match/mismatch of these on outcomes of the sales relationship.

The dyadic nature of this study demands two matched samples, to each of which the researcher will administer separate surveys. The first sample is of salespeople in B2B relationships, who will be asked questions eliciting their self–perceived personalities, their perception of their organisation's culture and their perceived relationship quality with the customer. The second sample is of the reciprocal potential buyers of the salesperson's product line, who are asked identical personality, organisational culture and relationship quality questions but also questions relating to word-of-mouth and purchase intention.

The research also requires the gathering of data related to sales outcomes, which the researcher will gather from the salespeople's companies. The data gathered will include whether the customer actually purchased the product and/or service from the salesperson. Data was collected over a six month period.

5.2. Population and sample

5.2.1. Population

The current study has a strong focus on inter-business relationships. It may be presumed the larger population may include all businesses whose customers

are other businesses; but there are three main reasons this assumption should not be made.

Firstly, in large organisations decisions occur in several phases and through a number of difference people or buying centres. This has the potential result of removing the personality of each person from the end decision. Regarding organisational culture, when there are several people within the decision making process, organisational subcultures could confound the issues (Bandura & Walters, 1963). In small and medium organisations, the business decisions are made by few people, if not a single person, leaving the personality values intact and ensuring organisational culture is not clouded.

The second reason for analysing small and medium organisations is because the marketing strategies of larger organisations are better planned, executed and reviewed when compared to smaller organisations (Krake, 2005; Parrott, Azam Roomi, & Holliman, 2010). The result of this is that a closer relationship between the customer and supplier of small and medium firms is more highly valued than it is in larger ones. This is not to say that large firms don't value the relationship but rather that large firms have other sources of marketing such as TV, radio and newspaper adverts that can be relied upon for connecting with their customers.

The last reason relates to the manner in which customers (as opposed to businesses) make decisions. Within the marketing literature, it is well-accepted that the theories of consumer decision-making and business decision-making are separate and unique in many respects. It is believed that, although both theories have merit, with smaller organisations the differences between the two become blurred. Since in small organisations the decisions are made by relatively few people, the decision-making process of businesses will follow more of a consumer-decision making process than a business decision-making process.

The research population is therefore defined as sales representatives and buyers within small-to-medium South African organisations who conduct business–to–business sales negotiations and have business-to-business relationships. These constructs and interactions are generic to most organisations.

5.2.2. Sample / participants

Due to the dyadic nature of the study, the participant selection begins with the salesperson. Ten companies were invited to participate in the study, only five of which accepted. Within each of these five organisations all salespeople (a total of eight salespeople) were approached and six salespeople agreed to participate. During the collection phase one of the salespeople left their organisation and that salesperson's data was destroyed. This means that of the initial eight people; five salespeople's data could be used. The final salesperson response rate is 62.5%. Table 1 shows the demographics of the sales people.

Table 1: Table showing the demographics of the salespeople

Rep ID	Age	Gender	Position	Tenure (months)
1	30 to 35 years	Male	Owner	14
2	42 to 47 years	Male	Co-owner	15
3	36 to 41 years	Male	Sales Rep	13
4	30 to 35 years	Male	Account Manager	108
5	54 years or older	Male	Owner	360

Of surprise is that all salespeople were male and had been in their current position for longer than one year. The position indicated by each person shows that most (three of the five) people had some form of ownership within their organisation. It is believed that the reason for the people holding both the owner position, even though it was stipulated that the survey be for salespeople, is because the people have multiple roles to fill. The requirement

for multiple roles would generally be found in small organisations, where the owner is often also the salesperson.

Over the data collection period, data was collected from each of the five sales representatives. Each salesperson was asked to complete the salesperson questionnaire, and provide the contact person of the customer who they dealt with. Once the completed questionnaire and the customer's contact details were received, the salesperson's customer was then contacted.

In the six months of data collection, 252 customers were invited to complete the customer survey. Once the data was collated there were 109 responses, but 9 responses were destroyed because of being incomplete. The final customer response rate is therefore 40%.

Table 2: Table showing the frequency of customers per salesperson

Rep ID	Number of Customers
Rep 1	16
Rep 2	9
Rep 3	37
Rep 4	16
Rep 5	22

Table 2 shows the number of customers that each of the salespeople contributed to the research. To be clear, Table 2 is simply showing the contribution of each salesperson to the total data collected and in no way indicates that any salesperson is better or more valued than the next.

Moving the attention to the customers' demographics, the following is noted. The tenure duration was converted to total months to form a continuous variable with a mean of 127.24 months (median = 84 months). The variability of tenure was large, having an interquartile range of 132 months (180-48). The shortest tenure was 6 months while the longest was 672 months (56 years), which is not surprising when the tenure times are read with an understanding of the age distribution. Figure 9 below shows the distribution of age among the customers.
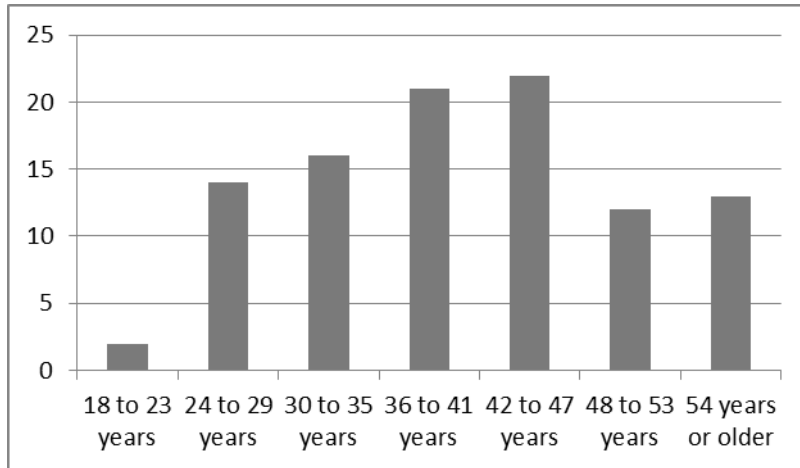
Figure 9: Graph showing the age distribution of the customers

Figure 10 shows the position held within their organisations. 44% of customers had some form of ownership within their respective companies while an additional 45% claimed to be sales managers. It is interesting to note the incredibly high correlation (0.9265) between the tenure at the organisation and the tenure in the current position.
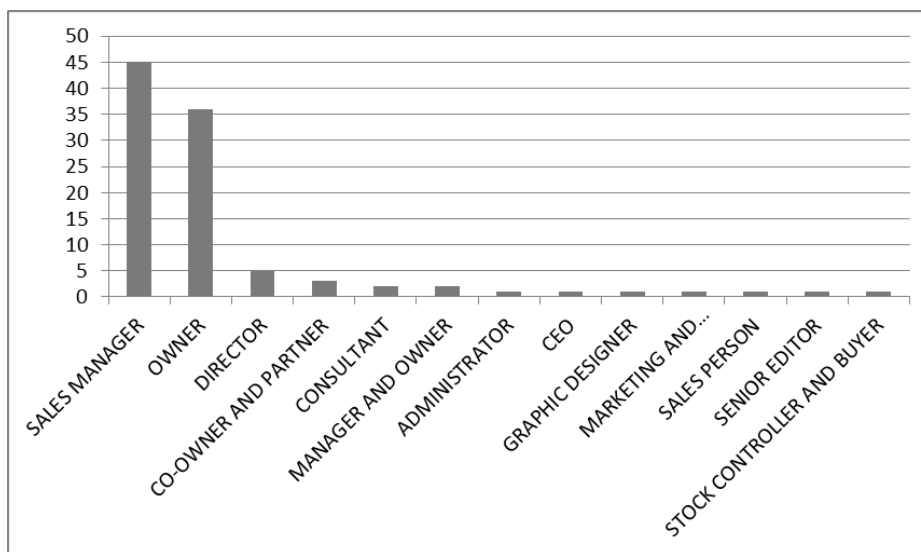
Figure 10: Distribution of the customers' positions in the organisation

Both the salespeople and the customers come from a background of being owners, co-owners, partners or sales managers, suggesting that small-to-medium organisations have been sampled. Further, the sample has a wide

variance of both age and tenure suggesting that the sample is typical of the small and medium South African business-to-business industry.

5.3. Measures

This section will explain the reasoning for using the given measures and should any measurements require major changes, justification for the changes will be provided. The questionnaires are presented in their entirety in Appendix 1.

5.3.1 Outcome variables

Sale success

Measures used to capture sale success are taken from several works within the area of purchase intention. Items used in the current study will be adapted from a number of different works. Wilcox, Kim and Sen (2009), Janiszewski and Chandon (2007) and Argo, Dahl and Morales (2008) all use a single item for the measurement of purchase intent, while the work of Ling et al. (2010) contains multiple items. Respondents are asked: "Would you purchase [the product]?" and answer using a seven-point scale ranging from 1 = "Would definitely not purchase" to 7 = "Would definitely purchase". Similarly, Wilcox et al. (2009) pose the question, "Would you buy the product?" where 1 = "Would definitely not purchase" and 7 = "Would definitely purchase". Argo et al. (2008) pose the question slightly differently, "How likely is it that you buy the product?" In contrast, Ling et al. (2010) suggest that a univariate item is unable to fully capture purchase intention, and use three items. These items are captured on a scale of 1 = "Strongly disagree" while 7 = "Strongly agree".

To ensure a suitable Cronbach alpha, all five questions from the three studies are included to measure purchase intent. The questions used by Wilcox

et al. (2009), Argo et al. (2008) and Ling et al. (2010) come from previous studies and show favourable reliability statistics across the board.

Word-of-mouth

Hennig-Thurau et al. (2002) use a single item to measure word-of-mouth communication, but it is well-accepted that using a single measures is not recommended and that single item will be combined with other items. Goyette, Ricard, Bergeron and Marticotte (2010) suggest using three items to measure word-of-mouth communications, in a study done in the context of electronic word-of-mouth; it is believed that the items are applicable to this current study. Subtle alterations were required, for example "I spoke of this company to many individuals." (p. 13) is changed to "I spoke of the seller to many individuals".

The study of Goyette et al. (2010) reports a Cronbach alpha of 0.69. It is believed that when the items from each of the studies are combined the internal reliability will be improved.

Relationship Quality – Relationship quality will be measured using the perceived relationship quality measurement instrument (Fletcher et al., 2000). Although the initial tool was designed to include such constructs as love, passion and intimacy, such constructs will be omitted in the current study, as the current study occurs within a business environment.

In the same way as the initial work, the items for the current study will be measured on a seven point Likert-Type scale where 1 = "not at all" and 7 = "extremely". In the initial work by Fletcher et al. (2000), the instructions for answering these questions are to rate one's partner and relationship for each question. Again, these instructions are not suitable for the business environment and therefore will be changed to: "Please rate how your relationship is with your service provider for each of the following questions".

5.3.2 Independent Variables

Personality Traits – Personality as a construct will be will be measured using the Big Five traits as discussed by Benet-Martinez and John (1998). Personality is a higher-order construct while the Big Five traits are second-order constructs and each of the five traits is measured with several items. The items come from the well-known work of Goldberg (1990). In this study, 44 items will be used to measure the five traits of personality. Items will be measured using a 5 point scale (1 = "disagree strongly" and 5 = "agree strongly"), indicating how well each statement describes the respondent. The layout for the 44 questions comes from the work of John and Srivastava (1999, p. 132).

Organisational Culture – Organisational Culture is measured using the well-known work of Wallach (1983), which involves the measurement of organisational cultural values in terms of three dimensions, specifically bureaucratic, innovative and supportive. The work investigates the match between organisational culture and employees. Although it is a little dated, more recent work (Lok & Crawford, 2004) has employed the original measures.

Items are measured on a four-point scale with responses ranging from 1 ("does not describe my organisation") to 4 ("describes my organisation most of the time").

5.3.3 Demographics

Demographics – Several demographic variables are captured. These variables include the age of the participant, gender, tenure at the organisation, current position held and tenure in the current position.

5.4. Reliability and validity

5.4.1. Reliability

Reliability refers to the extent that the scales used in this study, if used again, will produce similar results (Malhotra & Birks, 2007). Reliability has also been referred to as the ability to measure consistently (Black & Champion, 1976, pp. 232-234). Arguably the most widely-used measure for reliability is Cronbach's alpha (Cronbach, 1951), and the quantitative references used in the above literature use the Cronbach alpha for measuring reliability. The exact cut-off value is rather inconsistent (Bacon, Sauer, & Young, 1995) and depends on several factors. The Cronbach alpha value may be artificially inflated when there are many items (Shin, 2012), but it has also been suggested that a small sample can deflate the alpha value (DeVellis, 2012).

A commonly suggested lower limit of 0.6 may be used to evaluate the internal reliability, a figure which is used in several works (Hair et al., 2006; Helfenstein & Penttilä, 2008; Lam, Lee, & Mizerski, 2009; W.-B. Lin, 2008; Robinson, Shaver, & Wrightsman, 1991). Some authors believe in higher cut-off values of 0.7 (Bland & Altman, 1997; Numally, 1978); however this does not mean that Cronbach alphas above 0.9 are preferable, because figures this high may indicate that there are multiple questions measuring the same element (Streiner, 2003; Tavakol & Dennick, 2011). In the current study, Cronbach alpha measures of between 0.6 and 0.9 are considered acceptable.

5.4.2. Validity

Chu, Gerstner, & Hess (1995) state that validity refers "to the extent to which a scale or set of measures accurately represent the concepts of interest" (p. 137). Further, there are three different types of validity. The first type of validity is convergent validity, and it assesses the degree to which two

measures of the same concept correlate. Convergent validity is evaluated using average variance extracted (AVE). The second is discriminant validity which is the degree to which two conceptually similar concepts are distinct; it is evaluated using latent variable correlations. Finally, nomological validity refers to the degree that a summated scale makes accurate predictions of other theoretical concepts.

5.4.3. Application to study

Reliability results

A stepwise item analysis is performed for each of the constructs. The item analysis is done independently for each of the constructs used in the current study.

Using 44 items to measure personality means that each factor has some items which harm the Cronbach alpha value, composite reliability and AVE values; such items are therefore removed from the analysis. Once the item is removed, it is excluded from further analysis.

Table 3 shows the results of a SEM focusing on personality. Indicators marked with an asterisk (*) are removed, as those indicators harmed the composite reliability, Cronbach alpha and AVE.

Table 3: Reliability results for personality constructs

Latent Variable	Indicators	Outer Loadings	Composite Reliability	Cronbach Alpha	AVE
Extraversion	*1 – Is Talkative	0.063	.82	.76	.44
	6 – is reserved	0.466			
	11 – is full of energy	0.629			
	16 – generates a lot of enthusiasm	0.528			
	21 – tends to be quiet	0.784			
	26 – has an assertive personality	0.761			
	*31 – is sometimes shy, inhibited	0.167			
	35 – prefers work that is routine	0.590			
Agreeableness	2 – tends to find fault with others	-0.338	.694	.512	.3
	7 – is helpful and unselfish with others	.31			
	12 – starts quarrels with others	.653			
	17 – has a forgiving nature	-.614			
	22 – is generally trusting	.469			
	27 – can be cold and aloof	.79			
	32 – is considerate and kind to almost everyone	.445			
	37 – is sometimes rude to others	.450			
	*42 – likes to cooperate with others	.075			
Conscientiousness	3 – does a thorough job	.627	.86	.81	.47
	8 – can be somewhat careless	.846			
	13 – is a reliable worker	.713			
	18 – tends to be disorganized	.753			
	*23 – tends to be lazy	.33			
	28 – perseveres until the task is finished	.45			
	33 – does things efficiently	.743			
	*38 – makes plans and follows through with them	.124			
	43 – is easily distracted	.561			
Neuroticism	4 – is depressed, blue	.896	.8	.73	.46
	9 – is relaxed, handles stress well	.573			
	14 – can be tense	.718			
	19 – worries a lot	.4			
	24 – is emotionally stable, not easily upset	.46			
	*29 – can be moody	.004			
	*34 – remains calm in tense situations	-.016			
	*39 – gets nervous easily	.294			
Openness	5 – is original, comes up with new ideas	.622	.8	.71	.4
	10 – is curious about many different things	.515			
	15 – is ingenious, a deep thinker	.461			
	20 – has an active imagination	.51			
	25 – is inventive	.22			
	*30 – values artistic, aesthetic experiences	-.57			
	*35 – prefers work that is routine	-.56			
	40 – likes to reflect, play with ideas	.48			
	*41 – has few artistic interests	-.372			
	*44 – is sophisticated in art, music, or literature	-.553			

Organisational culture comprises three constructs (bureaucracy, innovation and supportive) with eight items measuring each. Table 4 shows the reliability results for the construct of organisational culture. Items marked with an asterisk (*) are removed as those indicators harm the composite reliability, Cronbach alpha and AVE.

Table 4: Reliability results for organisational culture

Latent Variable	Indicators	Outer Loadings	Composite Reliability	Cronbach Alpha	AVE
Bureaucracy	1 – hierarchical	.23	.82	.77	.62
	*2 – procedural	-.5			
	*3 – structured	-.342			
	*4 – ordered	-.38			
	*5 – regulated	-.65			
	6 – established, solid	.64			
	*7 – cautious	-.58			
	8 – power-orientated	.69			
Innovation	*9 – Risk Taking	-.004	.76	.65	.4
	10 – results orientated	.61			
	11 – creative	.58			
	*12 – pressurized	.02			
	13 – stimulating	.68			
	14 – challenging	.45			
	*15 – enterprising	.2			
	16 – driving	.52			
Supportive	17 – collaborative	.85	.82	.78	.41
	18 – relationships-orientated	.39			
	19 – encouraging	.51			
	20 – sociable	.7			
	*21 – personal freedom	.13			
	22 – equitable	.34			
	23 – safe	.68			
	24 – trusting	.77			

Relationship quality (satisfaction, trust and commitment, as separate factors), word-of-mouth and sales intent are analysed under the banner of "outcome variables". Relationship quality has three underlying constructs with three questions measuring each construct. Word-of-mouth is measured with four items while sales is measured with five items. Table 5 shows the reliability results for the outcome variables used in the study. Unlike personality and organisational culture, no indicators need to be removed.

Table 5: Reliability results for outcome constructs of sales, word-of-mouth and relationship quality (commitment, trust and satisfaction)

Latent Variable	Indicators		Outer Loadings	Composite Reliability	Cronbach Alpha	AVE
Commitment	1	– How committed are you to your service provider?	.99	.99	.98	.99
	2	– How dedicated are you to your service provider?	.99			
	3	– How devoted are you to your service provider?	.99			
Trust	1	– How much do you trust your service provider?	.93	.92	.92	.85
	2	– How much can you count on your service provider?	.94			
	3	– How dependable is your service provider?	.92			
Satisfaction	1	– How satisfied are you with your service provider?	.99	.95	.99	.98
	2	– How content are you with your service provider?	.99			
	3	– How happy are you with your service provider?	.99			
Word-of-mouth	1	– I often recommend this service provider to others	.72	.92	.88	.75
	2	– I spoke of the service provider much more frequently than about any other service providers	.93			
	3	– I spoke of this service provider much more frequently than about service providers of any other type	.93			
	4	– I spoke of this service provider to many individuals	.86			
Sales	1	– Would you buy this product?	.46	.87	.84	.59
	2	– How likely is it that you buy the product	.5			
	3	– It is likely that I will transact with this retailer in the near future.	.9			
	4	– Given the chance, I intend to conduct business with this retailer.	.94			
	5	– Given the chance, I predict that I should use this retailer's products or services in the future.	.88			

Table 3, Table 4 and Table 5 show the composite reliability, Cronbach alpha and AVE values for each of the constructs. All composite reliability values are above the accepted .6 level (R. P. Bagozzi & Yi, 1988), with the lowest being .694. Although a Cronbach Alpha value of more than .7 is a highly sought-after value, as has been mentioned above, above .6 is generally acceptable. Most Cronbach alpha values here are well above .7, but innovation has an alpha value of .65 and agreeableness is at .512.

5.4.4. Validity Result

Convergent Validity

Convergent validity is achieved when AVE is greater than .5 (Fornell & Larcker, 1981) and the square root of AVE is larger than the correlation of the construct with any other (Gefen & Straub, 2005). In

Table 3, Table 4 and Table 5, AVE is reported, but some AVE values do not reach the generally accepted .5 level. Here, AVE values greater than .4 are accepted for two reasons. Firstly, the results found that when taking the square roots of the construct and comparing these to the correlations of the other constructs, AVE values are well within acceptable limits (see Table 6) and secondly, other studies have accepted levels within a similar region (AVE values of .43 are reported by Cronin, Brady and Hult, 2000).

Discriminant Validity

The Fornell-Larcker criterion (Fornell & Larcker, 1981) suggests that, as with convergent validity, the square root of AVE in each latent variable can be used to determine discriminant validity. If this value ($\sqrt{AVE}$) is larger than other correlation values among latent variables, it is an indication that discriminant validity is well-established. Table 6 lists the correlations between latent variables in the lower left triangle of the table. The value $\sqrt{AVE}$ is indicated on the matrix diagonal in bold. As can be seen, all $\sqrt{AVE}$ values are larger than corresponding variables which therefore suggests that discriminant validity is well-established.

Table 6: Fornell-Larcker Criterion Analysis for Checking Discriminant Validity

	1	2	3	4	5	6	7	8	9	10	11	12
1 – Bureaucracy	**.78**											
2 – Commitment	-.25	**.997**										
3 – Conscientiousness	.48	-.2	**.68**									
4 – Extraversion	.58	-.29	.6	**.662**								
5 –Innovation	.028	.2	.08	.121	**.62**							
6 – Neuroticism	-.62	.16	-.54	-.67	.02	**.68**						
7 – Openness	-.45	.36	-.25	-.19	.37	.39	**.64**					
8 – Sales	-.88	.39	.1	-.01	.16	.03	.21	**.77**				
9 – Satisfaction	-.21	.57	-.27	-.26	.14	.23	.27	.31	**.99**			
10 – Support	-.03	.21	.09	.01	.54	.095	.29	.18	.29	**.636**		
11 – Trust	-.317	.69	-.38	-.38	.3	.368	.37	.33	.81	.4	**.93**	
12 – Word-of-mouth	-.23	.47	-.41	-.35	.174	.43	.45	.11	.54	.24	.58	**.863**

5.5. Theoretical discussion on statistical techniques

5.5.1. Structural Equation Modelling

Structural equation modelling (SEM) is used to lay the foundation for further analysis to build upon. Latent variables that are typically unobservable and hard-to-measure can be included in SEM, therefore making the method ideal for this study (Chin, 1998; Haenlein & Kaplan, 2004). There are two methods for using SEM in understanding relationships. The first is through generating a co-variance-based SEM (CB-SEM). Conversely some researchers may elect to use a partial least squares method SEM (PLS-SEM). This method is aimed at maximizing the explained variance (Hair, Ringle, & Sarstedt, 2011).

Although using SEM is becoming popular within mainstream research, there is much debate regarding PLS-SEM. Some researchers see PLS as less rigorous and therefore less able to examine relationships, but there are considerable advantages in using PLS-SEM. Hair, Ringle and Sarstedt (2013) highlight these advantages, but caution against overstepping the allowed limits. Advantages that are of particular importance include the fact that PLS-SEM does not require a large sample size to be effective. In the current study, there are only five salespeople and 100 customers, meaning that there are 100 dyadic responses. The second advantage for using PLS-SEM over CB-SEM is that PLS-SEM can account for non-linear effects (Cortina, 1993; Dijkstra & Henseler, 2011).

The PLS-SEM algorithm is used to estimate the parameters of the model. PLS-SEM focuses on the analysis of variance and makes no assumptions about data distribution (Vinzi, Trinchera, & Amato, 2010). The sample size (n=100) is suitable for PLS and bootstrapping (a procedure used to generate T-values for significance testing). A reflective measurement scale is used, implying that the causality direction goes from the latent variables to the indicators.

5.5.2. Polynomial Regression

The current research aims to understand how personality and organisational culture differences (or similarities) affect certain outcomes such as relationship quality, word-of-mouth and purchase intension. A naïve approach might be to take the absolute difference between two measures and model the result to an outcome variable, but there are some problems associated with this. To overcome these problems, the use of polynomial regression analysis combined with response surface methodology is suggested. This section will begin with a brief explanation of how difference scores have been used, followed by a discussion of the problems associated with using difference scores, and will then discuss polynomial regression techniques and response surface methodology theory.

Difference scores have been used for many years to understand congruence between two variables and their effects on a predictor variable. Laird and De Los Reyes (2013) explain that difference scores are typically calculated as a simple subtraction of one from another. The reasoning behind this is to establish the range that certain behaviour occurs over. They further explain that some difference scores may be calculated using the absolute measure or squared measures, appropriate if the analysis is not focusing on superiority but rather the level of congruency or discrepancy.

Difference scores are largely employed when research is focused around certain dyadic relationships (Chaurasia and Shukla, 2013, consider the leader-member exchange dyad and Cai and Yang, 2008 consider the buyer-supplier dyad), or when research aims to find difference between two measurements (Proyer, Ruch and Buschor, 2013, conduct a pre-test and a post-test, then analyse the results using difference scores).

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Despite the numerous prior works that employ a methodology using difference scores, few actually engage in the underlying issues. For example, from Garland, Aarons, Hawley and Hough (2003):

> *"We also examined simple correlations between difference scores on the clinical outcomes and satisfaction scores, and the pattern of results was very similar. However these results are not presented because of controversy over the use of difference scores."* (p. 1546)

There are several well-documented problems associated with difference scores (Berry, 1983; Cronbach & Furby, 1970; Edwards & Parry, 1993; Edwards, 2001; Johns, 1981; Peter, Churchill Jr, & Brown, 1993; Sternberg & Grigorenko, 2002; Thomas & Zumbo, 2012; Wall & Payne, 1973). Edwards (2002) provides a simple summary of the issues surrounding difference scores:

> *"Difference scores are often less reliable than either of their component measures. Difference scores are also inherently ambiguous, given that they combine measures of conceptually distinct constructs into a single score. Furthermore, they confound the effects of their component measures on outcomes and impose constraints on these effects that are rarely tested empirically. Finally, they reduce an inherently three dimensional relationship between their component measures and the outcome to two dimensions."* (p. 351)

Edwards and Parry (1993) suggest an improved way to analyse dyads. The problems with difference scores are highlighted, and then polynomial regression is proposed as a way to overcome these problems. According to Bendapudi and Berry (1997), polynomial regression is better suited in the analysis of the agreement (or convergence) of two predictor variables determining an outcome variable, in the analysis of the discrepancy (or divergence) of two predictor variables determining an outcome variable, and in

the analysis of the direction of the discrepancy those two predictor variables have in determining an outcome variable.

Edwards (2002) provides a more technical discussion of how a polynomial regression the technique works, explaining that there are three basic principles and assumptions. These are summarised below:

> *"Firstly, congruence should be viewed not as a single score but instead as the correspondence between the component measures in a two dimensional space. Secondly, the effect of congruence on an outcome should be treated not as a two-dimensional function, but rather as a three dimensional structure relating the two components to the outcome. Lastly, the constraints associated with difference scores should not be imposed on the data, but instead should be treated as hypotheses to be tested empirically."* (p. 360)

Although this technique is more complex than standard regression, it has provided some interesting results. For example, Glomb and Welsh (2005) investigate the personality dimension of control within the supervisor-subordinate dyad, employing polynomial regression. Not only was support for the hypothesis found, but some specific points within the surface area graph were explained.

Although the work of Edwards and Parry (1993) can become rather involved, a summary of their argument is provided below. They explain that when using difference scores the following equation can be used to represent the dyadic nature, regressing onto an outcome variable. In the equation, X and Y represent two component measures, Z represents an outcome measure and *e* represents a random error term:

$$Z = b_0 + b_1(X - Y) + e$$

When this equation is rearranged it may be seen as:

$$Z = b_0 + b_1 X - b_1 Y + e. \tag{1}$$

Equation (1) suffers from several issues. Firstly, each component measure is constrained by a single coefficient value (b_1) implying equal weight. Secondly, this coefficient value for the one component is positive while the second is required to be negative. Lastly, this equation assumes that a linear relationship exists between the component values and the outcome variable. However, these constraints can be relaxed:

$$Z = b_0 + b_1 X + b_2 Y + e. \tag{2}$$

Equation (2) represents the unconstrained representation of Equation (1). In this equation the component measures are split and have their own coefficient values (b_1 and b_2 respectively), allowing their magnitude and direction to alter. Due to this alteration, in theory, Equation (2) can explain more variance than Equation (1).

The argument can be taken further. Although a linear relationship is most easily interpreted, it may not necessarily explain the greatest amount of variance within a dataset. Because of the need to maximize the variance explained, one method to increase the amount of variance explained might be to square the differences between the component measures, as written in the following equation:

$$Z = b_0 + b_1 (X - Y)^2 + e.$$

The resulting equation suggests a curvilinear shape, showing that as the absolute difference between the two component measures increases and decreases so does the value of Z. When this equation is expanded it can be represented as:

$$Z = b_0 + b_1 X^2 - 2b_1 XY + b_1 Y^2 + e. \tag{3}$$

Equation (3) suffers from similar problems to Equation (1), but it does so from a curvilinear perspective. Unlike the linear equation, this equation imposes some additional constraints, specifically that the coefficients for X and Y will always be 0; that the sum of the coefficients of X^2, XY and Y^2 will always

be 0, and lastly the coefficients on X^2 and Y^2 are always equal. When these constraints are relaxed, the following, more general equation is achieved:

$$Z = b_0 + b_1X + b_2Y + b_3X^2 - 2b_4XY + b_5Y^2 + e. \qquad (4)$$

Given the numerous different equations, which would be best in understanding the relationships, investigated in the current study? The best equation would be the equation that allows the most amount of variance to be explained (the equation which yields the highest R^2 value would be best suited).

In addition to providing the above equations, Edwards and Parry (1993) also provide a framework for the interpretation of the output. The framework is built around response surface methodologies, which several authors have documented (Khuri & Mukhopadhyay, 2010; W. R. Myers & Montgomery, 2003). Carley, Kamneva and Reminga (2004) explain that response surface methodology is "useful for developing, improving and optimizing processes" (p. 1). Bezerra, Santelli, Oliveira, Villar and Escaleira (2008) explain response surface methodology as follows:

> *"[Response Surface Methodology] consists of a group of mathematical and statistical techniques that are based on the fit of empirical models to the experimental data obtained in relation to experimental design. Toward this objective, linear or square polynomial functions are employed to describe the system studied and, consequently, to explore (modeling and displacing) experimental conditions until its optimization"* (p. 966)

Baş and Boyacı (2007) describe the process of converting the mathematical equations into a graphical representation of the predicted model. The graphical representation attained is a theoretical three-dimensional plot showing the relationships found within the predicted model. A plot would generally contain contour lines depicting the shape of the graph. When these contour lines form ellipses or circles, a stationary point may be calculated, something that can also be done by calculating where the derivative of the second-order equation is

equal to zero. In the current study, several three-dimensional plots will be generated.

Returning to the discussion of the framework of Edwards and Parry (1993), it is suggested that there are three key features which should be addressed for each surface. The first feature that should be addressed is the stationary point of the graph. Such a point occurs at a minimum, maximum or saddle point. The second feature that should be interpreted is the principal axes. These axes run perpendicular to each other and intersect at the stationary point. The last feature that should be addressed is the slope along various lines of interest. Typically the researcher would be interested in congruence or incongruence between two elements and how they affect the outcome variable; the line of congruence can be found where $Y = X$, while the line of incongruence can be found where $Y = -X$. It is important to remember that the principal axes and the lines of congruence or incongruence may not be the same.

5.5.3. Bayesian Networks

In this section the theoretical understanding of Bayesian networks is explained. The main reason for including this paradigm in the thesis is to better understand the second halves of the two research questions. Bayesian networks will facilitate the discussion of how certain sales outcomes can be achieved. This chapter will continue with a brief explanation of what a Bayesian network (BN) is and what insights it can provide a researcher. The chapter will then provide a description of how a BN is generated and operationalised, and lastly a BN will be generated and discussed for the current study.

Broadly speaking, a BN provides a way to understand causality better. Charniak (1991) describes a BN as a model used to explain "a situation in which causality plays a role but where our understanding of what is actually going on

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is incomplete" (p. 51), while according to Baesens et al. (2004), a BN "represents a joint probability distribution over a set of discrete, stochastic variables" (p. 5).

When operationalising a BN, one may visualise it using a graphical model comprising nodes and edges, also known as a direct acyclic graph. The nodes depict the variables and the edges depict the causal links between them (Pearl, 1988). The edges have direction and there are no cycles in the network (Korb & Nicholson, 2010). An example of a simple Bayesian Network is shown in Figure 11.
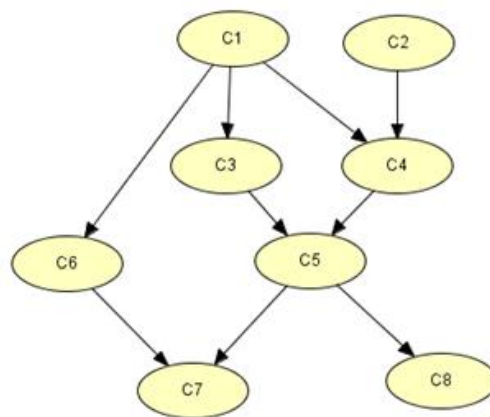

Figure 11: A Simple Bayesian Network

Whereas SEMs focus on the paths between variables, BNs focus on the causality between variables. Each node can take on two or more mutually exclusive and exhaustive states, implying that the variable takes on exactly one of these values at a time. We only consider discrete states in this study, although continuous states are also allowable. The relationships between connected nodes are quantified by specifying a conditional probability table (CPT) for each node.

All the possible combinations of values of parent nodes constitute the CPT. Each combination is called an instantiation of the parent set and for each instantiation of parent node values, probabilities should be specified that the child node will take on given values. Figure 12 illustrate a fictitious CPT for node C4 in Figure 11. Both parent nodes (C1 and C2) and the child node (C4) can take on the values "Disagree", "Agree somewhat" and "Agree". For example, if "C1 = Disagree" and "C2 = Disagree", then P(C4 = Disagree, C4 = Agree somewhat, C4 = Agree) = (1,0,0), i.e. the probability of C4 being "Agree somewhat" or "Agree" is zero, and the probability that C4 is "Disagree" is 1.

C2	Disagree			Agree somewhat			Agree		
C1	Disagree	Agree somewhat	Agree	Disagree	Agree somewhat	Agree	Disagree	Agree somewhat	Agree
Disagree	1	0.5	0.5	0.5	0	0	0.5	0	0
Agree somewhat	0	0.5	0	0.5	1	0.5	0	0.5	0
Agree	0	0	0.5	0	0	0.5	0.5	0.5	1

Figure 12: Example of CPT

Bayes' Theorem

Bayes' theorem may be expressed as follows:

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)} \qquad (5)$$

The explanation of Sun and Shenoy (2007) will be adapted for the current context of the study. In the current context we are interested in sales success so assume this is represented by *A*. *P(A)* denotes the probability that a sale will be a success with no prior knowledge. *P(A|B)* represents the (conditional) probability of a sale being a success given certain prior knowledge *B*. Suppose that if a customer trusts the salesperson, we label this knowledge *B*. *P(B)* describes the probability of a customer trusting the salesperson.

If the level of trust that a customer has in our salesperson is known, Equation (5) can be re-arranged to give:

$$\frac{P(A|B)}{P(\sim A|B)} = \frac{P(A)}{P(\sim A)}\frac{P(B|A)}{P(B|\sim A)} \qquad (6)$$

where $P(\sim A)$ is the probability that *A* is not the case and so $\frac{P(A|B)}{P(\sim A|B)}$ is the likelihood ratio for *A*, given evidence *B*.

For a more mathematical explanation of Bayes' theorem, the work by N. L. Zhang and Poole (1994) and Niedermayer (2008) is recommended.

Reasoning with Bayesian networks

Traditional inferential models do not allow for the introduction of prior knowledge into the calculations, but this introduction may be required. For example, if we were to make an inference about a sale without knowing whether a customer trusts the salesperson, we may arrive at an inaccurate inference. Bayes' theorem allows for the introduction of prior knowledge that will alter the inference.

1Once a BN is constructed and quantified, it can be used to reason about the specified domain. When the value of some variable is observed, this new information can be used to update any beliefs. This updating is not confined the direction of the arcs in a BN. BNs can be conditioned upon any subset of their variables, making the reasoning extremely flexible.

Figure 13 and Figure 14 illustrate two examples of reasoning with BNs (continuing with the BN from Figure 11). The red bars represent evidence entered. A typical "what-if" reasoning would be (for Figure 13: Reasoning with a BN - Example 1**Error! Reference source not found.**): "What if C2 = 'Disagree'? – How does it update my belief about the rest of the nodes and their values?" Figure 14 reasons in the same direction as the arcs and Figure 13 reasons in both the same and opposite directions as the arcs.
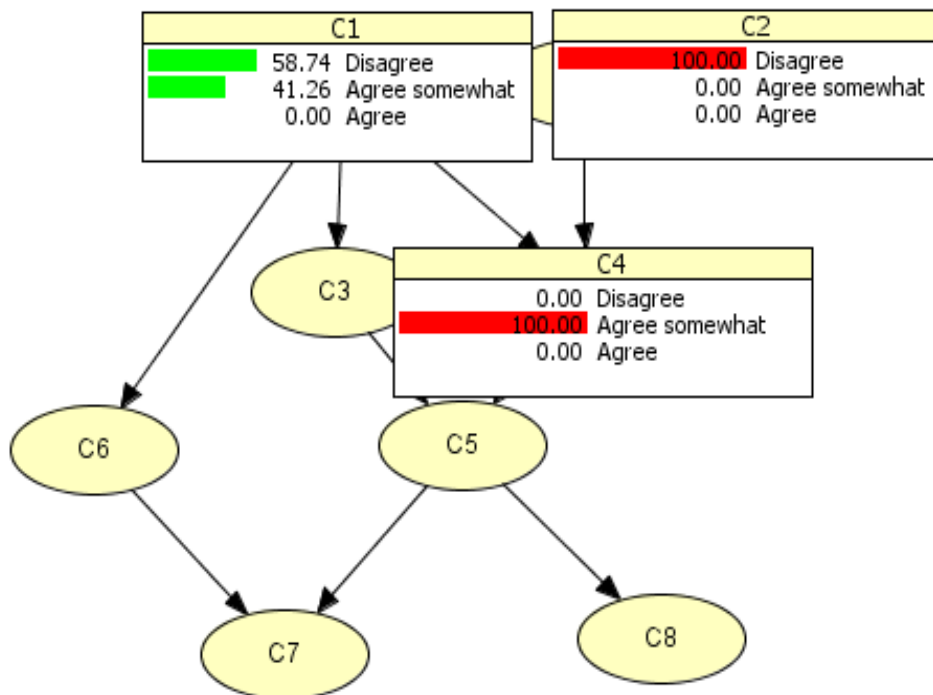

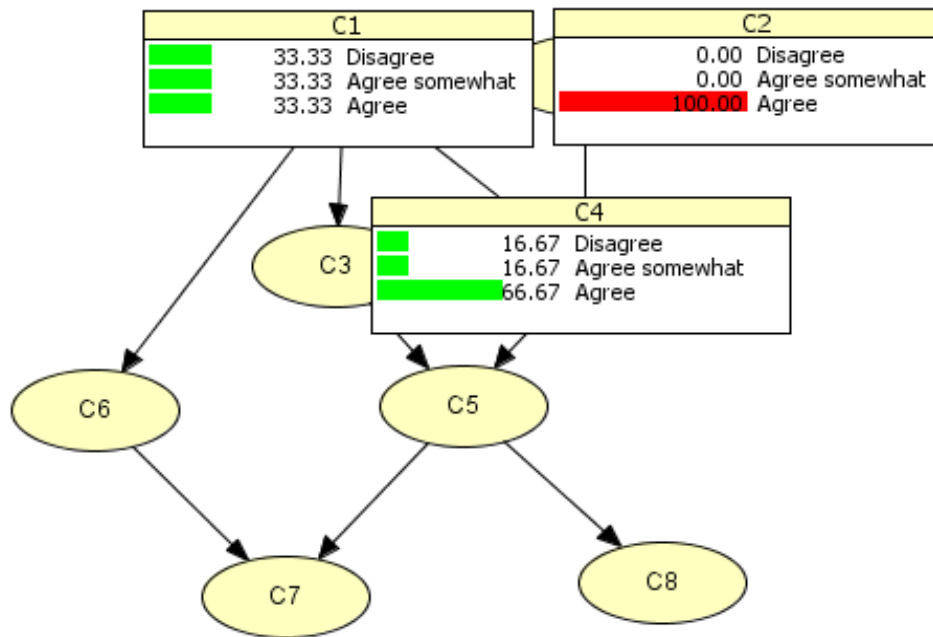**Figure 13: Reasoning with a BN - Example 1**

Figure 14: Reasoning with a BN - Example 2

5.6. Methods Conclusion

Chapter 5 aimed at exploring the theoretical, technical and methodological aspects of analysing dyads. The methods used within this research are empirical, quantitative, cross-sectional, survey of the SME market. The sample comprises five sales people having one-hundred customer data points. There was a fair distribution of data among the salespeople, yielding a suitable collection of data for the analysis.

The operatinalization of the theoretical constructs are discussed with measures coming from several previous works. Sales-success, word-of-mouth and relationship quality comprise the outcome variables while the independent variables consisted of personality and organisational culture. Reliability and validity were first theoretically discussed and later tested. The results show reasonable reliability with all but two constructs having a Cronbach Alpha of

greater than 0.7. Both convergent and discriminate validity are supported by the data providing a suitable base for further analysis.

A theoretical discussion on the statistical techniques was then presented. It is argued that PLS-SEM analysis is a suitable statistical technique for analysing the data collected. It is argues that the data collected from the customer-salesperson dyad necessitates the use of polynomial regression techniques. The techniques that are used in this analysis comes from the work of Edwards and Parry (1993). It is argued that the use of polynomial regression provides the input data for network analysis, specifically Bayesian Network Analysis.

Chapter 6. Analysis

6.1. Data Capturing and Analysis

The data was captured in excel and then analysed using SAS, SAS-Enterprise Guide 6.1, several procedures within SAS 9.4 (G. J. Lee, 2015). When conducting the model quality and SEM analysis, a combination of the R package semPLS (Monecke & Leisch, 2012) and SmartPLS (Ringle, Wende, & Will, 2005) was used. When analysing the polynomial regression and response surface graphs, Python was used. Lastly, Hugin 8.2 Educational Licence was used to develop and generate the Bayesian networks.

This chapter will begin with a discussion on the PLS-SEM results which will lead into a discussion of the polynomial regression and surface response analysis. The chapter will conclude with several Bayesian networks being presented.

6.2. Multilevel models

Given that the sample comprises salespeople and customers, it is possible that the salespeople have a "type" of customer, meaning that the effects which could be observed may be attributed to the specific salesperson and not to the constructs being studied. This type of study is known as a multilevel model analysis, and the models involved are also known as hierarchical models, nested models, mixed models or split-plot designs, to mention a few.

In Singer (1998), it is explained that a researcher may deal with multiple levels within a study. Models involving two levels are termed "two-level effect models." In the perspective of the current study, salespeople may be seen as the first level while the second level may be seen as the customers. This argument

assumes that there are significant differences between the customer groups. The most appropriate way to show evidence for significance between groups would be to conduct ANOVA tests (Cardinal & Aitken, 2013).

A Kruskal-Wallis test is used to determine if there are differences between groups. This statistical test "calculates the probability of being wrong when concluding that there is no difference between three or more groups" (Theodorsson-Norheim, 1986, p. 58). The Kruskal-Wallis test is sometimes known as the H-test and is used to determine if there are differences between numerous groups (Chan & Walmsley, 1997).

Table 7: Table showing the Kruskal-Wallis test results

Outcome variable	χ^2	Sig
Extraversion	5.8375	.2116
Agreeableness	2.0790	.7212
Neuroticism	2.8678	.5802
Openness	1.5596	.8160
Bureaucracy	3.2837	.5115
Supportive	4.9522	.2922
Innovative	3.4909	.4792

Table 7 shows the results of the Kruskal-Wallis tests. In all aspects we can conclude that there are no significant differences between the groups of customers.

6.3. PLS-SEM analysis

A PLS-SEM analysis is performed on the difference scores between the customer's and salespeople's personalities and respective organisational cultures, to form a baseline for further analysis to build upon. Although difference scores are not advocated for (Garland et al., 2003), they are used to form a baseline for later analysis.

To determine the statistical significance of the structural path (for both the inner and outer model), bootstrapping is used. Bootstrapping approximates the normality of the data, allowing T-values to be calculated. These T-values are used for hypotheses testing.

PLS-SEM Settings

1. Weighting scheme: PLS-SEM allows the user to apply three structural model weighting schemes: (1) centroid weighting scheme, (2) factor weighting scheme, and (3) path weighting scheme. While the results differ little for the alternative weighting schemes, path weighting is the recommended approach. This weighting scheme provides the highest R^2 value of endogenous latent variables and is generally applicable for all kinds of PLS path model specifications and estimations, and is the weighting-scheme chosen here.

2. Stop Criterion: The PLS algorithm stops if the change in the outer weights between two consecutive iterations is smaller than this stop criterion value (or the maximum number of iterations is reached). This value was set to 10^{-7}. The maximum number of iterations was set to 30.

Bootstrapping settings that were used:

1. In bootstrapping, subsamples are created with observations randomly drawn from the original set of data (with replacement). To ensure stability of results, the number of subsamples should be large. The number of subsamples was set to 500.

2. The bias-corrected and accelerated (BCa) bootstrap method is used, as it is the most stable method that does not need excessive computing time.

3. Test type: one-sided significance tests are conducted for confidence intervals.

4. Significance level was set at .1.

5. The underlying hypotheses used are:

    H_0: Data comes from a normal dataset

    H_a: Data comes from a non-normal dataset

    A one-tail t-test with a significance level of .1 was performed on the results of the bootstrap procedure. Several paths were excluded due to insignificance and these paths have been marked in the respective comment fields. Table 8 contains the bootstrapping results and Figure 15 shows the PLS-SEM results in a graphical manner.

Table 8: Bootstrap Results

	T STATISTICS	P VALUES	COMMENT
EXTRAVERSION -> COMMITMENT	2.47	.007	
EXTRAVERSION -> SATISFACTION	.89	.187	Will be excluded
EXTRAVERSION -> TRUST	1.782	.037	
AGREEABLENESS -> Commitment	1.85	.032	
AGREEABLENESS -> SATISFACTION	1.64	.051	
AGREEABLENESS -> TRUST	1.55	.06	
NEUROTICISM -> COMMITMENT	1.551	.06	
NEUROTICISM -> SATISFACTION	.124	.451	Will be excluded
NEUROTICISM -> TRUST	.18	.429	Will be excluded
OPENNESS -> COMMITMENT	2.41	.008	
OPENNESS -> SATISFACTION	.971	.332	Will be excluded
OPENNESS -> TRUST	1.050	.294	Will be excluded
CONSCIENTIOUSNESS -> COMMITMENT	.007	.497	Will be excluded
CONSCIENTIOUSNESS -> SATISFACTION	2.072	.019	
CONSCIENTIOUSNESS -> TRUST	2.765	.003	
BUREAUCRACY -> COMMITMENT	.51	.307	Will be excluded
BUREAUCRACY -> SATISFACTION	.58	.28	Will be excluded
BUREAUCRACY -> TRUST	.352	.362	Will be excluded
INNOVATION -> COMMITMENT	.537	.3	Will be excluded
INNOVATION -> SATISFACTION	.325	.37	Will be excluded
INNOVATION -> TRUST	1.184	.118	Will be excluded
SUPPORTIVE -> COMMITMENT	.887	.376	Will be excluded
SUPPORTIVE -> SATISFACTION	2.378	.018	
SUPPORTIVE -> TRUST	2.64	.004	
COMMITMENT -> SALES	2.06	.02	
COMMITMENT -> WOM	.975	.165	Will be excluded

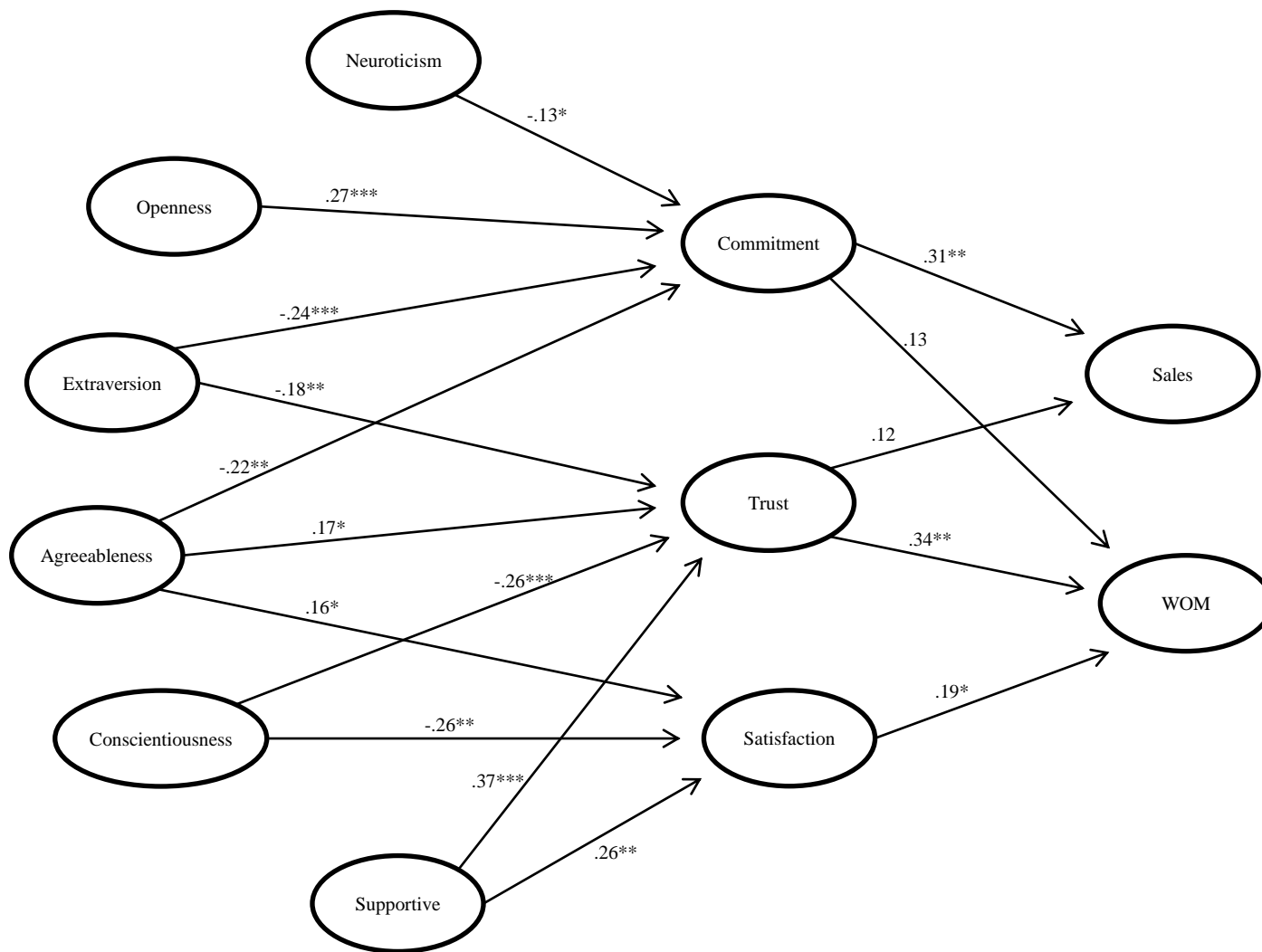|			
SATISFACTION -> SALES	.51	.31	Will be excluded
SATISFACTION -> WOM	1.238	.1	
TRUST -> SALES	.17	.43	Will be excluded
TRUST -> WOM	2.017	.022	

Figure 15: PLS-SEM standardized results including only significant effects

Notes: *** = *p < .01*   ** = *p < .05*   * = *p < .1*

Table 9: Effect decomposition of structural equation model (Figure 15)

Causal variables	Endogenous Variables for structural equation model				
	Commitment	Trust	Satisfaction	WOM	Sales
Extraversion					
Direct effect	-.23**	-.17	-	-	-
Indirect effect	-	-	-	-.10	-.10
Total effect	-	-	-	-	-
Agreeableness					
Direct effect	.23	.18	.17	-	-
Indirect effect	-	-	-	-.12	-.09
Total effect	-	-	-	-	-
Neuroticism					
Direct effect	-.13*	-	-	-	-
Indirect effect	-	-	-	-.02	-.04
Total effect	-	-	-	-	-
Conscientiousness					
Direct effect	-	-.25	-.25	-	-
Indirect effect	-	-	-	-.14	-.03
Total effect	-	-	-	-	-
Openness					
Direct effect	.27	-	-	-	-
Indirect effect	-	-	-	-.03	-.03
Total effect	-	-	-	-	-
Supportive					
Direct effect	-	.37	.27	-	-
Indirect effect	-	-	-	-.17	-.04
Total effect	-	-	-	-	-
Trust					
Direct effect	-	-	-	.34**	.12
Indirect effect	-	-	-	-	-
Total effect	-	-	-	-	-
Satisfaction					
Direct effect	-	-	-	.19*	-
Indirect effect	-	-	-	-	-
Total effect	-	-	-	-	-
Commitment					
Direct effect	-	-	-	.13	.31**
Indirect effect	-	-	-	-	-
Total effect	-	-	-	-	-

Notes: *β = standardised effect sizes.* *** = p < .01*   ** = p < .05*   *= p < .1*

As can be seen in Table 9, the strongest total effect on sales outcome is Commitment (β = .31, p < .01), while the strongest effect on word-of-mouth is Trust (β = .34, p < .01). The indirect, linear effects of the personality and organisational culture differences have weak indirect effects on sales (ranging from -.10 to -.03) and word-of-mouth (ranging from -.17 to -.02). As expected, there are moderate effects between the intermediate variables of relationship quality and both the personality and organisational culture differences. There are several exceptions inasmuch as not all personality traits and organisational culture aspects are found to affect both sales outcome and word-of-mouth.

6.4. Polynomial Regression Analysis

Difference scores will not be used for the bulk of this analysis, but as explained in section 5.5.2. , polynomial regression analysis will be used. The framework used for this analysis comes from the work of Edwards and Parry (1993) and Edwards (2002), a framework which requires some 10 different equations to be tested, analysed and reported on for each relationship. For the current research, it would result in a total of 300 equations, and to report on all 300 is impractical. This section implements the following order of analysis. Firstly, the minimum required criteria for inclusion in the analysis will be discussed. Following that will be a discussion on which of the equations of Edwards and Parry (1993) best suit the current studies context. Thirdly, several thematic groupings of the surviving and excluded models will be discussed.

6.4.1. Minimum Required Criteria and selected model

Within each association of a difference score and chosen dependent variable, the best difference score model was assessed through comparison of R^2 statistics, adjusted R^2, and information criteria. Perhaps not surprisingly, in

each case, the best model is the unconstrained squared model (i.e. curvilinear polynomial).

Table 10 provides a summary of the R^2 values for each of the equations explained in section 5.5.2. The item in the top left represents the outcome measure (Z) while the items in the rows represent the component measures (Y and X).

Table 10: Summary of the R² value that each equation provides

Commitment	Constrained Linear Equation	Unconstrained Linear Equation	Constrained Curvilinear Equation	Unconstrained curvilinear equation
Extraversion	.0102	.1133	.0102	.1575*
Agreeableness	.0085	.7623	.0085	.1573*
Neuroticism	.0287	.1385	.0287	.1725*
Conscientiousness	.0158	.1653	.0148	.1762*
Openness	.0256	.1068	.0255	.1832*
Bureaucratic	.0209	.1066	.0208	.1190*
Innovative	.0312	.0334	.0312	.3670*
Supportive	.0224	.0227	.0224	.1500*

Trust	Constrained Linear Equation	Unconstrained Linear Equation	Constrained Curvilinear Equation	Unconstrained curvilinear equation
Extraversion	.0307	.1927	.0307	.2620*
Agreeableness	.0002	.1578	.0003	.2663*
Neuroticism	.0006	.1992	.0006	.2355*
Conscientiousness	.0001	.1975	.0001	.2641*
Openness	.0098	.1736	.0098	.2547*
Bureaucratic	.0147	.1556	.0147	.1752*
Innovative	.0346	.0838	.0350	.1042*
Supportive	.0567	.0737	.0567	.2564*

Satisfaction	Constrained Linear Equation	Unconstrained Linear Equation	Constrained Curvilinear Equation	Unconstrained curvilinear equation
Extraversion	.0052	.1059	.0052	.1594*
Agreeableness	.0033	.0694	.0033	.1483*
Neuroticism	.0014	.1122	.0014	.1538*
Conscientiousness	.0045	.1597	.0045	.1701*
Openness	.0022	.0873	.0022	.1946*
Bureaucratic	.0063	.0794	.0064	.0984*
Innovative	.0061	.0137	.0061	.0412*
Supportive	.0441	.0446	.0441	.1669*

Word-of-mouth	Constrained Linear Equation	Unconstrained Linear Equation	Constrained Curvilinear Equation	Unconstrained curvilinear equation
Extraversion	.0163	.1975	.0163	.2993*
Agreeableness	.0261	.1711	.0261	.3041*
Neuroticism	.0050	.2283	.0049	.2750*
Conscientiousness	<.0000	.2865	<.0000	.3129*
Openness	.0320	.2212	.0320	.3290*
Bureaucratic	.0127	.1590	.0127	.2207*
Innovative	.0130	.0340	.0130	.0440*
Supportive	.0079	.0097	.0079	.2105*

Sale Success	Constrained Linear Equation	Unconstrained Linear Equation	Constrained Curvilinear Equation	Unconstrained curvilinear equation

Extraversion	.0134	.0529	.0134	.1269*
Agreeableness	.0070	.0268	.0070	.0432*
Neuroticism	.0288	.0669	.0288	.0880*
Conscientiousness	.0109	.0484	.0109	.0551*
Openness	.0036	.0392	.0036	.0968*
Bureaucratic	.0024	.0368	.0024	.1021*
Innovative	.0179	.0206	.0179	.0513*
Supportive	.0154	.0155	.0154	.1073*

* Best Model

As can be seen in

Table 10, equation (4) always has the highest R^2 value, suggesting that as the equations begin to account for non-linearity and have fewer constraints the more variance can be accounted for. It is interesting to note in particular that in most cases the unconstrained equations (both linear and curvilinear) had higher R^2 value when compared to their counterpart constrained equations. In addition, all cases show that the non-linear equations have higher R^2 value compared to their linear counterparts. When conducting the polynomial regression analysis, equation (4) will be used simply because it outperforms the other equations when considering the R^2 value.

Later in the discussion (section 8.5.) the relationships are grouped according to different themes. A logical constraint placed on these groups is that for a relationship to be included in a group, the outcome variable needs to have a range greater than 1. The following relationships are excluded because of the range being too small:

Table 11: Relationships not meeting the minimum required outcome variable range

Relationship	Outcome Variable
Innovation	Commitment
Innovation	Satisfaction
Innovation	Sales
Extraversion	Sales
Agreeableness	Sales
Conscientiousness	Sales
Neuroticism	Sales

6.4.2. Using Edwards' Framework

This discussion will closely follow the framework set out by Edwards and Parry (1993) and Edwards (2002). Due to the number of polynomial regressions required, only one analysis will be explained in depth. Details required for more in-depth analysis of other constructs can be found in the appendix. After

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the detailed discussion, a briefer analyses are done on the remaining constructs, merely highlighting individual relationships.

6.4.2.1. The detailed analysis of one exemplar

The detailed discussion is centred on the personality trait of Agreeableness as it relates to the outcome variables of trust, satisfaction, commitment, sales-outcome and word-of-mouth. To be clear, there is no specific reason for choosing agreeableness over the other personality traits or organisational culture aspects. The respective graphs for Agreeableness are found in Figure 16, Figure 17, Figure 18, Figure 19 and Figure 20.

$$Z = -33.04 + (-0.58\ X^2) + (5.65\ X) + (14.39\ Y) + (-0.18\ XY) + (-1.78\ Y^2)$$
$$R^2 = 0.16$$
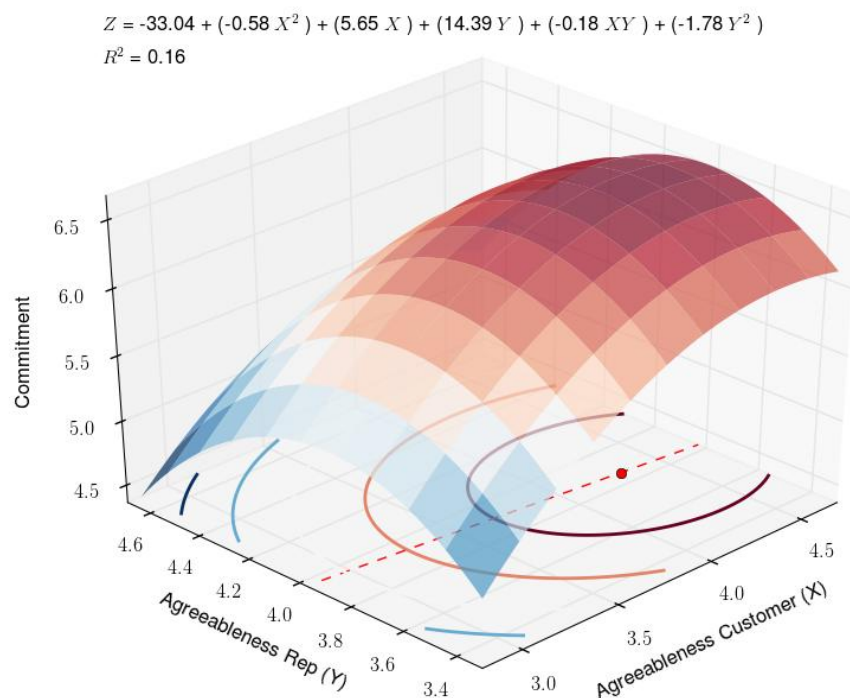
Figure 16: Agreeableness against the outcome variable of commitment

$Z = -31.24 + (-1.05\ X^2) + (7.03\ X) + (12.84\ Y) + (0.32\ XY) + (-1.86\ Y^2)$

$R^2 = 0.27$
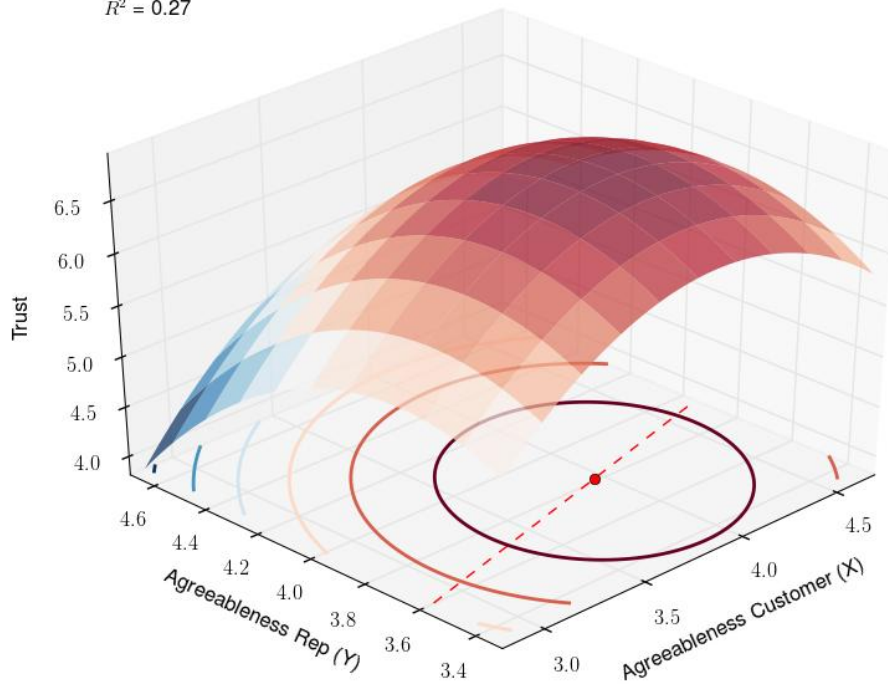
Figure 17: Agreeableness against the outcome variable of trust

$Z = -15.96 + (-0.02\ X^2) + (-0.27\ X) + (11.78\ Y) + (0.17\ XY) + (-1.61\ Y^2)$

$R^2 = 0.15$
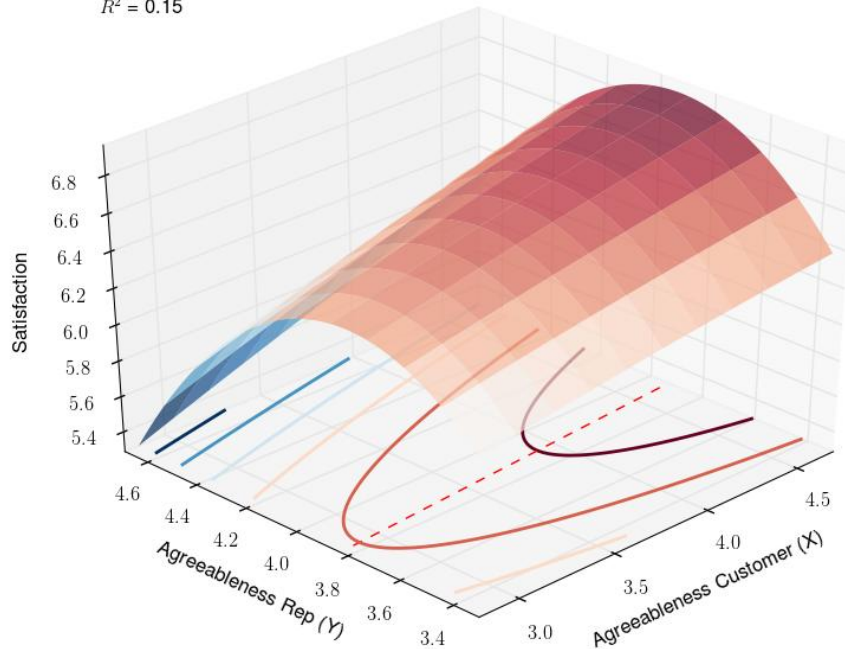
Figure 18: Agreeableness against the outcome variable of satisfaction

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$$Z = 11.22 + (0.06\ X^2) + (-2.02\ X) + (-0.68\ Y) + (0.43\ XY) + (-0.14\ Y^2)$$
$$R^2 = 0.04$$
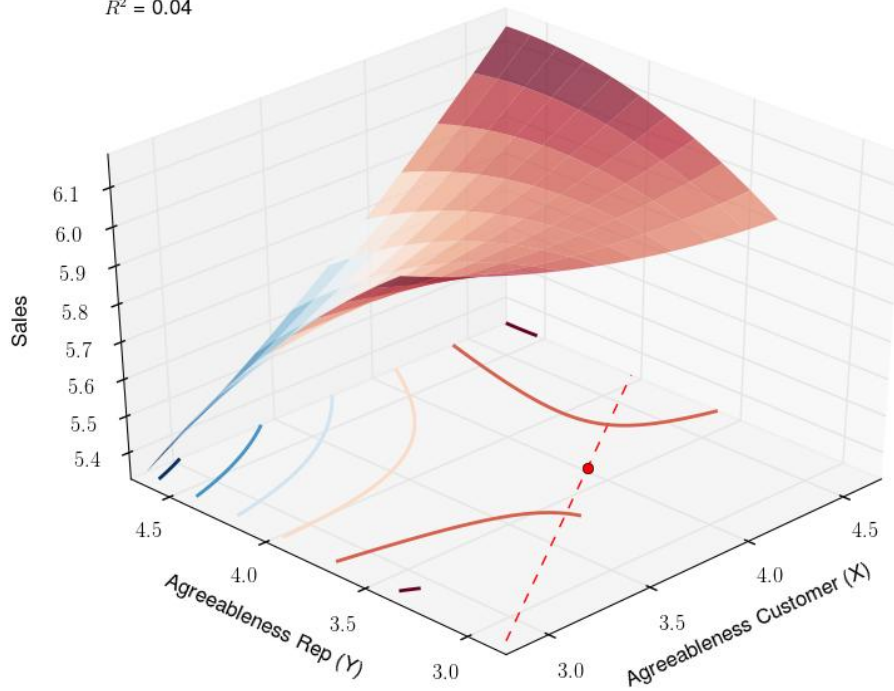
Figure 19: Agreeableness against the outcome variable of sales

Hypothetical Surface for Word of Mouth by Agreeableness Customer (X) and Agreeableness Rep (Y)

$$Z = -17.82 + (0.64\ X^2) + (-7.57\ X) + (19.36\ Y) + (0.89\ XY) + (-2.97\ Y^2)$$
$$R^2 = 0.30$$
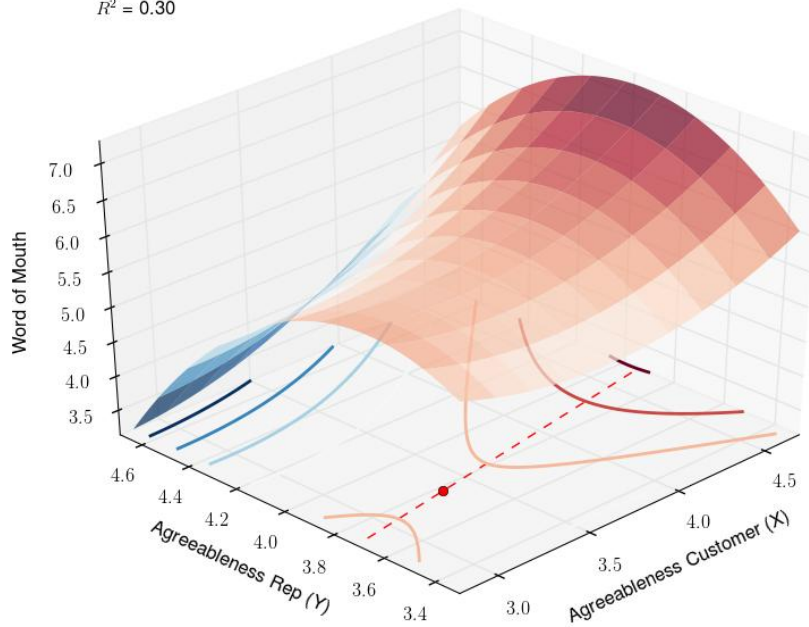
Figure 20: Agreeableness against the outcome variable of word-of-mouth

Table 12: Stationary points and Principal axes for personality trait Agreeableness[1]

Personality Trait	Outcome	Stationary Point		First Principal Axis		Second Principal Axis	
		X_0	Y_0	P_{10}	P_{11}	P_{20}	P_{21}
Agreeableness	Sales	3.98	3.58	1.06	.63	9.87	-1.58
Agreeableness	Word-of-mouth	3.32	3.75	3.35	.12	31.13	-8.25
Agreeableness	Trust	3.93	3.79	3.04	.19	24.26	-5.22
Agreeableness	Commitment	4.28	3.83	4.16	-.07	-8.74	13.35
Agreeableness	Satisfaction	11.33	4.26	3.66	.05	216.87	-18.77

[1] N =100. For the column labelled X_0 and Y_0 table entries are coordinates of the stationary point in the X, Y plane. For the columns labelled P10 and P11, table entries are the intercept and slope of the first principal axis in the X, Y plane; and for the columns labelled P20 and P21, table entries are the intercept and slope of the second principal axis in the X, Y plane.

Table 13: Slopes along lines of interest for personality trait agreeableness [2]

Personality Trait	Outcome	Y = X		Y = -X		First Principal Axis		Second Principal Axis	
		$\mathfrak{a}_x$	$\mathfrak{a}_{x^2}$	$\mathfrak{a}_x$	$\mathfrak{a}_{x^2}$	$\mathfrak{a}_x$	$\mathfrak{a}_{x^2}$	$\mathfrak{a}_x$	$\mathfrak{a}_{x^2}$
Agreeableness	Sales	-2.70	.35	-1.34	-.52	-2.19	.28	7.83	-.98
Agreeableness	Word-of-mouth	11.79	-1.45	-26.93	-3.22	-4.66	.70	1386.38	-207.84
Agreeableness	Trust	19.87	-2.59	-5.80	-3.24	8.31	-1.06	419.10	-53.38
Agreeableness	Commitment	20.04	-2.54	-8.74	-2.18	4.93	-.58	2734.03	-319.71
Agreeableness	Satisfaction	11.51	-1.46	-12.05	-1.80	.35	-.02	12903.63	-569.68

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[2] N = 100. For each line $\mathfrak{a}_x$ represents the computed coefficient on X, and $\mathfrak{a}_{x^2}$ repressents the computed coefficient on X^2.

The first feature that should be discussed is the stationary points while the second is the principle axes as presented in Table 12. The last point of discussion is the slopes along lines of interest, presented in Table 13. The salesperson's agreeableness scores are presented along the Y-axis while along the X-axis are the customers' agreeableness scores. The Z-axis represents the different outcome variables. The stationary point is represented by a small red dot (when applicable) while the first principal axis is represented by a dotted red line in the XY plane. The second principal axes are not represented in the graphs because it is not aesthetically elegant, and difficult to interpret. In the original work (Edwards, 2002), most second principal axes were omitted. Figure 16**Error! Reference source not found.** shows the polynomial regression and a surface response graph for the personality trait of agreeableness against commitment. The shape of the plot is concave and slightly elliptical with its stationary point at X = 4.28, Y = 3.83. This stationary point can be clearly seen towards the right side of the plot. The first principal axis crossed the intercept at Y = 4.16 and was within the bounds of the graph, but the slope was slightly negative (-.07).

When comparing behaviour along the first principal axis (a_x and a_{x^2}, the linear and quadratic coefficients) to behaviour along the line of interest Y = X, there are differences in both coefficients. A similar thing is observed when comparing coefficients (a_x and a_{x^2}) along the second principal axis to the equation Y = -X. This confirms that the principle axes are not parallel to either the standard axes or the lines Y = X and Y = -X.

Taken together, the plot shows that when the salesperson or the customer exhibit extreme (either high or low) levels of agreeableness, the level of commitment decreases. The stationary point seen on the graph is at the maximum level of commitment, suggesting that a moderate level of agreeableness by both the salesperson and the customer are required for

maximum levels of commitment. Coefficients along lines of interest indicate that there is a non-linear relationship along these lines.

Figure 17 shows the polynomial regression and a surface response graph for the personality trait of agreeableness against trust. The shape of the plot is concave and largely elliptical with its stationary point at $X = 3.93$, $Y = 3.79$. This stationary point can be clearly seen towards the right side of the graph. The first principal axis crossed the intercept within the bounds of the graph though the slope was slightly positive (.19). The second principal axis has a strongly negative slope (-5.22), indicating these axes are almost parallel to the X- and Y-axes.

When comparing coefficients (a_x and a_{x^2}) along the first principal axis to the line $Y = X$, there appear to be substantial differences in both coefficients. This may suggest a large clockwise rotation can be seen along the $Y = X$ plane. Similarly, when comparing coefficients (a_x and a_{x^2}) along the second principal axis to the line $Y = -X$, there appear to be significant differences which confirms the clockwise rotation. In other words, the principal axes do not coincide with the lines of interest, nor are they expected to, given their slopes and intercepts.

Taken together, the plot shows that when the salesperson and the customer exhibit extreme levels of agreeableness, the level of commitment decreases. The stationary point can be seen on the graph; the maximum level of trust can be found at here, signifying that a moderate level of agreeableness by both the salesperson and the customer are required for maximum level of trust.

Figure 18**Error! Reference source not found.** shows the polynomial regression and surface response a graph for the personality trait of agreeableness against satisfaction. The shape of the plot is concave and almost cylindrical along the X-axis. The graph has its stationary point at $X = 11.33$, $Y = 4.26$, but it cannot be seen on the graph. The first principal axis has intercept within the bounds of the graph (3.66) and the slope is slightly positive (.05). The second principal axis does not lie within the space of the graph and has a

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severely negative slope (-18.77), indicating that the principal axes are slightly rotated compared to the X- and Y-axes.

Taken together, the plot shows that when the salesperson exhibits extreme levels of agreeableness, the level of satisfaction decreases. It is different for the customer because when the customer exhibits high levels of agreeableness the satisfaction is highest. There is a nonlinear relationship along the various lines of interest for the personality trait of agreeableness on satisfaction. It is interesting to note an extreme negative curvilinear relationship for agreeableness on commitment from the salesperson and a more "linear" relationship (the coefficient of X^2 is close to zero) when viewing the same relationship from a customer perspective.

Figure 19 shows the polynomial regression and a surface response graph for the personality trait of agreeableness against sales. This plot has a saddle shape with its stationary point at X = 3.98, Y = 3.58. This stationary point can be seen towards the right side of the graph. The first principal axis has a slope of .63, and the second principal axis again did not cross within the space of the graph (its intercept is 9.87) and has a slope of -1.58.

When comparing coefficients along the first principal axis to coefficients along the line Y = X, there appears to be a large similarity between the two. This suggests that the first principal axis runs near to (but not exactly on) the Y = X line maintaining little deviation. In contrast, when comparing the second principal axis to the line Y = -X, there are some noticeable differences, explained mostly by the fact that that the second principal axis is off-set from the line Y = -X.

Taken together, the plot shows that when there is incongruence between the customer's and salesperson's agreeableness (X and Y values are different), there is a negative curvilinear relationship, though when there is congruence between the customer and salesperson there is a positive curvilinear relationship. The similarities of the principal axes compared to the equations of

Y = X and Y = -X reinforce the suggestion that congruence (at extreme ands of the scale) improves sales while incongruence decreases sales.

Figure 20 shows the polynomial regression and a surface response graph for the personality trait of agreeableness against word-of-mouth. This plot has a saddle shape, with its stationary point at X = 3.32, Y = 3.75. This stationary point can be seen towards the near side of the graph. The first principal axis can be seen in the graph, with an intercept of 3.35 and has a slope of .12. The second principal axis has an intercept of 31.13 and a slope of -8.25.

Taken together, the plot shows that the salesperson's level of agreeableness has a negative curvilinear relationship with word-of-mouth. In contrast, the customer's agreeableness has a subtle positive curvilinear relationship with word-of-mouth.

6.4.2.2. Moving towards a global picture

The above discussion would be repeated for each personality trait and organisational culture aspect. This amounts to a total of eight discussions of a similar magnitude and depth to the above. To maintain a sense of relevance while remaining brief, not all personality traits and organisation cultural aspects will be discussed in terms of their respective outcome variables.

Personality traits which have the highest R^2 values will be analysed further. In addition, several other interesting relationships will be highlighted as and when applicable. Organisational culture only has one element (supportive culture) which is significant according the initial SEM. Given this element was the only significant one, all outcomes will be discussed as they pertain to supportiveness. The complete set of data tables and graphs are provided in the appendix.

Table 14 below summarises the R^2 value for each of the polynomial regressions. The table shows the personality traits and organisational culture

constructs as they relate to the outcome variables of relationship quality, sales and word-of-mouth. Values that are in **bold** represent the highest R^2 value for each of the outcome variables.

Table 14: Summary of the polynomial regression R² values

	Commitment	Trust	Satisfaction	Word-of-mouth	Sales
Openness	**.183**	.255	**.195**	**.329**	.097
Conscientiousness	.176	**.264**	.17	.313	.0551
Extraversion	.157	.262	.159	.299	**.127**
Neuroticism	.173	.236	.154	.275	.088
Agreeableness [3]	.157	.266	.148	.31	.043
Bureaucracy [4]	.12	.175	.098	.22	.102
Innovation [4]	.037	.104	.041	.044	.051
Supportive	.151	.256	.167	.21	.107

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[3] Agreeableness has already been discussed in detail in section 6.3. **Error! Reference source not found.**

[4] Construct was determined to lack any significant paths in the PLS-SEM shown in Figure 15

Personality Trait	Outcome	Stationary Point		First Principal Axis		Second Principal Axis	
		X_0	Y_0	P_{10}	P_{11}	P_{20}	P_{21}
Openness	Commitment	1.75	3.66	3.61	.03	68.63	-37.10
Openness	Satisfaction	3.64	3.72	3.82	-.03	-132.65	37.47
Openness	Word-of-mouth	-2.61	3.98	3.86	-.05	60.65	21.68
Neuroticism	Word-of-mouth	2.27	2.70	2.47	.10	25.14	-9.88
Neuroticism	Trust	5.14	3.04	2.39	.13	43.42	-7.85
Conscientiousness	Trust	3.81	4.63	4.73	-.02	-150.10	40.58
Extraversion	Sales	3.65	4.02	4.37	-.10	-34.38	10.53
Supportive	Sales	2.92	3.59	40.08	-12.48	3.36	.08
Supportive	Word-of-mouth	3.94	3.65	-146.59	38.12	3.75	-.03
Supportive	Trust	-45.64	5.31	1381.05	30.15	3.79	-.03
Supportive	Commitment	3.81	3.64	-101.28	27.52	3.78	-.04
Supportive	Satisfaction	2.19	3.63	156.33	-69.84	3.60	.0143

[5] N =100. For the column labelled X_0 and Y_0 table entries are coordinates of the stationary point in the X, Y plane. For the columns labelled P_{10} and P_{11}, table entries are the intercept and slope of the first principal axis in the X, Y plane; and for the columns labelled P_{20} and P_{21}, table entries are the intercept and slope of the second principal axis in the X, Y plane.

Table 16: Slopes along lines of interest [7]

Personality Trait	Outcome	Y = X		Y = -X		First Principal Axis		Second Principal Axis	
		$\mathfrak{a}_x$	$\mathfrak{a}_{x^2}$	$\mathfrak{a}_x$	$\mathfrak{a}_{x^2}$	$\mathfrak{a}_x$	$\mathfrak{a}_{x^2}$	$\mathfrak{a}_x$	$\mathfrak{a}_{x^2}$
Openness	Commitment	9.26	-1.21	-10.33	-1.36	-0.26	.07	6554.84	-1871.36
Openness	Satisfaction	6.90	-.92	-10.98	-.76	-2.35	.32	11901.9 [5]	-1635.21
Openness	Word-of-mouth	17.16	-2.24	-15.13	-1.85	.26	.05	-5159.15	-987.05
Neuroticism	Word-of-mouth	6.50	-1.17	-8.98	-1.84	-.41	.09	712.48	-156.94
Neuroticism	Trust	3.75	-.71	-5.51	-1.22	-.27	.03	639.78	-62.22
Conscientiousness	Trust	10.49	-1.16	-7.82	-1.08	1.14	-.15	12205.9 [5]	-1600.34
Extraversion	Sales	7.35	-.90	-9.49	-.43	-2.10	.29	776.44	-106.42
Supportive	Sales	-26.20	3.67	25.25	4.76	-3504.40	599.35	-2.32	.40
Supportive	Word-of-mouth	-112.96	15.48	114.61	13.84	-173749.3 [6]	22042.7 [5]	3.91	-.50
Supportive	Trust	-80.34	11.06	76.77	9.69	890901.0 [5]	9432.10	.82	.01
Supportive	Commitment	-65.87	9.06	69.06	7.69	-51597.7 [5]	6767.56	4.20	-.55
Supportive	Satisfaction	-59.52	8.27	58.37	8.72	-174547.5 [5]	39913.0 [5]	-1.38	.32

[6] Values greater than 10 000 will be rounded to a single decimal place.

[7] N = 100. For each line $\mathfrak{a}_x$ represents the computed coefficient on X, and $\mathfrak{a}_{x^2}$ represents the computed coefficient on X^2.

Table 15 shows the stationary points and principal axes while Table 16 shows the slopes along the lines of interest for the relevant constructs mentioned in the following discussion.

Personality traits

Hypothetical Surface for Commitment by Openness Customer (X) and Openness Rep (Y)

$Z = -11.42 + (0.07\ X^2) + (-0.53\ X) + (9.80\ Y) + (0.08\ XY) + (-1.36\ Y^2)$

$R^2 = 0.18$
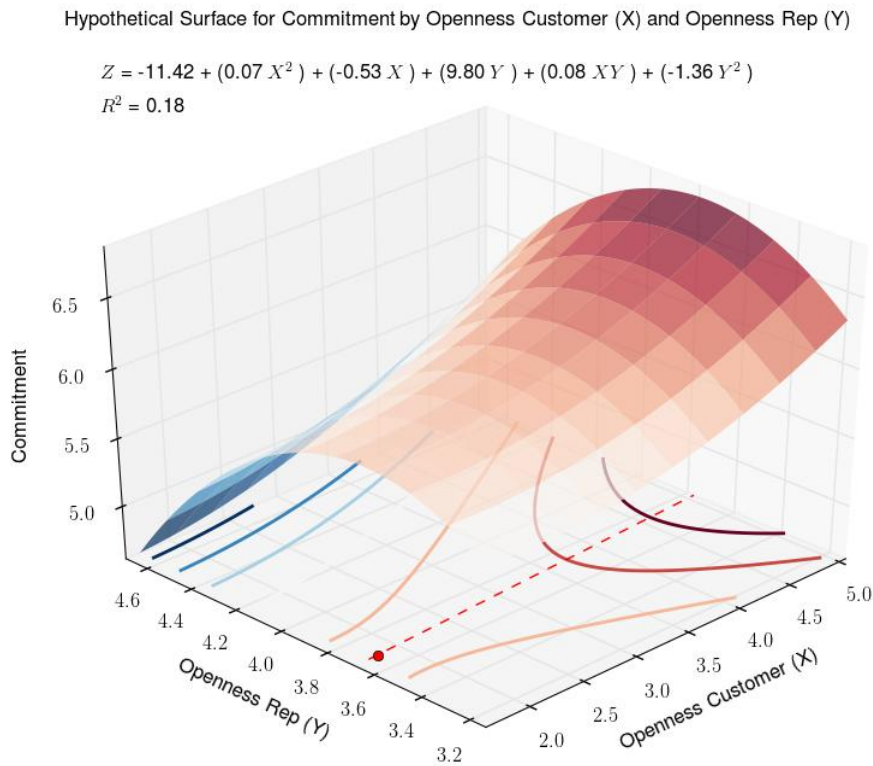
Figure 21: Openness vs commitment

Figure 21 shows the polynomial regression and a surface response graph for the personality trait of openness against commitment. Along the X-axis is the customer's level of openness while along the Y-axis is the salesperson's level of openness. Commitment is represented by the Z-axis. This plot has a saddle shape with its stationary point at X = 1.75, Y = 3.66. This stationary point can be seen towards the left near side of the graph. The first principal axis can be seen within the bounds of the graph, with an intercept of 3.61 and a slope that is ever so slightly positive (.0270). The second principal axis did not cross within the space of the graph, with intercept equal to 68.63 and slope -37.10.

Taken together, the plot shows that the salesperson level of openness has a large negative curvilinear relationship with commitment while the customer relationship is positive and marginally curvilinear, almost linear.

Hypothetical Surface for Satisfaction by Openness Customer (X) and Openness Rep (Y)

$$Z = -6.36 + (0.32\,X^2) + (-2.04\,X) + (8.94\,Y) + (-0.08\,XY) + (-1.16\,Y^2)$$
$$R^2 = 0.19$$
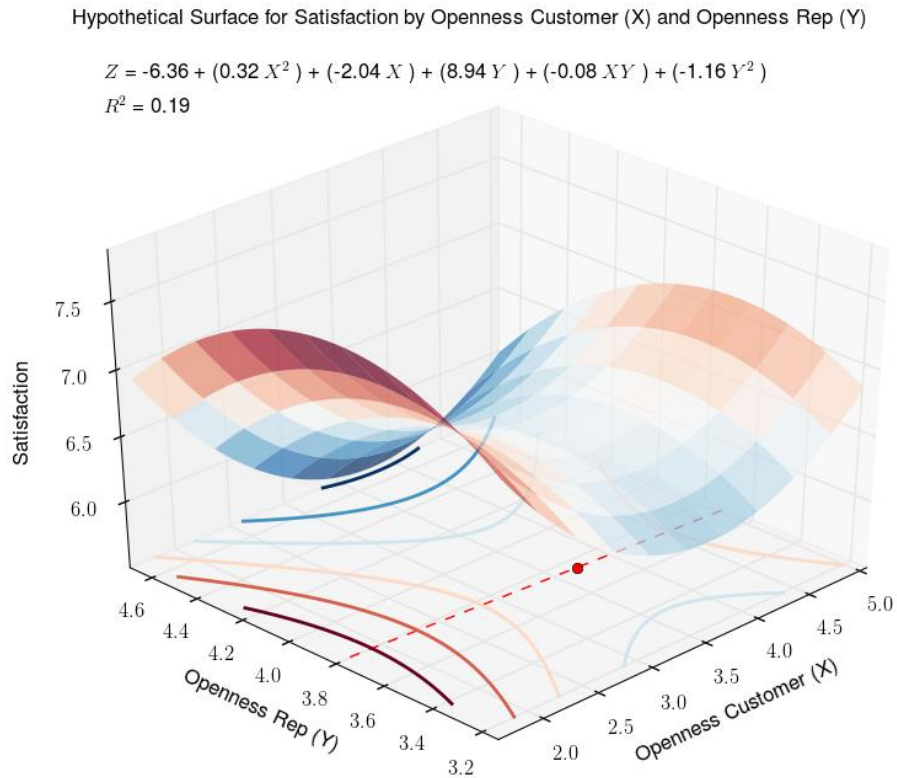
Figure 22: Openness against satisfaction

Figure 22 shows the response surface graph of openness against satisfaction. Along the X-axis is the customer's openness and along the Y-axis is the salesperson's openness. The Z-axis represents the relationship quality aspect of satisfaction. The plot has a saddle shape with its stationary point located close to the centre of the graph where X = 3.64 and Y = 3.72. The first principal axis has its intercept at 3.82, well within the bounds of the graph, and slope of -.03. The second principal axis has intercept -132.65 and slope 37.47.

On the one hand, the plot shows that there is a negative curvilinear relationship between the salesperson's openness and satisfaction but on the other hand, the openness of the customer has a positive curvilinear relationship with satisfaction. Taken together, we find that the highest levels of satisfaction

are found when the salesperson exhibits moderate levels of openness and the customer exhibits an extreme levels (either extremely high or extremely low).

Hypothetical Surface for Word of Mouth by Openness Customer (X) and Openness Rep (Y)

$$Z = -26.80 + (0.04\ X^2) + (1.02\ X) + (16.14\ Y) + (-0.20\ XY) + (-2.09\ Y^2)$$
$$R^2 = 0.33$$
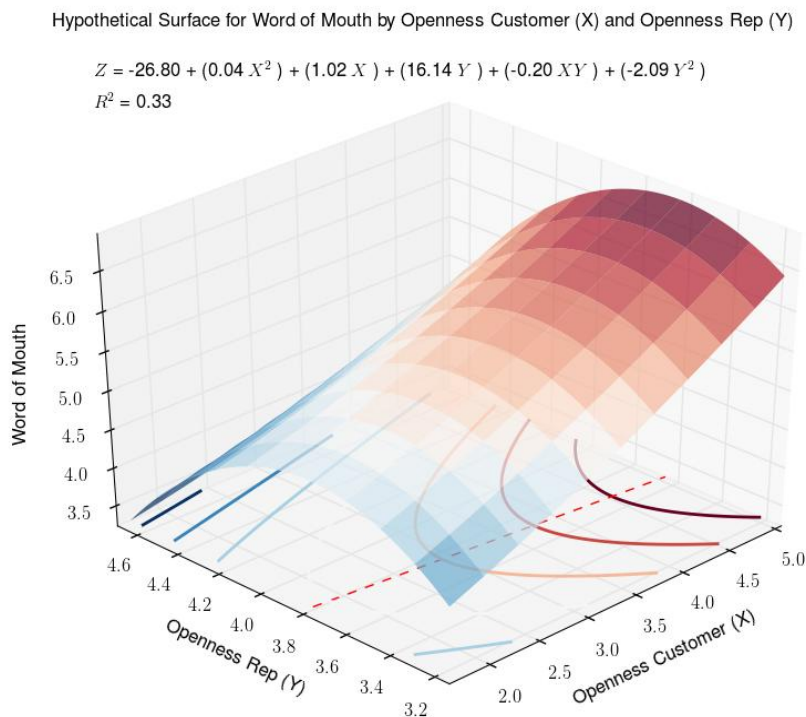
Figure 23: Openness against word-of-mouth

Figure 23 shows the graphical representation of the relationship between openness and word-of-mouth. Along the X-axis is the customer's level of openness while along the Y-axis is the salesperson's level of openness. The Z-axis represents the level of word-of-mouth. The plot has a concave shape with its stationary point being unobservable at X = -2.61 and Y=3.98. The first principal axis can be seen by the dotted line and has intercept 3.86 with a negative slope -.05. The secondary principal axis has an intercept of 60.65 and slope 21.68.

Taken together, the plot shows that the word-of-mouth is highest when the customer has high levels of openness and the salesperson is moderately open.

Hypothetical Surface for Word of Mouth by Neuroticism Customer (X) and Neuroticism Rep (Y)

$Z = -2.97 + (0.07\ X^2) + (-1.24\ X) + (7.74\ Y) + (0.34\ XY) + (-1.57\ Y^2)$

$R^2 = 0.28$
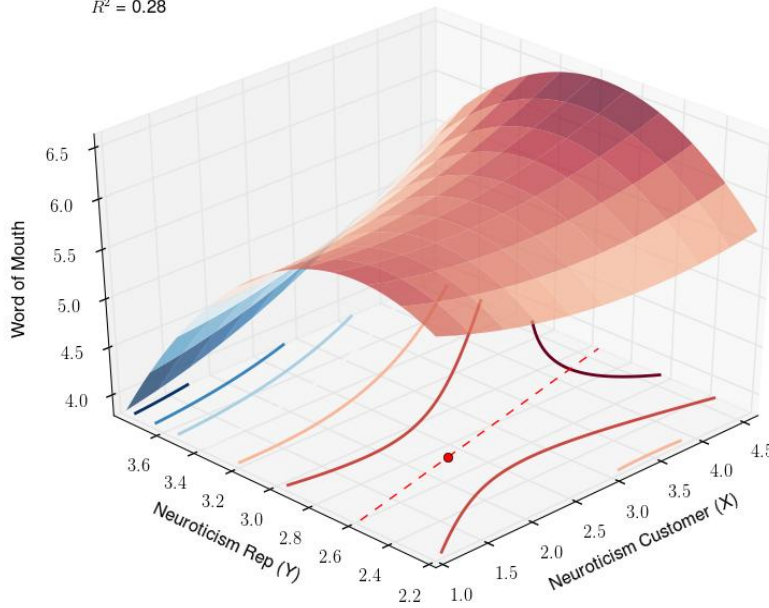
Figure 24: Neuroticism against WOM

Figure 24 shows the response surface graph of neuroticism against word-of-mouth. Along the X-axis is the customer's level of neuroticism while along the Y-axis is the salesperson's level of neuroticism. Against the Z-axis is the level of word-of-mouth. The stationary point can be seen towards the near corner of the graph with X = 2.28 and Y = 2.70. The first principal axis has its Y-intercept at 2.47 and a slope of .10, and can be seen on the graph (dotted line on the XY plane). The second principal axis has its Y-intercept at 25.14 with a slope of -9.88.

From a customer's perspective, there is a very subtle (almost linear) curvilinear relationship with word-of-mouth, meaning that highly neurotic or slightly neurotic customer will provide the best word-of-mouth, but the effect is not large. From the salesperson's perspective it is best to be less neurotic because a highly neurotic salesperson would harm the word-of-mouth level.

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Hypothetical Surface for Trust by Neuroticism Customer (X) and Neuroticism Rep (Y)

$$Z = 1.64 + (0.01\ X^2) + (-0.88\ X) + (4.63\ Y) + (0.26\ XY) + (-0.98\ Y^2)$$
$$R^2 = 0.24$$
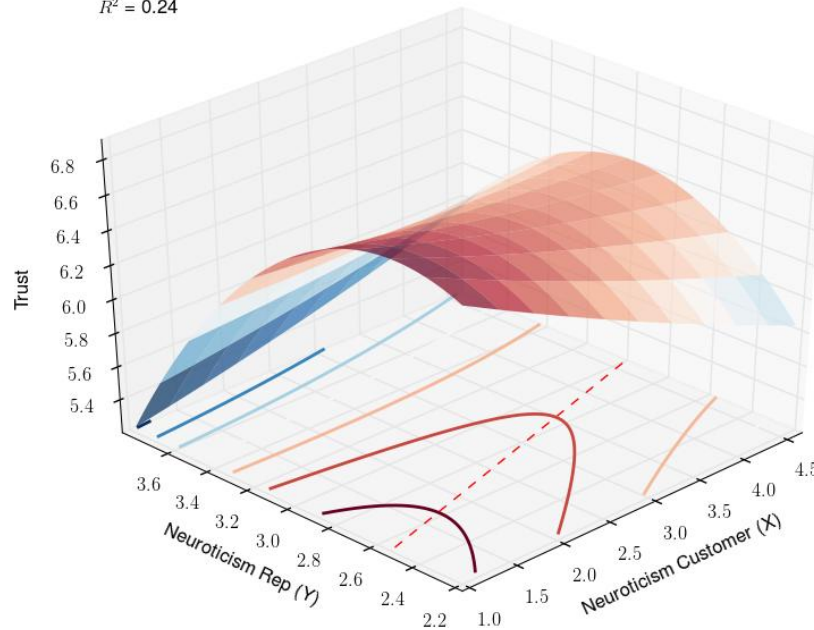
Figure 25: Neuroticism against trust

Figure 25 is the response surface graph for neuroticism against trust. Along the Y-axis is the salesperson's level of neuroticism, along the X-axis is the customer's level of neuroticism and on the Z-axis is the level of trust. The plot almost has a concave shape (a slight saddle) which looks like a declining ridge. The stationary point is off the graph, located at X = 5.14 and Y = 3.04. The first principal axis can be seen on the graph (the dotted line) with intercept at 2.39 and slope of .13. The second principal axis has Y-intercept 43.42 and slope of -7.85.

From the customer's and the salesperson's perspectives, lower levels of neuroticism lead to highest levels of trust. However when considering just the salesperson, extreme high or low levels decrease the level of trust (because of the curvilinear relationship).

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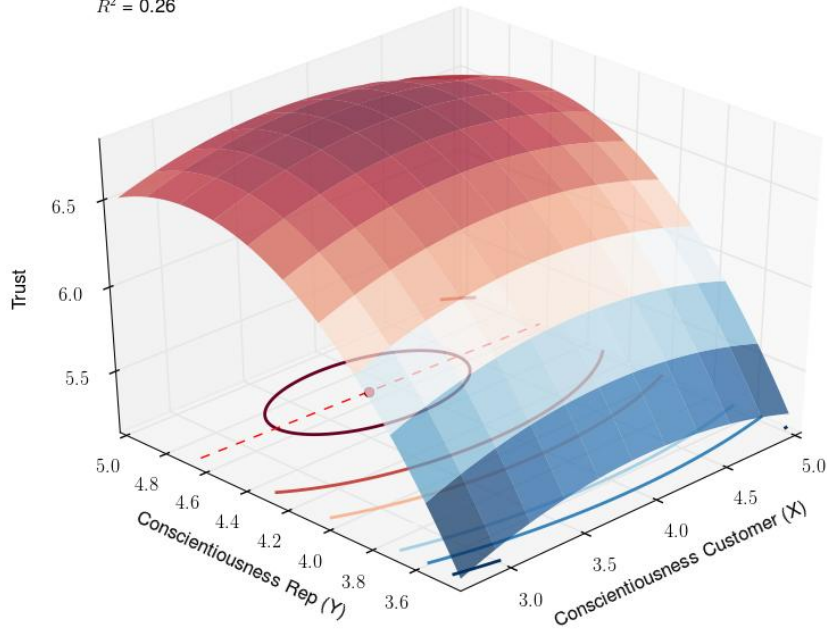
Figure 26: Conscientiousness against Trust

Figure 26 shows the response surface graph for conscientiousness against trust. Along the Y-axis is the salesperson's level of conscientiousness, along the X-axis is the customer's level of conscientiousness while against the Z-axis is the level of trust. The graph has a convex shape with the stationary point (X = 3.81 and Y = 4.63) clearly visible towards the far left of the graph. The first principal axis can be seen by the dotted line intercepting the Y-axis at 4.73 and having a slightly negative slope (-.02). The second principal axis has Y-intercept at -150.11 and has a slope of 40.5770.

The level of trust is maximized at the stationary point, suggesting that the salesperson should have a high level of conscientiousness while the customer has a moderate level of conscientiousness. However, the levels of trust are not severely affected by a shift in the level of conscientiousness by the customer.
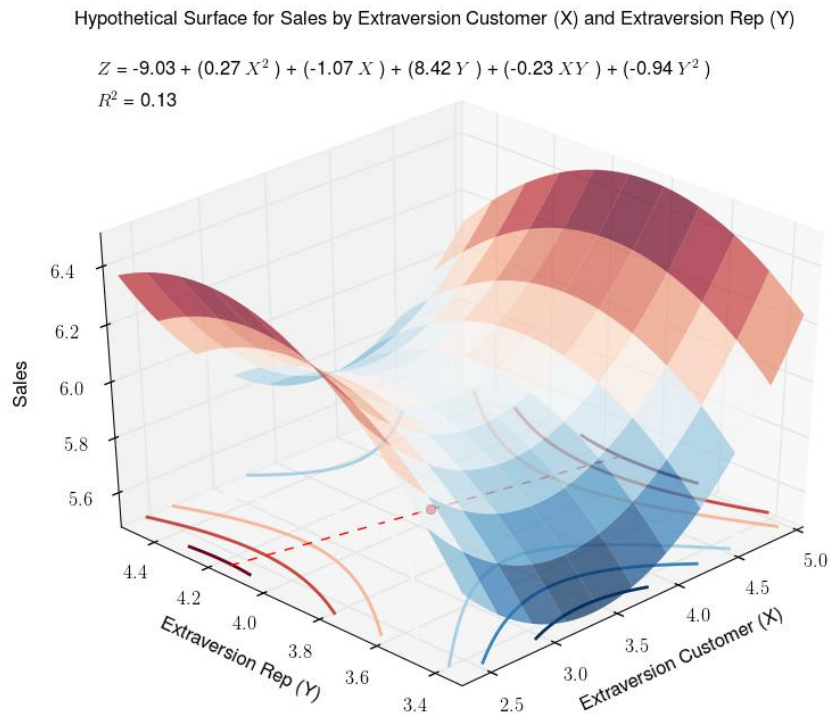
Figure 27: Extraversion against sales

Figure 27 is the response surface graph for extraversion plotted against sales. The customer's extraversion is plotted against the X-axis; the salesperson's extraversion is against the Y-axis while the level of sales is plotted against the Z-axis. The graph is a saddle shape with the stationary point located in the middle of the graph (X = 3.65 and Y = 4.02). The first principal axis can be seen with Y-intercept at 4.3689 with a slightly negative slope. The second principal axis has Y-intercept at -34.38 with a slope of 10.53.

Taken together, the plot shows that the level of sales is highest when the customer has either high or low (but not moderate) levels of extraversion and the salesperson has a moderately high level (around 4) of extraversion.

Organisational culture

When looking at the summary table of R^2 values, there are several personality traits able to explain variance within one or more outcomes, but this is not the case when observing the R^2 values for organisational culture aspects. It is noted that Bureaucracy and Innovation both lack significant paths in the PLS-SEM and because of this, the remaining organisational cultural construct, supportiveness, will be examined against all outcome constructs.

In all the following graphs the X and Y-axis will have the level of supportiveness of the customer and the salesperson respectively and along the Z-axis will be each of the outcome constructs.

Hypothetical Surface for Commitment by Supportive Customer (X) and Supportive Rep (Y)

$Z = 124.98 + (-0.54\ X^2) + (1.59\ X) + (-67.47\ Y) + (0.69\ XY) + (8.91\ Y^2)$

$R^2 = 0.15$
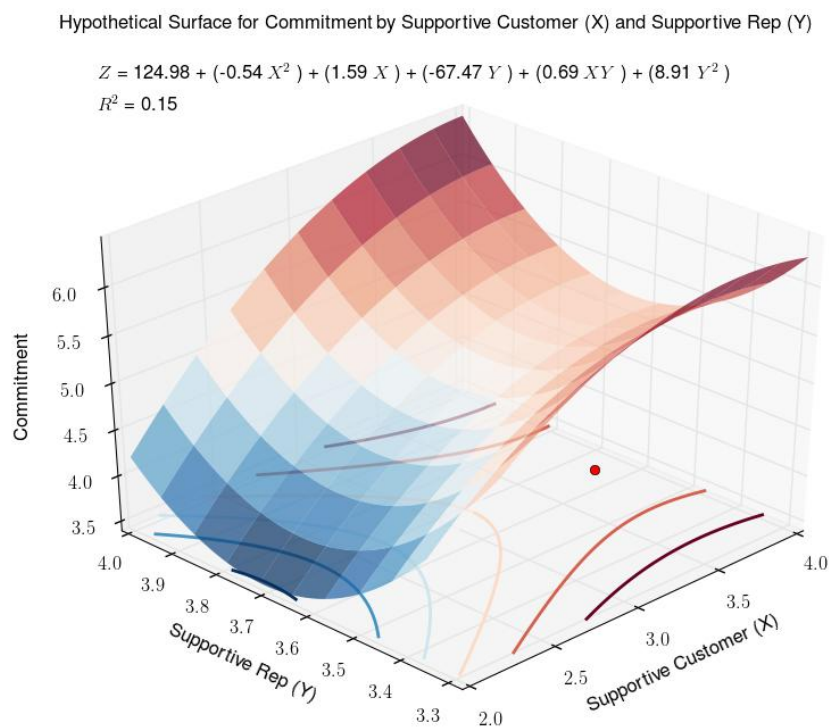
Figure 28: Supportiveness against commitment

Figure 28 shows how the level of commitment fluctuates based on the organisational cultural aspect of supportiveness. The graph is saddle shaped with the stationary point located towards the far right side of the graph (X =

2.92 and Y = 3.59). The first principal axis has intercept 40.08 and slope -12.48. The secondary principal axis has intercept 3.36 with slope of .08.

Taken together, the level of commitment is highest when the salesperson has a non-moderate (either high or low) level of supportiveness while the customer has a high level of supportiveness. It is interesting to note that the change in the level of commitment is much more sensitive to the customer's supportiveness compared to the salesperson's supportiveness.

Hypothetical Surface for Trust by Supportive Customer (X) and Supportive Rep (Y)

$Z = 151.18 + (0.02\ X^2) + (-1.79\ X) + (-78.56\ Y) + (0.69\ XY) + (10.36\ Y^2)$
$R^2 = 0.26$
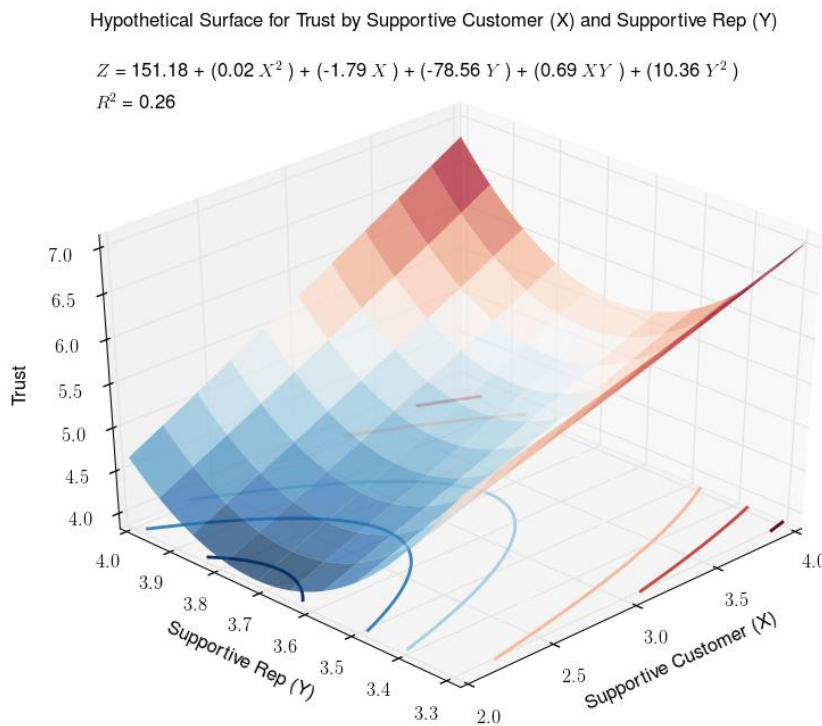
Figure 29: Supportiveness against Trust

Figure 29 shows the response surface graph of Supportiveness against trust. The graph has a concave shape with its stationary point not visible on the graph (X = -45.64 and Y = 5.31). The first principal axis has intercept at 1381.05 with slope 30.15, while the second principal axis has intercept at 3.79 with a slope of -.03.

Taken together, the level of trust is highest when the customer's organisation displays high levels of supportiveness while the salesperson's has

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either a high or a low level of supportiveness. Although there is a strong curvilinear relationship between the level of supportiveness of the salesperson and trust; there appears to be a closer to linear relationship between the supportiveness of the customer's organisation and trust.

Hypothetical Surface for Supportive Customer (X) and Supportive Rep (Y)

$Z = 112.57 + (0.32\ X^2) + (-0.57\ X) + (-58.94\ Y) + (-0.23\ XY) + (8.18\ Y^2)$

$R^2 = 0.17$
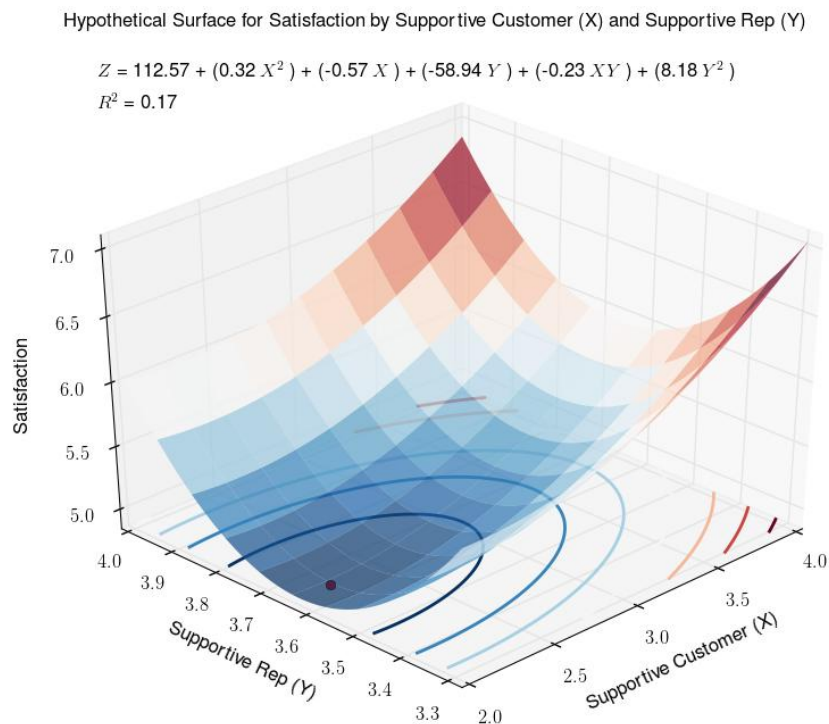
Figure 30: Supportiveness against satisfaction

Figure 30 shows the graphical representation of the level of supportiveness against the outcome construct of satisfaction. The graph has a concave shape with its stationary point located at X = 2.19 and Y = 3.63 (towards the near left side of the graph). The first principal axis has intercept at 156.33 with a slope of -69.83. The second principal axis has intercept at Y = 3.60 and slope .01.

Taken together, the lowest levels of satisfaction are found when the customer has low levels of supportiveness while the salesperson has moderate levels of supportiveness. The level of satisfaction may be improved through either congruence (when the customer and salesperson both have high or low

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levels) or incongruence (when the customer and salesperson have opposite levels of supportiveness).

Hypothetical Surface for Sales by Supportive Customer (X) and Supportive Rep (Y)

$Z = 52.24 + (0.42\ X^2) + (-0.48\ X) + (-25.73\ Y) + (-0.55\ XY) + (3.80\ Y^2)$

$R^2 = 0.11$
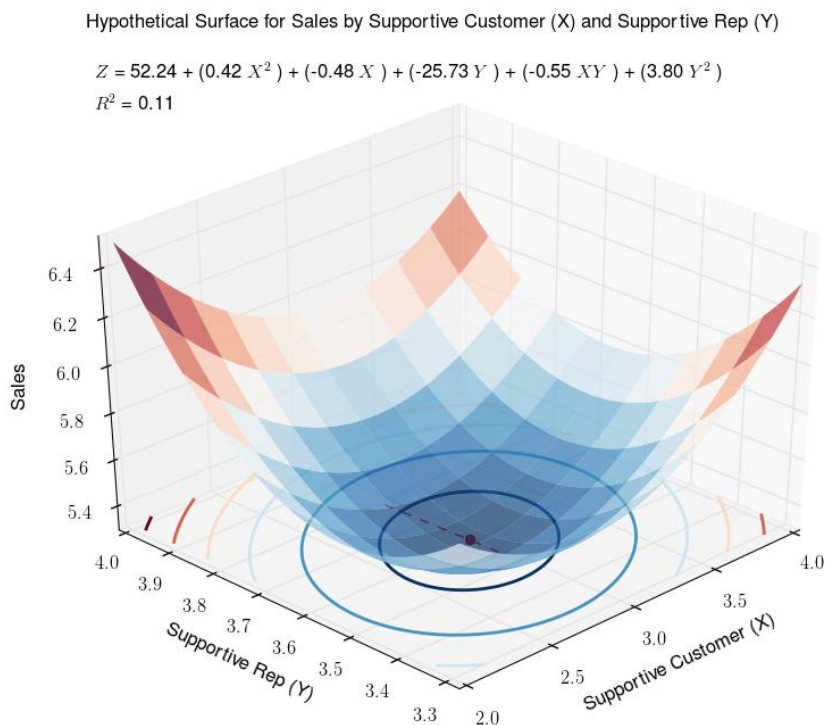
Figure 31: Supportiveness against Sales

Figure 31 plots the customer's and salesperson's organisational levels of supportiveness against the outcome of sales. The stationary point can be found at X = 2.92 and Y = 3.59 which is almost in the centre of the graph. The first principal axis has intercept at Y=40.08 with slope of -12.48. The second principal axis has intercept at Y=3.36 with slope of .08.

In summary, this graph shows us that mediocracy leads to the lowest levels of sales, though the scales of the axes should be accounted for in the interpretation. It cannot be said that the lines of congruence/incongruence always lead to the highest level of sales however they do come close.

Hypothetical Surface for Word of Mouth by Supportive Customer (X) and Supportive Rep (Y)

$Z = 210.16 + (-0.48\ X^2) + (0.83\ X) + (-113.79\ Y) + (0.82\ XY) + (15.15\ Y^2)$

$R^2 = 0.21$
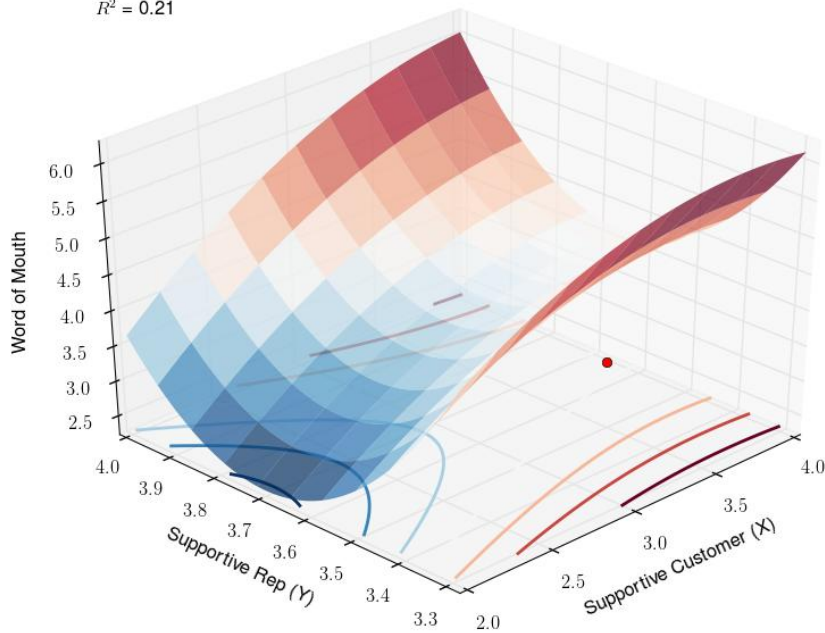
Figure 32: Supportive against Word-of-mouth

Figure 32 shows the graphical representation of the relationship between supportiveness and word-of-mouth. The graph has a saddle shape with its stationary point visible on the graph at X = 3.94 and Y = 3.65. The first principal axis has intercept at Y=-146.5926 with a slope of 38.12. The second principal axis has intercept at Y=3.75 and a slope of -.03.

There is a subtle negative curvilinear relationship from the customer's perspective while from the salesperson's perspective there is an extreme positive curvilinear relationship with word-of-mouth.

Taken together, this graph shows that the level for word-of-mouth increases when the customer has a high level of supportiveness. The word-of-mouth level also increases when the salesperson has either high or low levels of supportiveness.

Chapter 7. Bayesian networks

7.1. Bayesian networks for the current study

In the preceding chapter, the use of response surface graphs as a three-dimensional visualisation technique enriches the analysis and understanding of polynomial regression results. BNs, which capitalise on the three-dimensionality, are an extremely powerful visualisation technique. However, while they have numerous positive attributes, they are limited in several areas. The first area is sample size and variability. BNs can only function within the given data and around known probabilities. In the current set of BNs the total sample size is 100 and in certain constructs there is less variability. For example, Figure 34 shows the BN for extraversion in which the construct of sales is of particular importance. The level of sales cannot be adjusted to anything other than level six because there is no data for the BN to work with. The same applies to all the other constructs for which there are no initial probabilities.

The second area is concerning the type of data used. BNs can use either discrete or continuous data as inputs. The current set of BNs use discrete data as opposed to continuous data. The reason for using discrete data is to allow improved interpretation of the results where a sense of operationalisation remains (i.e. when there is a specific result, say for word-of-mouth being at level seven, this can be directly related to the questions on the questionnaire).

Lastly, it should also be noted that the BN must not be misconstrued as path analysis and therefore, there are no arcs from relationship quality going to sales or word-of-mouth. The BN will use the dyadic nature of the data and will focus on the personality and organisational cultural aspects.

The BNs will be generated for the current study by using the SEM in Figure 15 as a starting point. In each BN the personality traits and organisational cultural aspects will be treated as being independent of each other. A large

benefit of a BN is the ability to use the model to work through "what if?" reasoning. In the current study, it may be argued that there is an inability to control a customer's personality or organisational cultural background, but it is possible to hire and train the correct salespeople. It may also be interesting to analyse how a salesperson might achieve a certain level of an outcome.

Each of the personality traits and organisational culture aspects will be discussed in turn. There are six graphs for each discussion. The first graph shows the BN with no probability monitors. The second shows a baseline of probabilities. The third graph details a scenario in which the salesperson has a high level of the attribute in question. The fourth details a scenario in which two of the relationship quality constructs have high scores. The fifth and sixth graphs show scenarios which the outcome constructs of sales and word-of-mouth respectively are high. Beneath each set of graphs is a discussion on the movement of probabilities within each of the graphs.

7.1.1. Extraversion

The personality trait of extraversion is modelled in Figure 33 while Figure 34 includes the respective probability monitors. These figures will act as a baseline for later comparisons. Attention needs to be drawn to Figure 34 which shows the mean and variance (μ and σ^2 respectively) for sales. It can be seen the mean is 6 while the variance is extremely small (3.16×10^{-30}), which does not allow for more manipulation or interpreting for the level of sales because sales will always resolve on a level of 6.
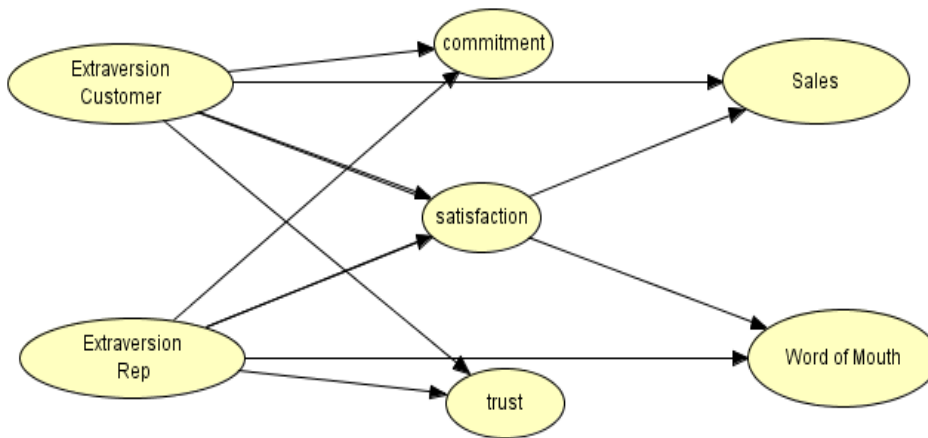
Figure 33: Extraversion BN structure
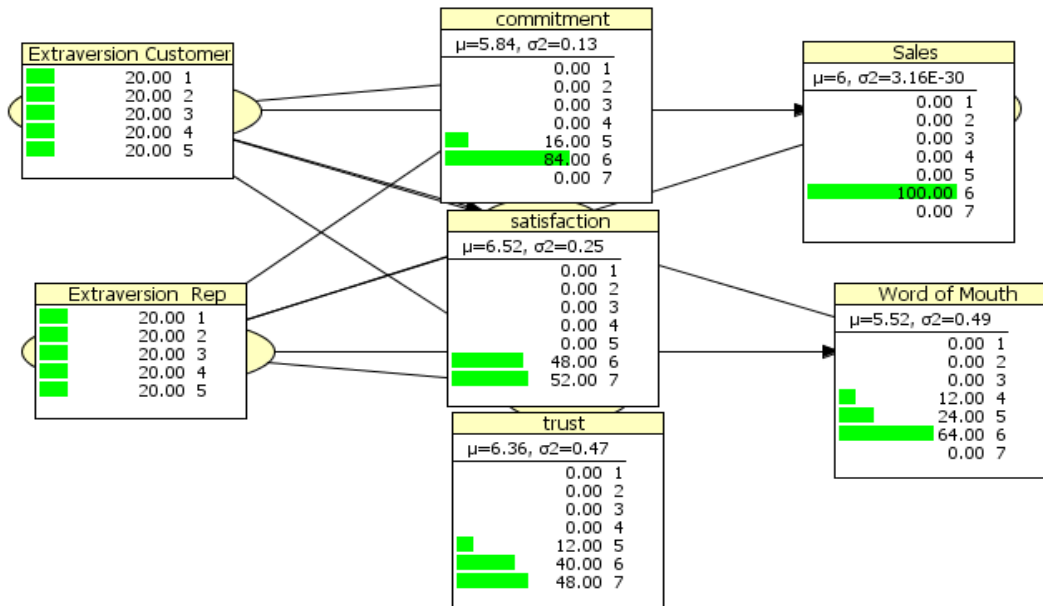
Figure 34: Extraversion BN with monitors

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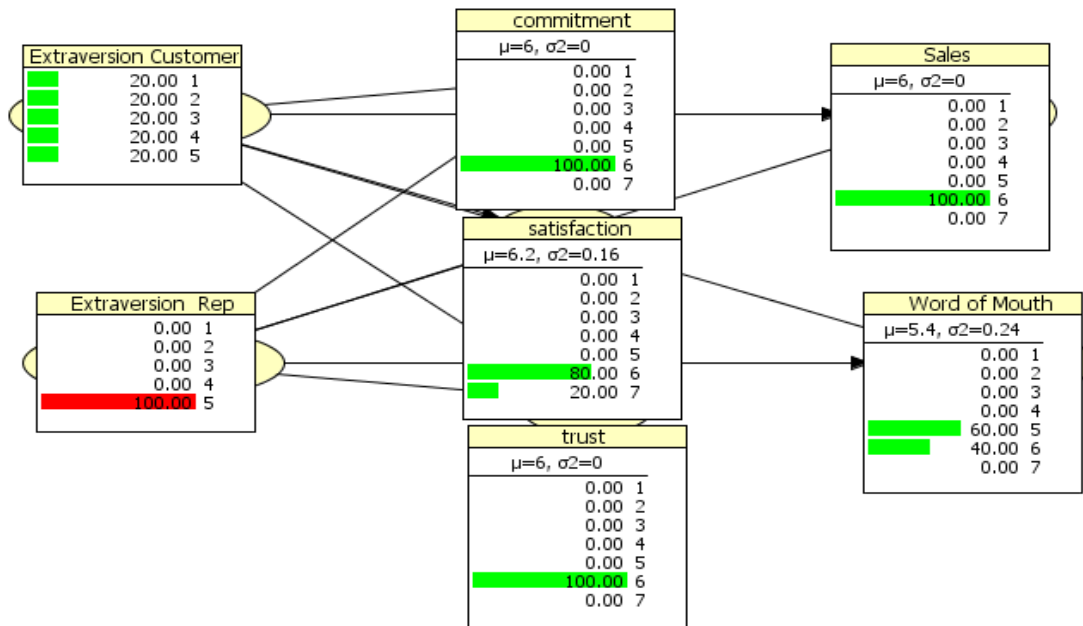
Figure 35: Evidence entered for salesperson

Suppose the salesperson is strongly extraverted (typically an attention-seeker, outgoing, talkative, social or outgoing). This information is used to adjust the BN and the result is shown in Figure 35. When comparing Figure 35 to Figure 34 we see that both commitment and trust have settled on level 6 while the (almost) equal split probability for satisfaction being at level 6 or 7 has now updated to an 80-20 probability split between levels 6 and 7. In addition, the amount of variance found in word-of-mouth decreased by about half (from $\sigma^2 = .49$ to $\sigma^2 = .24$) and the probability of being at level 5 increased by 2.5.
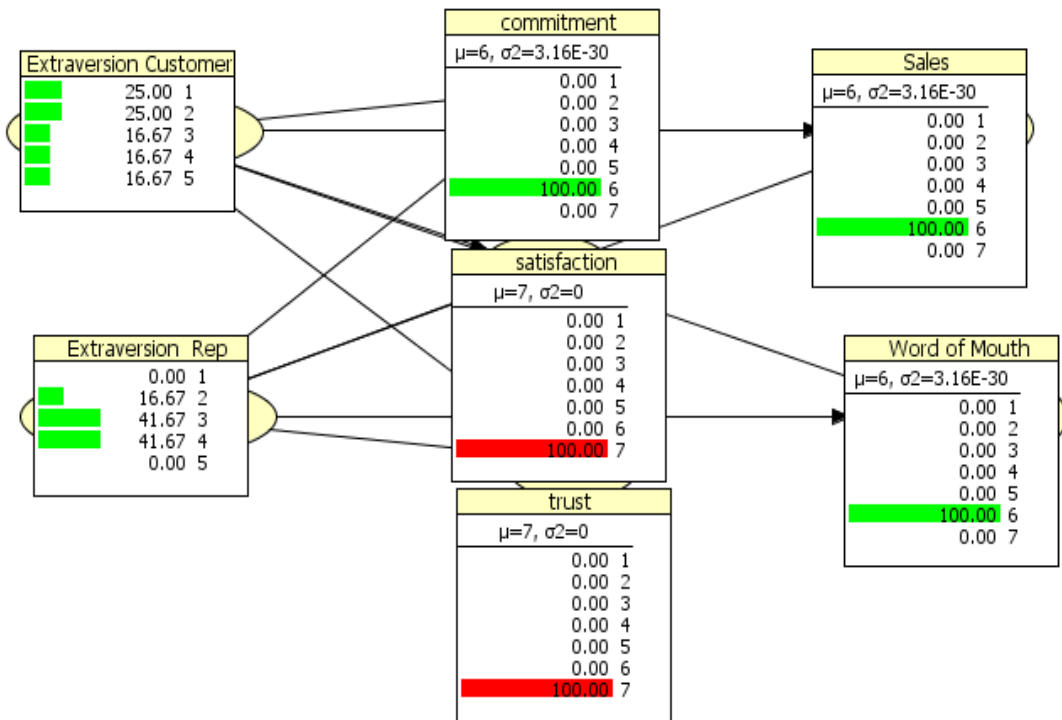
Figure 36: Evidence entered for relationship quality
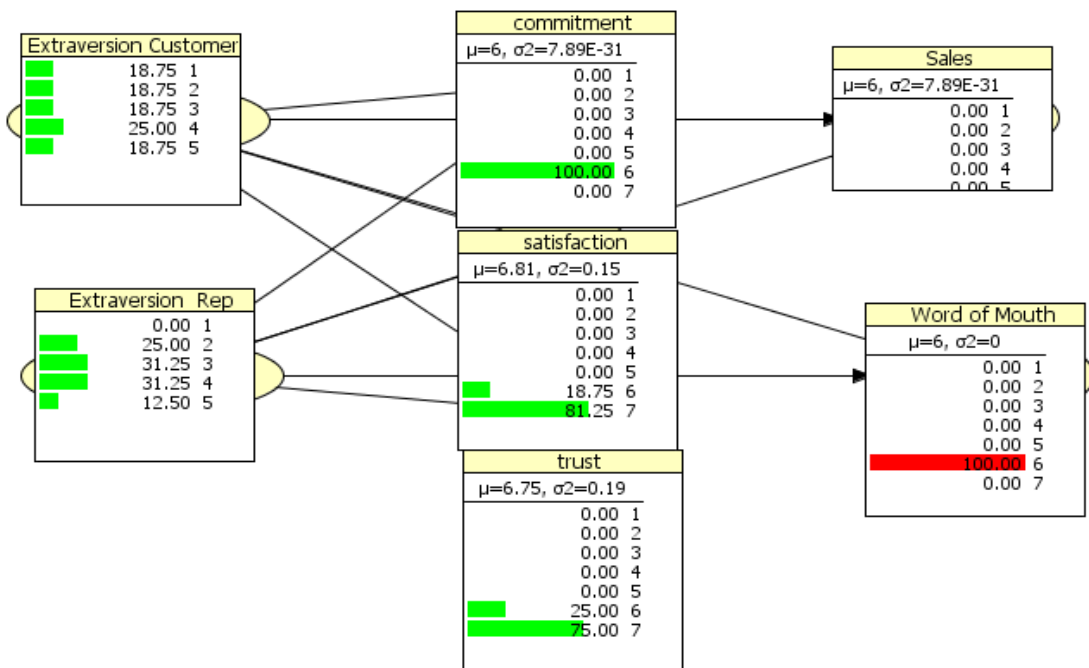
Figure 37: Evidence entered for word-of-mouth
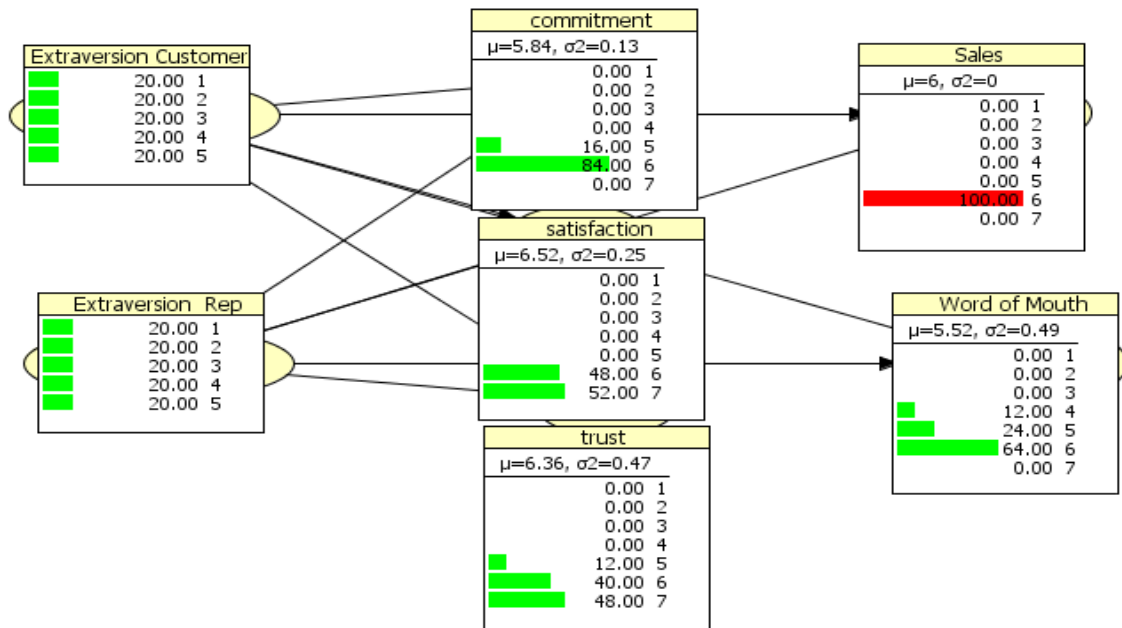
Figure 38: Evidence entered for sales

Looking at relationship quality, assume one would like to achieve a level seven for both trust and satisfaction. Evidence is entered and the result can be found in Figure 36, where it is seen that high levels of trust and satisfaction correspond to a high level of commitment. The salesperson is likely to have a moderate to high level (3 or 4) of extraversion while the customer is likely to have a lower level of extraversion.

Looking at relationship quality, assume one would like to achieve a level 7 for both trust and satisfaction. These figures are entered and the result can be found in Figure 36. When there are high levels of trust and satisfaction there is immediately a high level of commitment. The salesperson is required to have moderate-to-high (levels 3 and 4) extraversion while the customer is slightly more likely to have a lower level of extraversion.
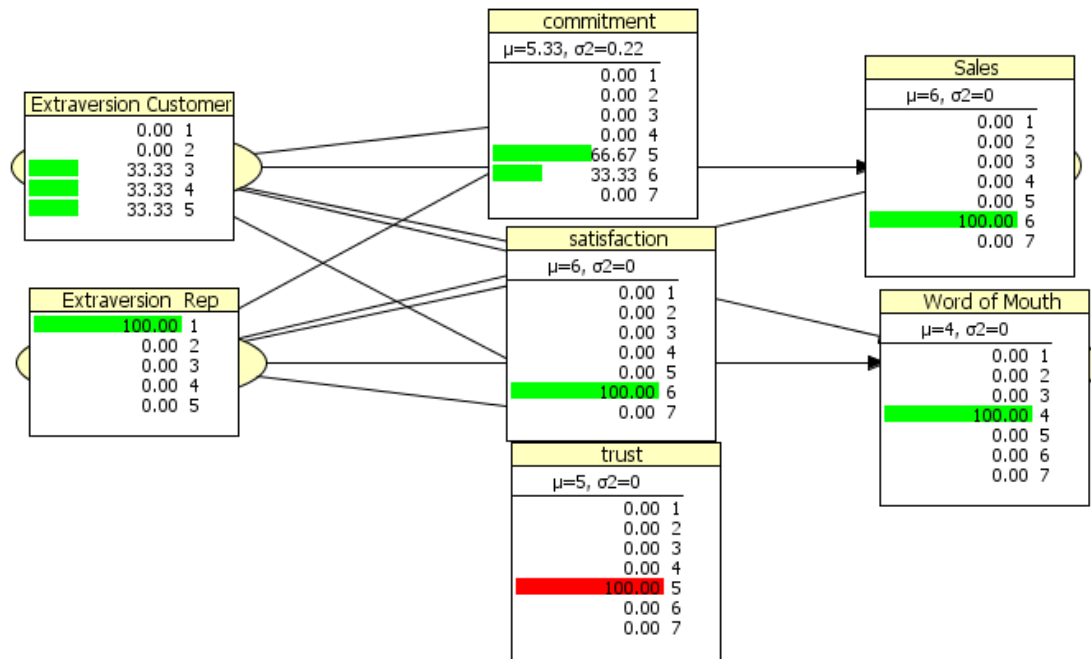
Figure 39: Evidence entered for low trust

An interesting permutation of this situation is if the relationship quality has a low level of trust. Assume that the customer does not completely trust the salesperson.

Figure 39 shows the results of entering a low level of trust (the lowest possible, according to the baseline BN). While the customer must exhibit higher levels of extraversion (levels 3, 4 or 5) with equal probabilities, the salesperson must have very low levels of extraversion. The differences between the customer and salesperson suggest that the incongruence may cause low levels of trust. The other components of relationship quality, specifically commitment and satisfaction, have reduced in level, with growing probability. Word-of-mouth shifts from an extremely small probability of a level four (12%), to a 100% probability.

The last piece of evidence that may be entered is for sales and word-of-mouth (Figure 37 and Figure 38). When one desires a high level for word-of-mouth, trust satisfaction and commitment need to have high levels (either level

6 or level 7). The salesperson needs to have moderate amount of extraversion while the customer's level of extraversion is almost irrelevant.

7.1.2. Agreeableness

The personality trait of agreeableness is modelled in **Figure 40** with the probability monitors shown in Figure 41. There are no constructs that have a small variance, so that no construct is limited to a single level.
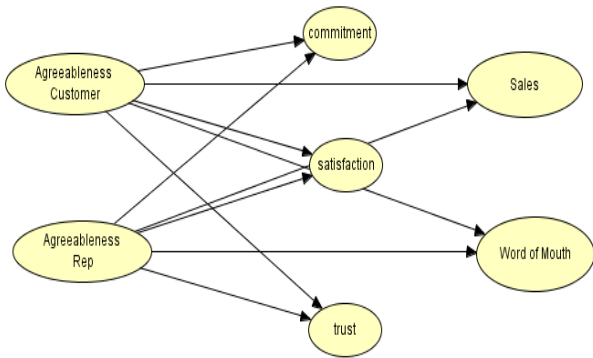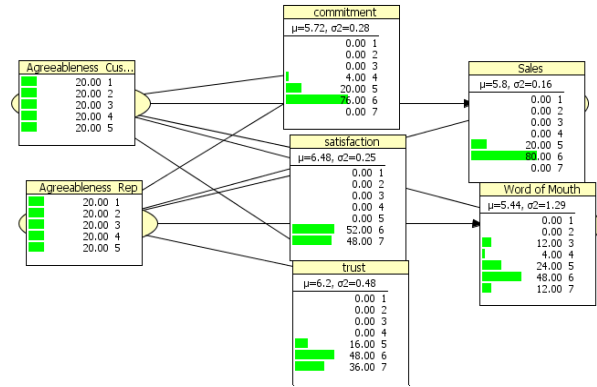
Suppose the salesperson is an agreeable person who comes across as kind, friendly or considerate for the needs of others. This information can be entered into the BN and the results are found in Figure 42. There are several major shifts in relationship quality. Commitment initially has a high probability of a level 6, but ends with a 80% probability for a level 5. Satisfaction settles on the lower level 6. The level of trust begins with a small probability of level five (12%) but ends with a high probability (80%). Both sales and word-of-mouth, show a marked decrease of probability in the higher levels, favouring the lower levels.

The personality trait of agreeableness is modelled in Figure 40 with the probability monitors shown in Figure 41. There are no constructs that have a small variance, so that no construct is limited to a single level.

Figure 40: Agreeableness BN structure

Figure 41: Agreeableness BN with monitors
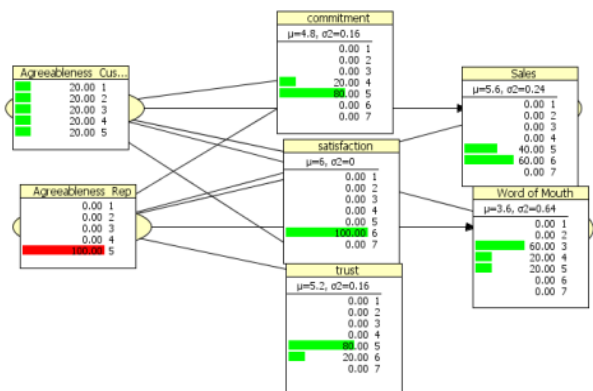
Figure 42: Evidence entered for salesperson
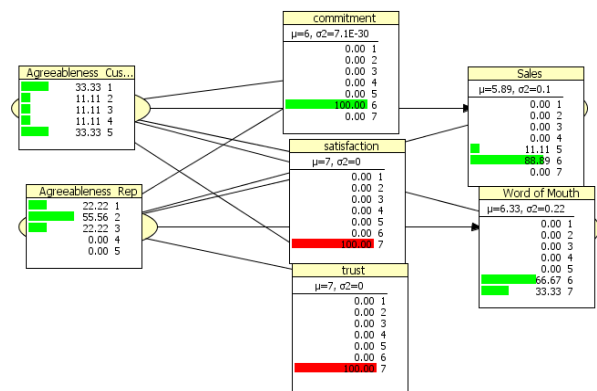
Figure 43: Evidence entered for relationship quality
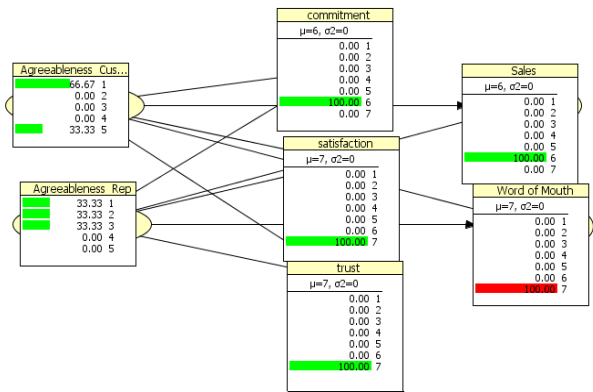

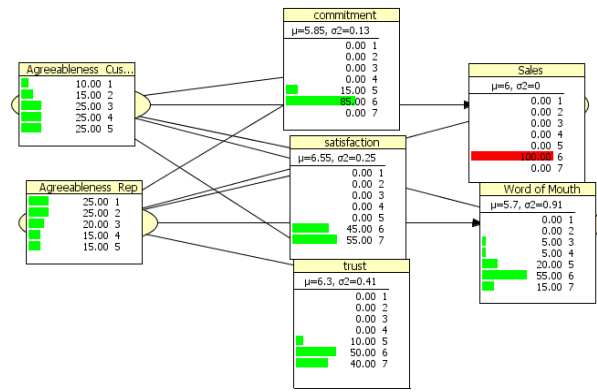**Figure 44: Evidence entered for word-of-mouth**

Figure 45: Evidence entered for sales

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Suppose the salesperson is an agreeable person who comes across as kind, friendly or considerate for the needs of others. This information can be entered into the BN and the results are found in Figure 42. There are several major shifts in relationship quality. Commitment initially has a high probability of a level 6, but ends with a 80% probability for a level 5. Satisfaction settles on the lower level 6. The level of trust begins with a small probability of level five (12%) but ends with a high probability (80%). Both sales and word-of-mouth, show a marked decrease of probability in the higher levels, favouring the lower levels.

Assume next that the customer is non-commital. We can model this situation by setting the commitment construct to level 4.
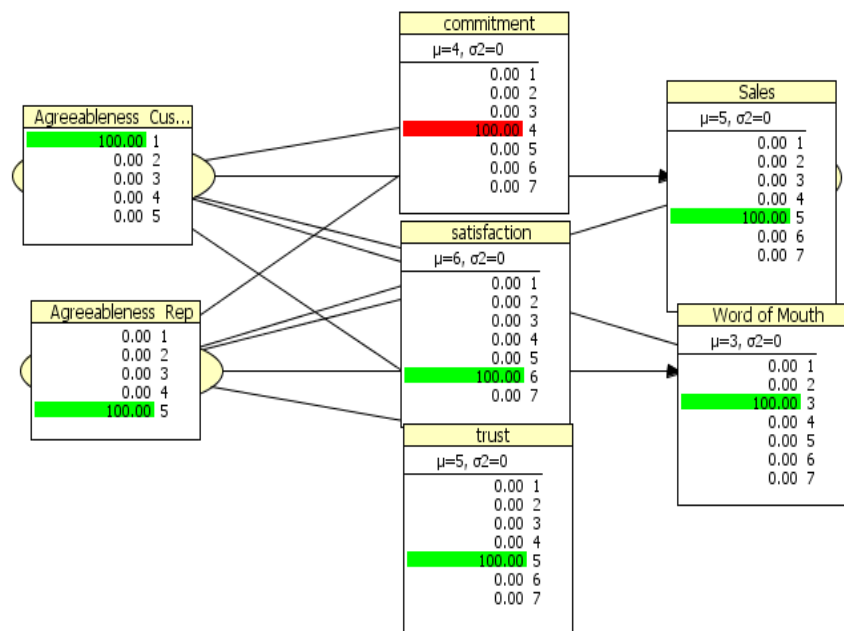
Figure 46: Evidence entered for low commitment

Initially commitment shows a probability of 4% of being at this level, but when this level is set in the BN, the result is found in Figure 46, in which it is seen that between the customer and the salesperson, non-comittal relationships are associated with incongruence of argeeableness. All the other constucts drop

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to the lowest allowed level, specifically word-of-mouth which is at level 3 while sales is on level 5.

Figure 43 shows evidence entered for a desired level of relationship quality, specifically that high trust and satisfaction levels are entered. It is very interesting to note that for this level of relationship quality to be achieved, the salesperson is required to have a lower level of agreeableness (levels 1, 2 or 3). The customer is expected to have either high or low levels of agreeableness but moderate levels should be avoided. In asking for improved relationship quality, we note that there is an increase in the levels of sales and word-of-mouth. There is also a marked reduction in the variability of word-of-mouth (going from $\sigma^2 =$ 1.29 to $\sigma^2 = .22$).

The result of entering desired (high) levels of word-of-mouth can be found in Figure 44. By selecting level 7, there is automatically a shift in the relationship quality levels. The BN is showing us that to achieve high levels of word-of-mouth, there needs to be trust, satisfaction and commitment. If high levels of word-of-mouth are achieved, there is a high probability of actually getting the sale. Again, the salesperson should have lower levels of agreeableness while the customer is preferred to have extreme levels (either high or low) to achieve to given level of word-of-mouth.

When evidence is entered into the BN for a high level of sales, there is little movement in the probabilities and almost no movement in the different levels. There is a shift in the distribution of agreeableness towards incongruence between the customer and the salesperson (higher levels for the customer are more probable, and lower for the salesperson, but not by much).
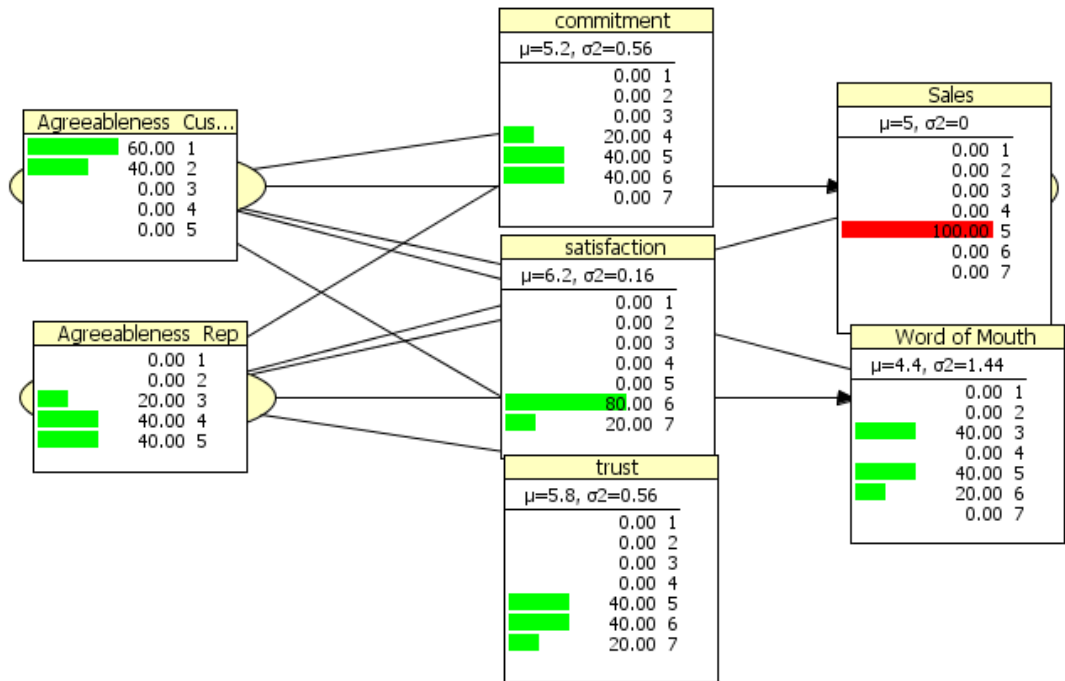
Figure 47: Evidence entered for low sales

In the baseline BN the sales construct shows minimal probability of low sales, but a situation where sales have not been acheieved is feasible. Figure 47 shows the results of having a low level of sales. Figure 47 provides some interesting insights into the situation where we are having low levels of sales. The customer and salesperson has mismatched agreeableness traits. Trust, satisfaction and commitment have all reduced in variability, but remain split over two or more levels. Word-of-mouth has also decreased, with level four receiving high probabilities.

7.1.3. Conscientiousness
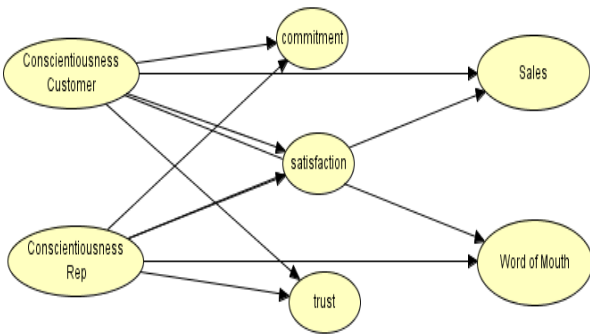
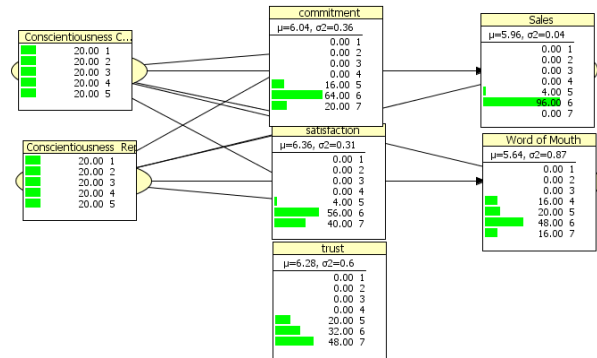Figure 48: Conscientiousness BN structure

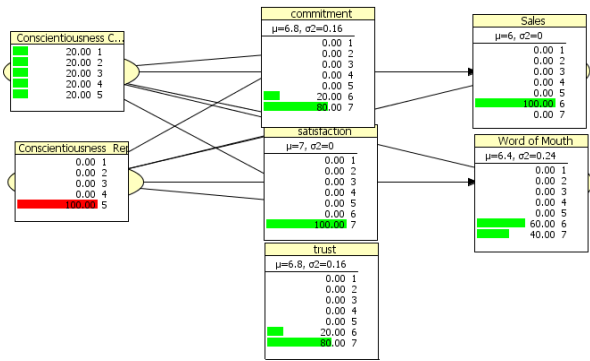Figure 49: Conscientiousness BN with monitors

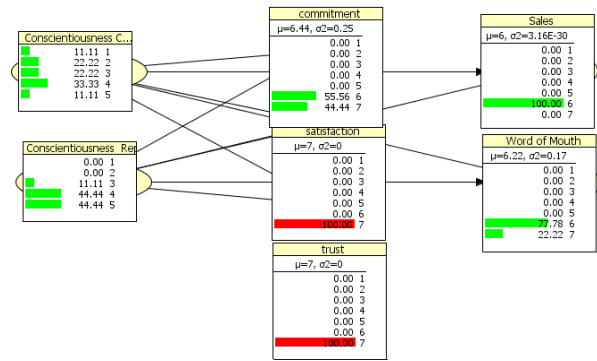Figure 50: Evidence entered for salesperson

Figure 51: Evidence entered for relationship quality
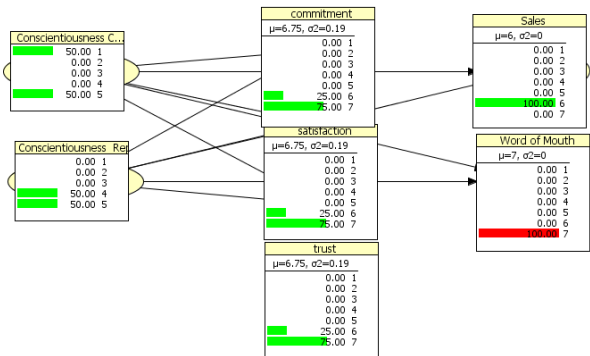

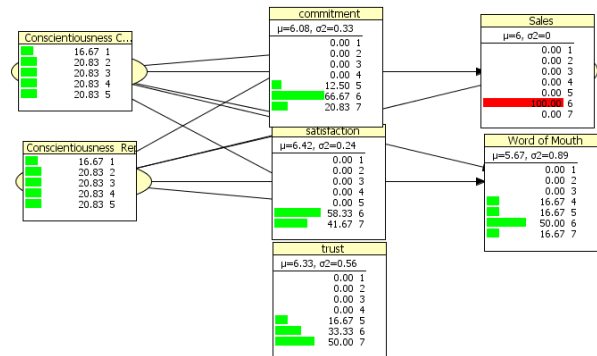Figure 52: Evidence entered for word-of-mouth

Figure 53: Evidence entered for sales

The BN focusing on conscientiousness is modelled with all the outcome constructs, and can be seen in Figure 48. Figure 49 shows the probability monitors and forms the baseline for comparison. The sales construct shows very

little variance (σ^2= .04) giving us a 96% probability that sales will be a level six and a 4% of being a level 5.

Assume a salesperson is conscientious person (dutiful, self-disciplined and hardworking). This known evidence is entered into the BN, see Figure 50. There is a notable improvement in trust, satisfaction and commitment with high probabilities occurring on level 7. The variability of word-of-mouth has reduced, providing a split probability between levels 6 and 7. As expected, sales settles on level 6.

What happens when we have a high quality relationship? Satisfaction and trust are both set to level 7 and the result is seen Figure 51. The conscientiousness of the salesperson is required to be high (level 4 or 5) while the conscientiousness of the customer is unlikely to be extreme (not level 1 or level 5). Although trust and satisfaction are set to level 7, it does not automatically mean commitment is also level 7; in fact there is still a split probability (between levels 6 and 7) for commitment. Again, the variance of word-of-mouth has been reduced resulting in level 6 being most likely.

Assume a situation where the customer does not feel satisfied. The situation can be modelled in our BN and the results are shown in Figure 54.
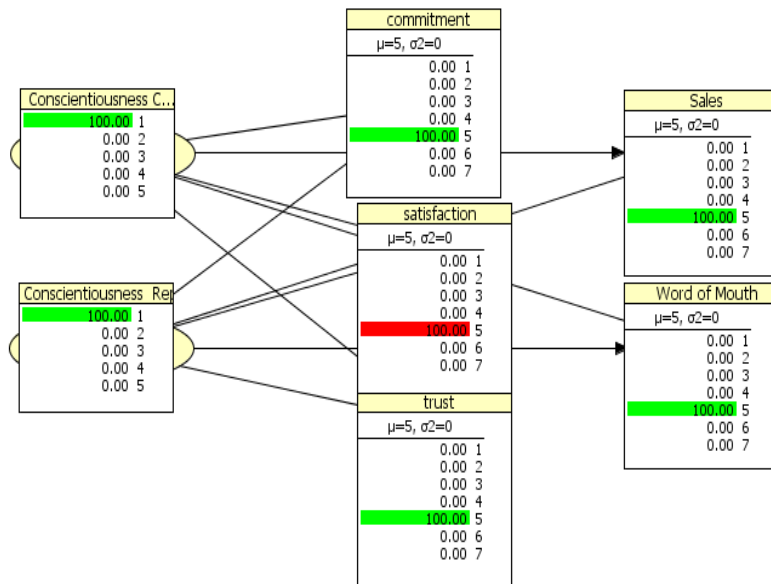
Figure 54: Evidence entered for low satisfaction

For this situation to occur, the customer and the salesperson both have low levels of conscientiousness, which suggests congruence at low levels of conscientiousness harms the relationship quality. The BN also shows the effects on commitment and trust. Compared to Figure 41, commitment drops in level but does not reach the minimum level and trust plummets to the lowest level (level 5). Interestingly, word-of-mouth settles at the middle level (level 5). There is a negative impact of sales.

The outcome of high word-of-mouth may be required and this is entered into the BN. Figure 52 shows the results of setting word-of-mouth to level 7. Beginning with the dyadic relationship, the customer is required to have an extreme level of conscientiousness while the salesperson is required to have a high level (level 6 or 7), which is in contrast to the requirements of high relationship quality. Although there is an improvement in relationship quality, the improvement is marginal. Trust, satisfaction and commitment all have probabilities split across multiple levels. As expected, sales settles on level 6.

When requiring a high level of sales, level 6 is entered into the BN and the results can be seen in Figure 53. There is hardly any movement in the

probabilities for the other constructs. A more pertinent question may concern lower levels of sales.
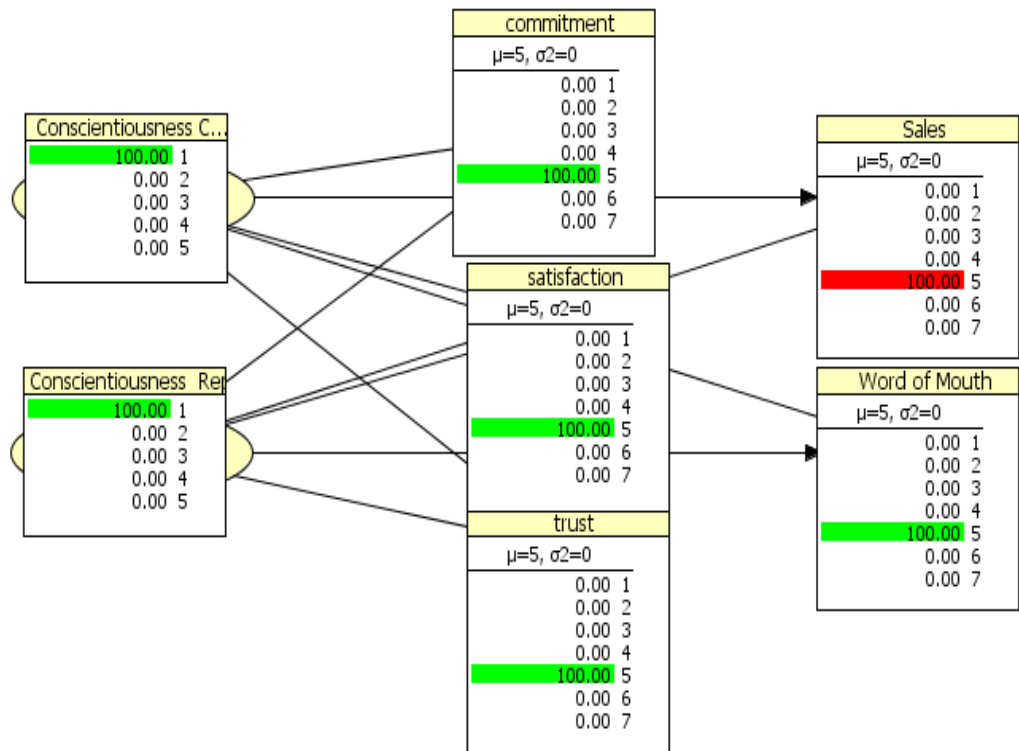

Figure 55: Evidence entered for low sales

Figure 55 shows the results of having a low level of sales, level 5, which has an initial probability of 4%. Immediately we see the customer's level of conscientiousness and the salesperson's level of conscientiousness are both set to level 1, suggesting that sales are negatively affected when neither customer nor salesperson is conscientious. Trust, satisfaction and commitment levels also plummet to the lowest allowed levels and the word-of-mouth construct has a 100% probability of being a level 5.
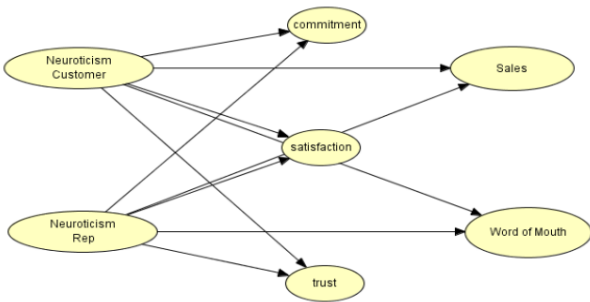
7.1.4. Neuroticism

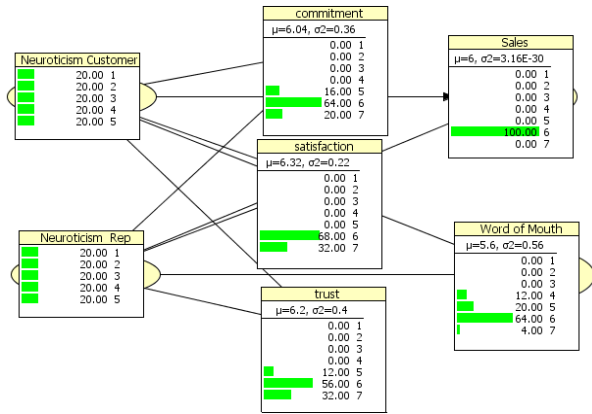**Figure 56: Neuroticism BN structure**

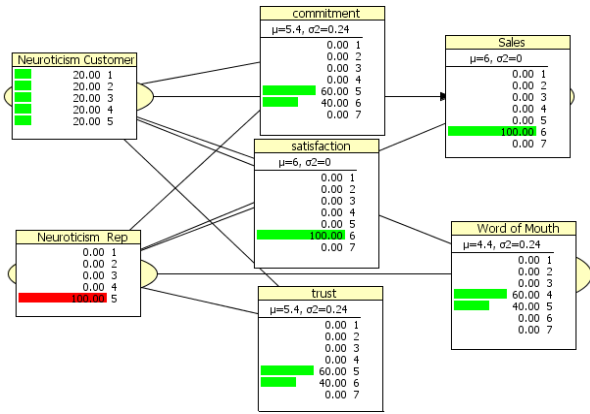**Figure 57: Neuroticism BN with monitors**

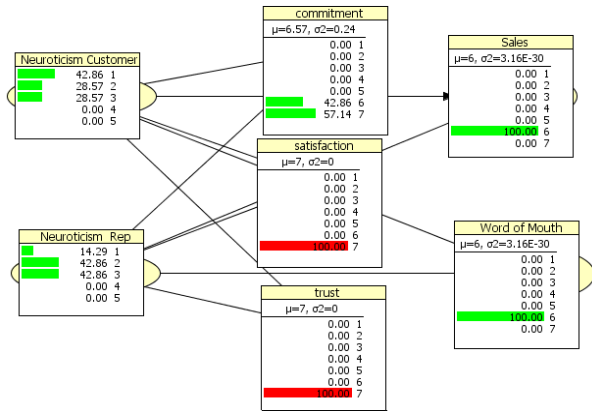**Figure 58: Evidence entered for salesperson**

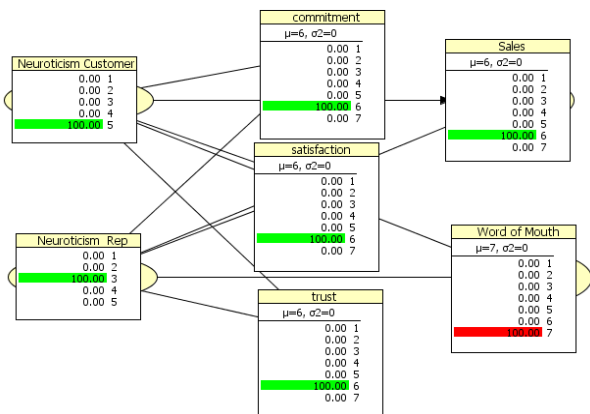**Figure 59: Evidence entered for relationship quality**
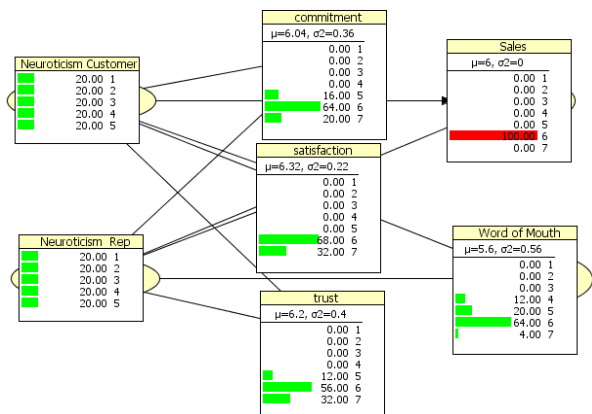

Figure 60: Evidence entered for word-of-mouth

Figure 61: Evidence entered for sales

The personality trait of neuroticism can be modelled in a BN (Figure 56), while Figure 57 shows the probabilities for each construct. Figure 57 will be used as a baseline for comparisons. Looking at the construct of sales, the distribution and mean are similar to those in the BN for extraversion. The tiny σ^2 (3.16 × 10^{-30}) does not allow for manipulation or interpretation of the sales construct.

Assume our company has a salesperson who is highly neurotic (anxious, frustrated or irritable). This evidence is inserted into the BN with the result shown in Figure 58. The mean and variance values for trust, satisfaction and commitment drop showing a reduction in all aspects of relationship quality. In the baseline model, word-of-mouth shows higher probabilities for the higher levels, but after the evidence is entered, lower levels are favoured with level 4 receiving a 60% probability.

To achieve high levels of satisfaction and trust, these parameters are entered into the BN and Figure 59 shows the results. The salesperson and the customer are required to show lower levels (level 1, 2 or 3) of neuroticism, suggesting that improved relationship quality is achieved when the customer and the salesperson both are less neurotic. Interestingly, looking at the salesperson and isolating the three levels, there are higher probabilities on levels 2 and 3 than on level 1. The BN shows that when there are high levels of trust and satisfaction, there are high levels of commitment. Word-of-mouth settles on level 6, and as expected, when there are higher levels of relationship quality, we have higher levels of word-of-mouth.

Figure 60 shows a situation where high levels of word-of-mouth are required. In the baseline BN, level 7 of word-of-mouth only has a 4% probability of occurring, but setting this probability to 100% results in noticeable shifts. The customer is required to be highly neurotic, and the salesperson is required to have a moderate about of neuroticism. Trust, satisfaction and commitment all require a moderate level (level 6). Although

level 6 may be considered high, compared to the baseline distributions, level 6 is moderate.

Knowing how to achieve a high level of word-of-mouth is important, but knowing what is happening when we are receiving low word-of-mouth is just
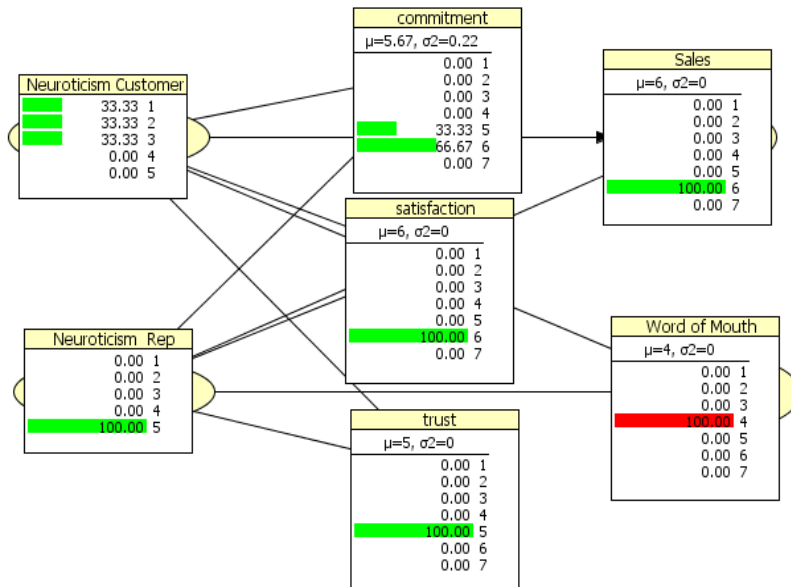
Figure 62: Evidence entered for low word-of-mouth

as important.

Figure 62 shows the result of having low word-of-mouth. When customer neuroticism is low and salesperson neuroticism is high, there is a low level of word-of-mouth. The level of trust settles on level 5, the lowest level achievable in the baseline BN. Both commitment and satisfaction are lower, but are not at the lowest levels.

7.1.5. Openness
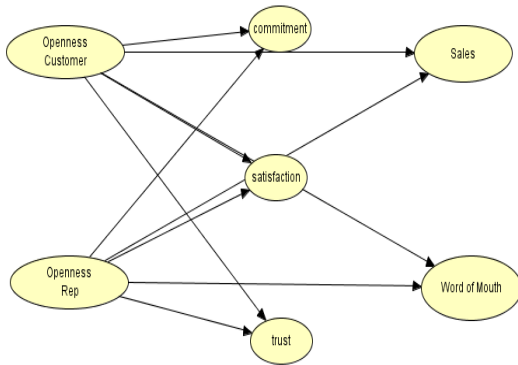
Figure 63: Bayesian network for the personality trait of Openness
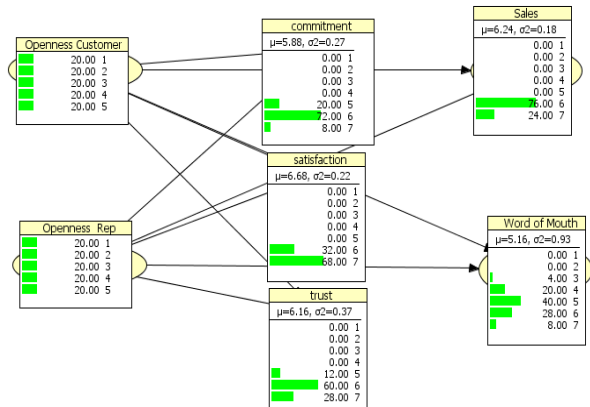
Figure 64: Bayesian network probabilities for openness
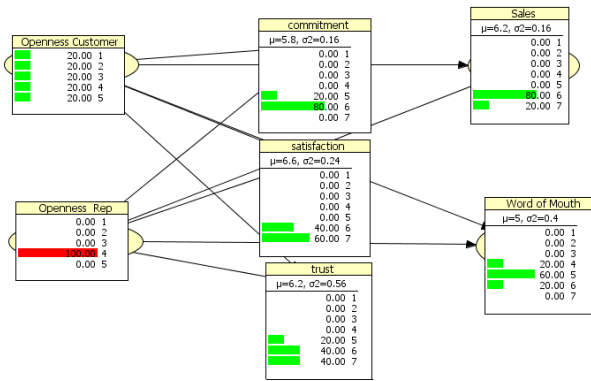
Figure 65: Evidence entered into BN
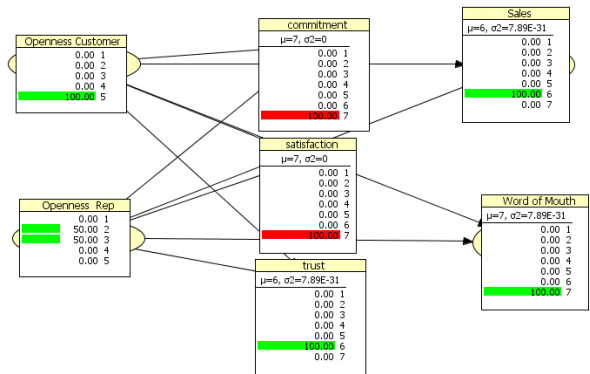
Figure 66: Prospective evidence entered for two outcome variables
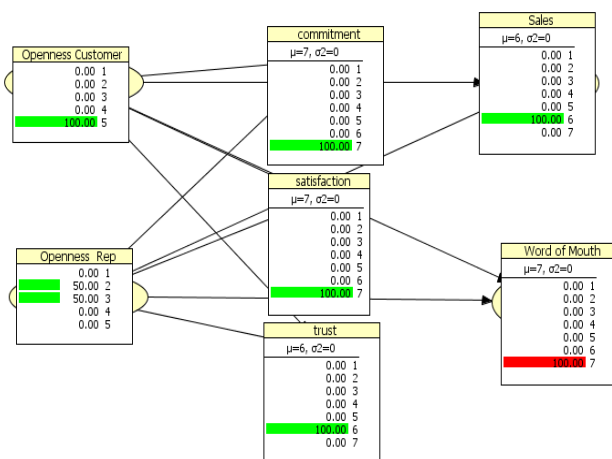
Figure 67: Desired outcome of word-of-mouth
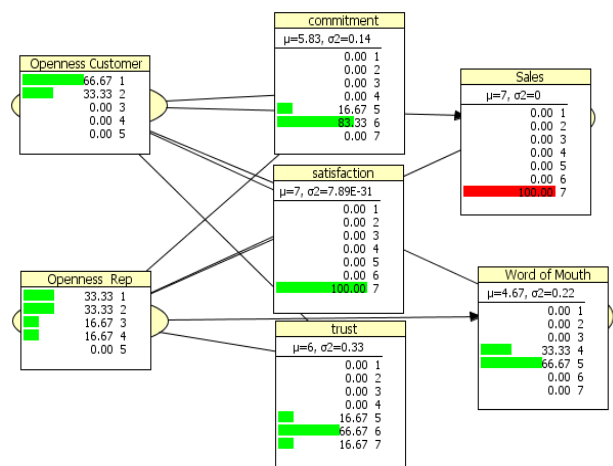
Figure 68: Desired outcome of sales

The personality trait of openness is modelled in Figure 63, and Figure 64 shows the probabilities with no evidence presented. Now suppose the salesperson is a fairly open person, exuding characteristics of being imaginative, cultured, curious, original, broad-minded, intelligent and artistically sensitive. The result can be seen in Figure 65.

When comparing the result from Figure 65 to the initial BN in Figure 64, movement is seen in both the means and variances for all outcome variables. The commitment level of 6 becomes more probable while the commitment level of 7 becomes improbable. The satisfaction probabilities change, but not by much. Trust goes from having a high probability of being a level 6, to an equal probability of being a level 6 or level 7. The probabilities within the outcome of sales do not change by much, while the word-of-mouth distribution changes considerably. Initially, word-of-mouth probabilities are distributed among levels 3 to 7, but once the evidence is entered, levels 3 and 7 are eliminated and the highest probability value increases by 50% (the data variability is reduced).

Figure 66 shows the result of entering a desired outcome of high commitment and high satisfaction. When comparing this output to that of Figure 64, some dramatic changes can be seen. The remaining outcome constructs settle on a specific level (with little standard deviation). These outputs are all noticeably high (levels 6 or level 7) and are exclusive to a single level (no split probabilities). The openness of the customer is high while the openness of the salesperson is low-to-moderate with an equal split in probability between level 2 and level 3.

If trust is set to a low level, the result is seen in Figure 69. The BN clearly shows the negative effects of congruence between the customer and salesperson. Surprisingly, the remaining constructs of relationship quality
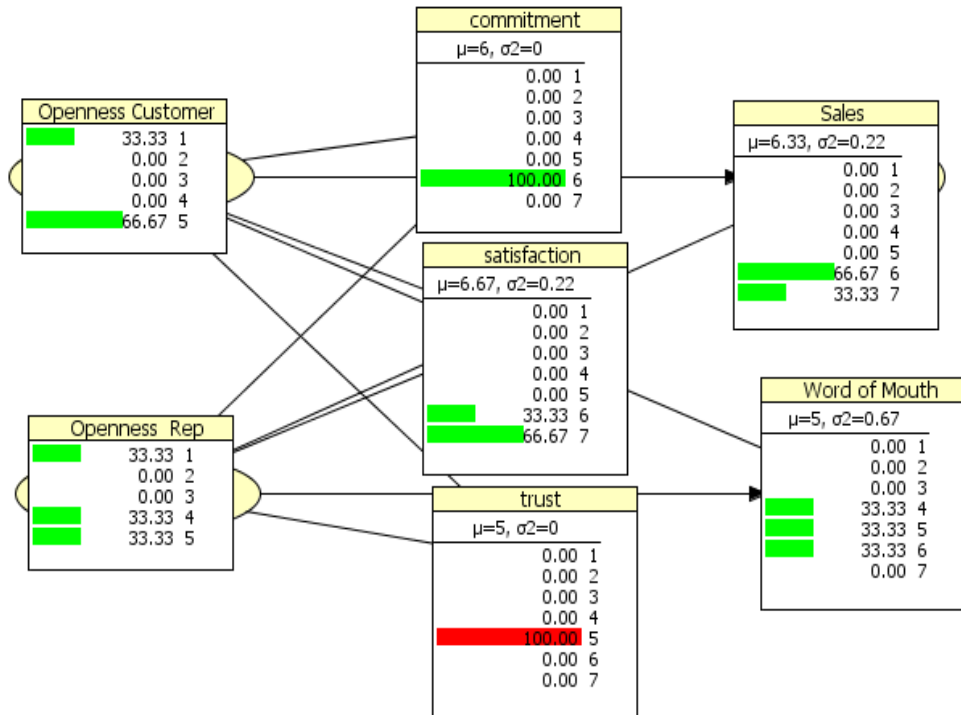
Figure 69: Evidence entered for low trust

(commitment and satisfaction) are not severely harmed by low levels of trust. The distribution of satisfaction goes from $\mu = 6.68$ and $\sigma^2 = 0.22$, to $\mu = 6.67$ and $\sigma^2 = 0.22$, a minor change. Commitment settles on level 6, which is the middle level relative to the baseline BN. Word-of-mouth shows a decrease in variance (from $\sigma^2 = 0.93$ to $\sigma^2 = 0.67$) with the mean shifting only slightly.

Figure 67 shows evidence entered for the outcome construct of word-of-mouth while **Figure 68** shows evidence entered for sales. It can be seen that a high level of word-of-mouth corresponds to high relationship quality. It is also interesting to note that when word-of-mouth is maximized, the probability of a sale occurring is also high. Lastly, the salesperson's level of openness needs to be moderately low (level 2 or level 3) while the customer's level needs to be high (level 5).

To secure a sale, only satisfaction is required to settle on level 7, while both commitment and trust have split probabilities. Unlike word-of-mouth, sales requires a lower level of openness from both the salesperson and the customer. A contrast emerges between **Figure 67** and **Figure 68**: high chances of a sale imply moderate chances of word-of-mouth, but high chances of word-of-mouth imply that a sale probability is high.
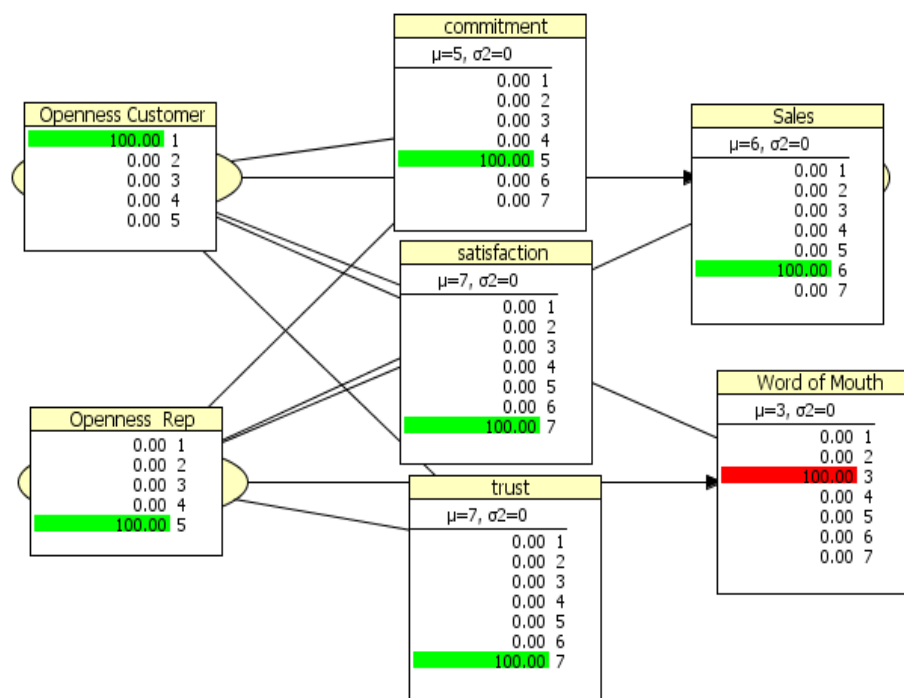
Figure 70: Evidence entered for low word-of-mouth

Figure 70 represents a situation where a company may want to analyse why it is not achieving the expected reference value through word-of-mouth. In this situation the lowest level for word-of-mouth is selected. The BN shows that low openness in the customer and high openness in the salesperson may cause low levels of word-of-mouth. An interesting point to note is the lack of change in the constructs of satisfaction and trust, with both settling on the highest levels (level 7). Conversely, commitment has the lowest level, level 5. There is a negative movement in sales, but it is marginal.

7.1.6. Bureaucracy
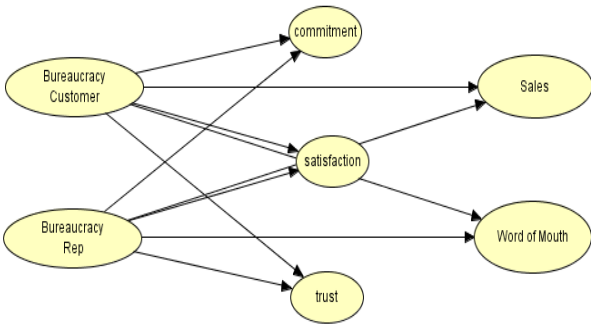
Figure 71: Bureaucracy BN structure
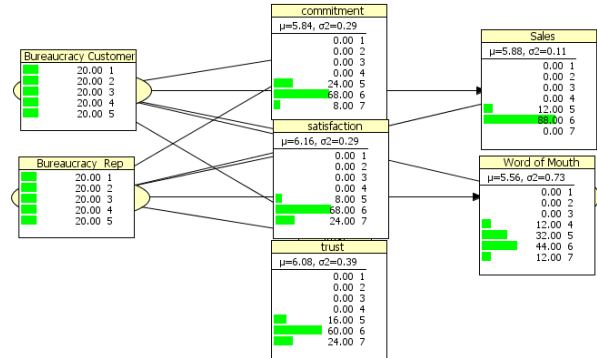
Figure 72: Bureaucracy BN with monitors
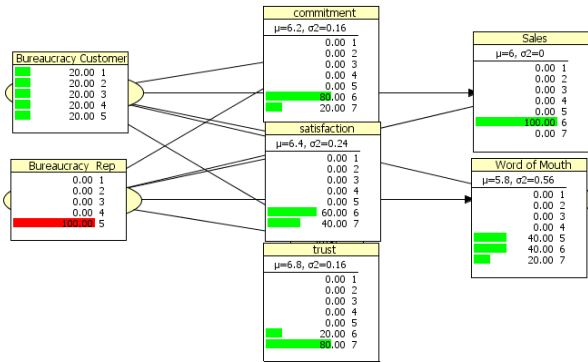
Figure 73: Evidence entered for salesperson
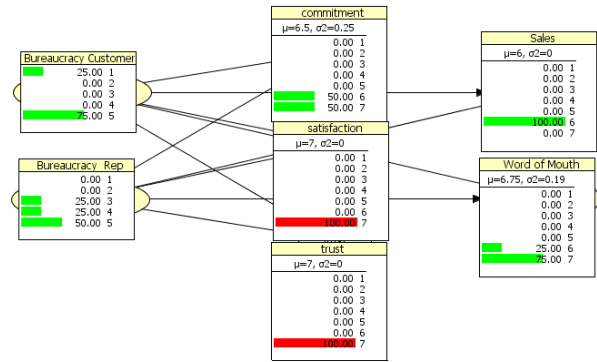
Figure 74: Evidence entered for relationship quality
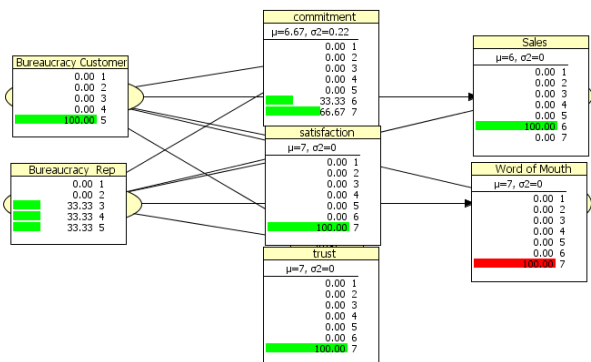
Figure 75: Evidence entered for word-of-mouth
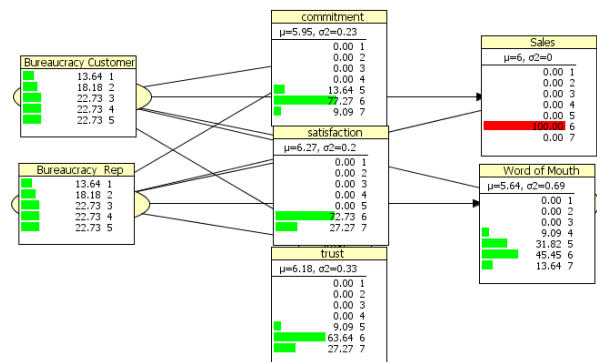
Figure 76: Evidence for sales

Bureaucracy is an organisational culture element and this BN is modelled in Figure 71. The baseline probabilities for the BN are shown in Figure 72. There are no constructs that have small distributions, allowing manipulation and interpretation for all constructs. Beginning with the salesperson's perspective, the BN is modelled where there is a high perception of bureaucracy. The salesperson would typically bring a procedural, regulated or hierarchical structure to the interaction with the customer. This information is entered into the BN and the results are shown in Figure 73, which shows an increment in the means and a reduction in the variances. Although split probabilities remain across all relationship constructs, the probabilities favour higher levels. Word-of-mouth is slightly improved with the distribution favouring the higher levels (level 5, 6 or 7). Given the baseline probability for sales being at a level 6 is 88%, there is no surprise that sales settles on level 6 once the information is entered.

How might high levels of trust and satisfaction be achieved? Once this has been stipulated, the results are found in Figure 74. The customer is required to have an extreme level of bureaucracy (either low or high) while the salesperson is required to have a moderate-to-high level. It is not clear that either congruence or incongruence is required for improved relationship quality. There are equal probabilities of getting a level 6 or level 7 for commitment. This suggests the commitment aspect of relationship quality is not guaranteed to achieve a high level, even when trust and satisfaction have high levels. Word-of-mouth favours higher levels (either level 6 or level 7) when there are high levels of trust and satisfaction. Sales follow a similar suit and settles on level 6.

Next, assume high levels of word-of-mouth are required; the situation is modelled and the results can be seen in Figure 75. The output is similar to Figure 74, in that we see high levels of trust and satisfaction and a split probability for commitment (albeit at higher levels). The major differences lie in the customer and salesperson. In this case, the customer is required to have a high level of bureaucracy while the salesperson is required to have moderate to

high levels (level 5, 6 or 7). The argument for a degree of congruence can be made, when high levels of word-of-mouth are required.

In a situation where high levels of sales are required, there are minimal movements in means and distributions across all constructs. This may be seen in Figure 76. The reason for the lack of movement is that the probability of sales was initially high, and therefore a more pertinent question might be: what happens at low levels of sales?
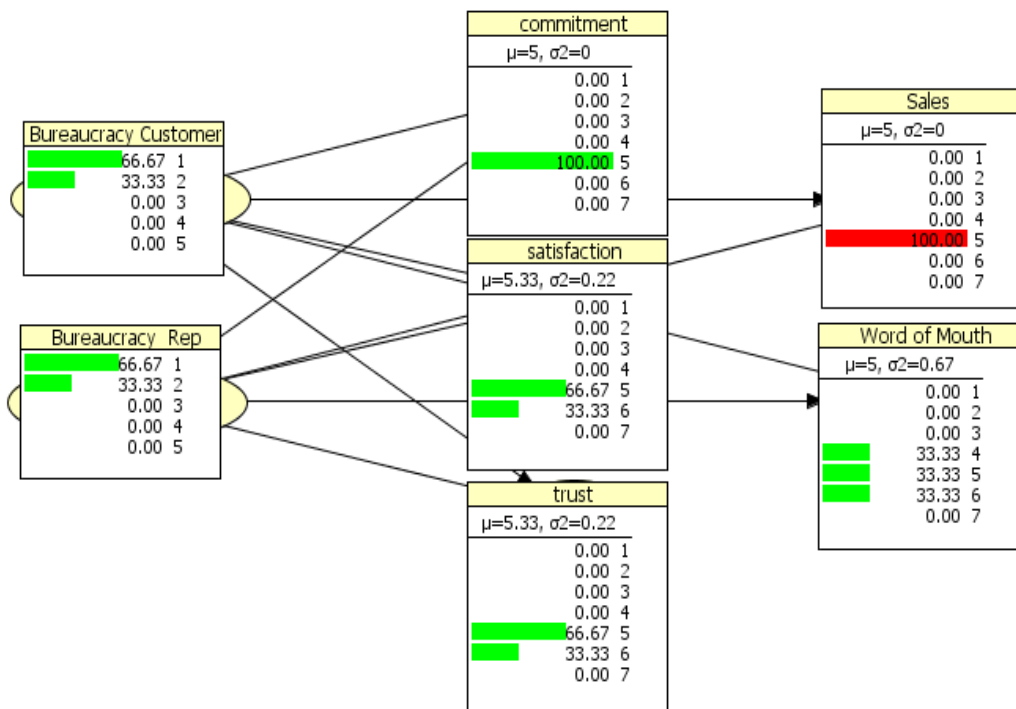
Figure 77: Evidence entered for low sales

Figure 77 shows a situation where there is low level of sales. In the baseline BN (Figure 72), there are low probabilities of sales occurring at a level five (12%). When level five is set to 100%, there are marked changes throughout the BN. When there are low sales, the customer and salesperson both have low levels of bureaucracy (levels 1 and 2), suggesting congruence at low levels leads to low sales. Low sales could also be due to low levels of relationship quality. The means for trust, satisfaction and commitment are all reduced, favouring the

lower levels. Surprisingly, word-of-mouth does not change radically, with an equally split probability over three levels.

7.1.7. Innovation

The baseline BN for innovative organisational culture is modelled in **Figure 78**. The baseline probability levels are shown in Figure 79, and Figure 80 shows evidence entered for a salesperson representing an organisation with a high level of innovation. This salesperson should perceive their own organisation as having characteristics such as being creative, stimulating, driving and results-orientated. The relationship quality of commitment resolves to level 5 while both satisfaction and trust resolved to level 6. Throughout all aspects of relationship quality, the resultant level is lower compared to the base model (Figure 79). Word-of-mouth maintains a split probability over three levels (levels 5 to 7). Sales goes from a split probability between level 5 and 6, to settle exclusively on level 7.

If a high level of relationship quality is required, both satisfaction and trust are set to high levels (level 7), the result of which can be seen in Figure 81. The BN shows when there are high levels of relationship quality the customer's organisation exhibits either high or low levels of innovation. Conversely, the salesperson's organisation has lower levels (levels 1, 2 or 3) of innovation. Commitment settles on level 6, suggesting that when both trust and satisfaction are high, commitment is high. Surprisingly, sales maintains a split probability between level 5 and level 6, but the probability increases for level 5. Word-of-mouth favours levels 5, 6 and 7.

Figure 78: Innovation BN structure

Figure 79: Innovation BN with monitors

Figure 80: Evidence entered for salesperson
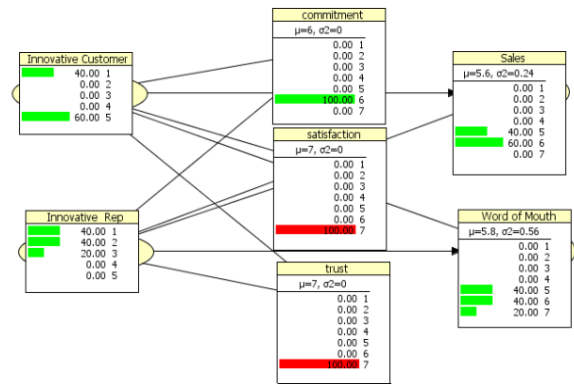
Figure 81: Evidence entered for relationship quality
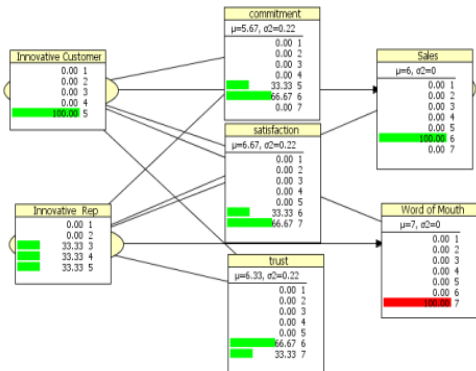

Figure 82: Evidence entered for word-of-mouth
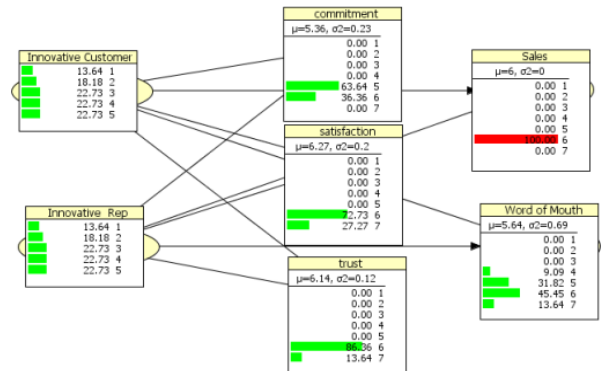
Figure 83: Evidence entered for sales

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When requiring a high level of word-of-mouth, the results can be seen in Figure 82. The salesperson's organisational innovation has an equal split probability over levels 3, 4 and 5 while the customer's is exclusively a level 5. This suggests that there may be a certain degree of congruence necessary between the customer and the salesperson to get a high level of word-of-mouth. As expected, sales settle on level 6.

In a situation where the required reference value is not being achieved because word-of-mouth is low, what might be the cause?
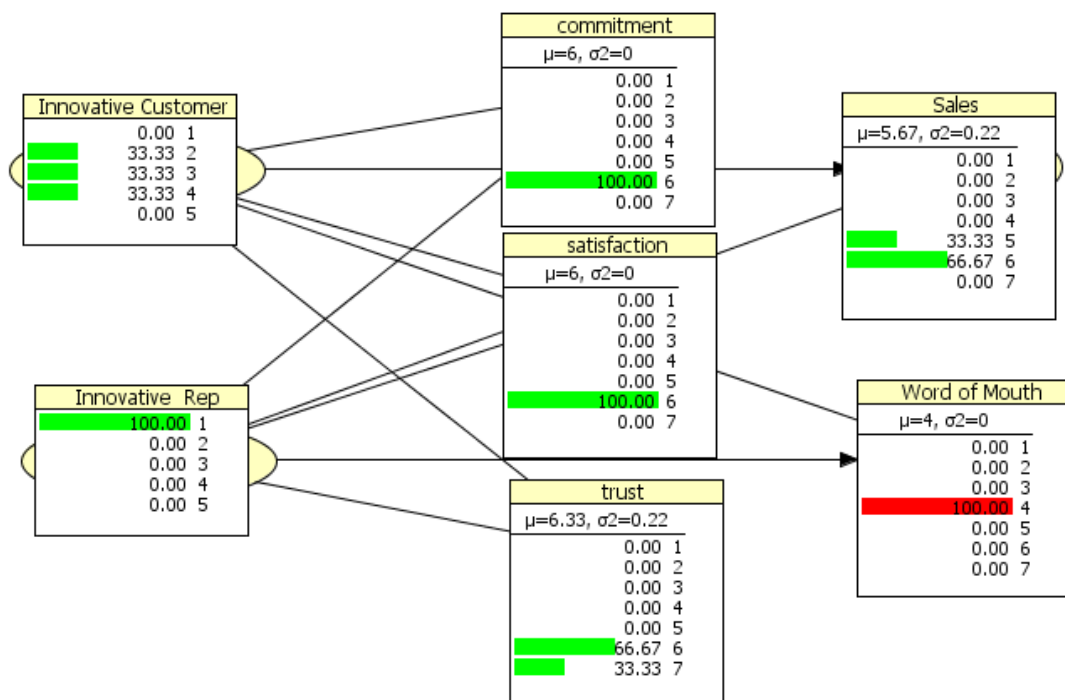
Figure 84: Evidence entered for low word-of-mouth

Figure 84 shows what would happen when there is a low level of word-of-mouth. The customer exhibits moderate levels of innovation (level 3, 4 or 5) while the salesperson has an extremely low innovation score (level 1). Commitment, satisfaction and trust shift towards high levels, but trust still has a split probability between level 6 and level 7. Despite having high levels of relationship quality, a sale is not guaranteed.

The construct of sales has a large probability of being a level 6, meaning that when high levels of sales are required there is little shift in probabilities. Figure 83 shows the effects on the BN, when sales is set to level 6, but a better question to ask might be: what causes lower levels of sales?
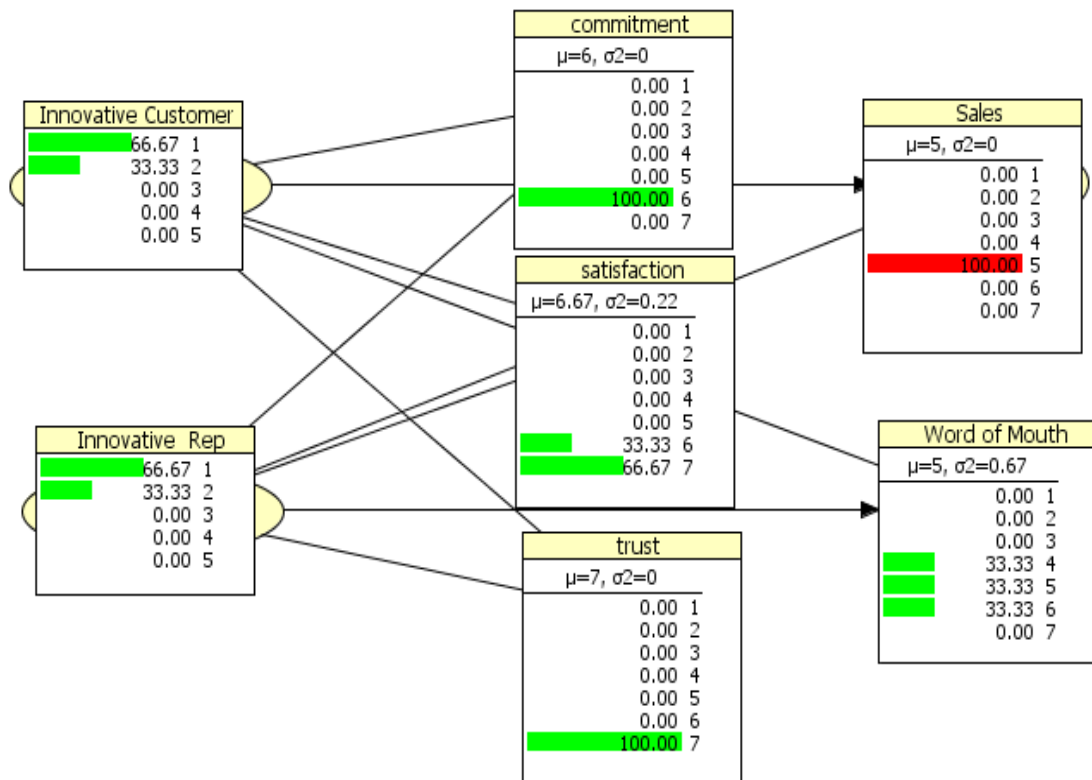
Figure 85: Evidence entered for low sales

Figure 85 shows a situation where there are low levels of sales. There is congruence between the innovation of the salesperson and the innovation of the customer (both low). Trust, satisfaction and commitment move towards higher levels, but there is still a split in probability between level 6 and level 7 for satisfaction. Word-of-mouth shows an equal probability of a level 4, 5 and 6, but compared to the baseline BN, shows a decrease in both mean and variance.
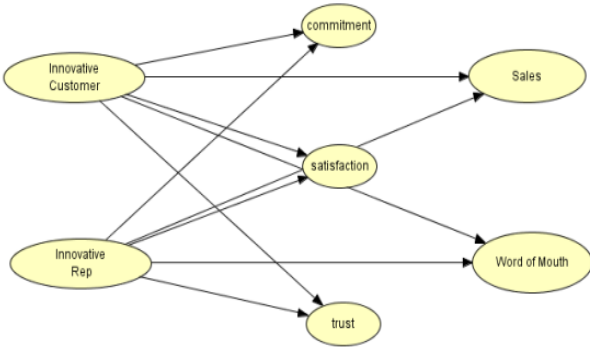
7.1.8. Supportive
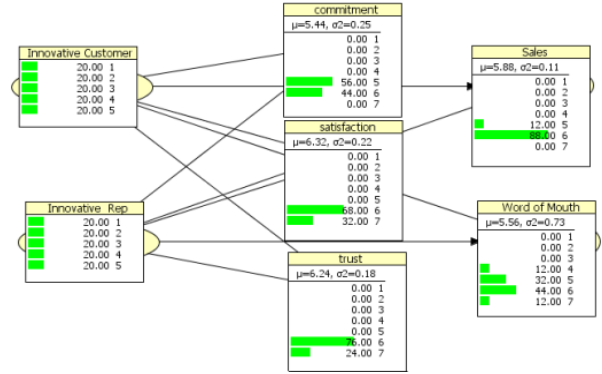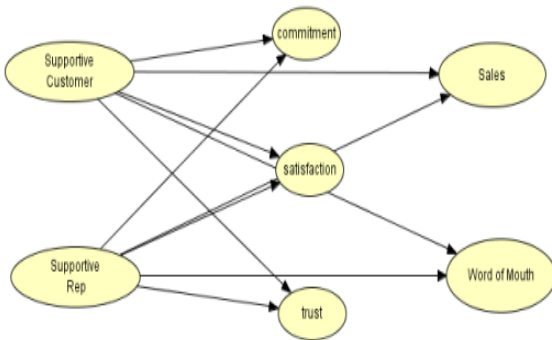

Figure 86: Supportive BN structure
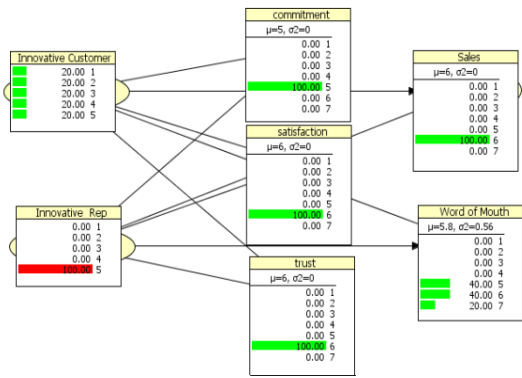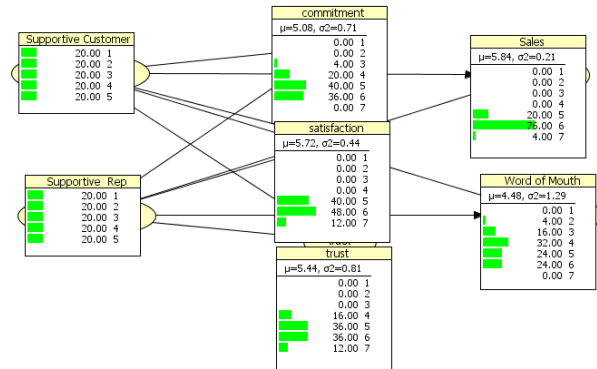

Figure 87: Supportive BN with monitors
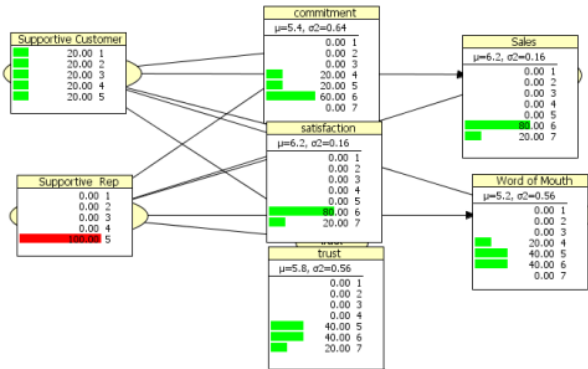
Figure 88: Evidence entered for salesperson
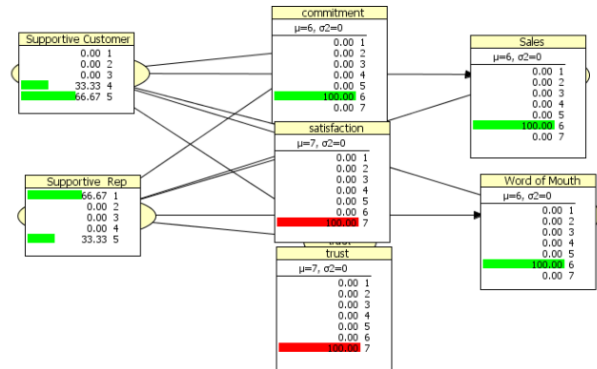
Figure 89: Evidence entered for relationship quality
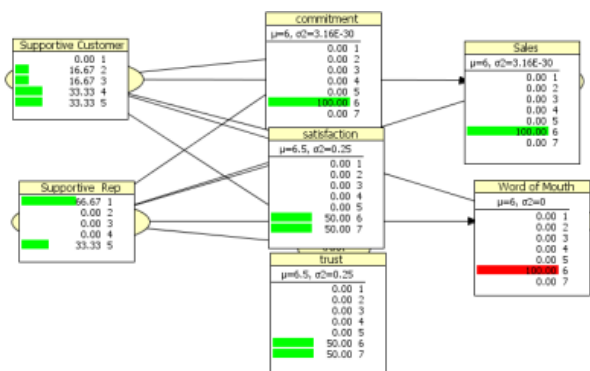
Figure 90: Evidence entered for word-of-mouth
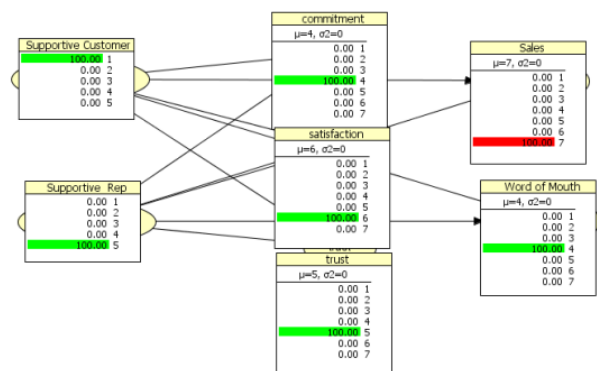
Figure 91: Evidence entered for sales

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The organisational culture element of supportiveness is modelled in Figure 86. The probability monitors are shown in Figure 87, and there is sufficient variance across all constructs for manipulation and interpretation. Typical characteristics of a supportive environment include sociability, safety, trust, and collaboration. Assume a salesperson has an extremely high level of supportiveness; the results are modelled in Figure 88.

Commitment, satisfaction and trust all have higher means and smaller variances, suggesting a positive shift in relationship quality. There are similar results in word-of-mouth, with the mean going from 4.48 to 5.2 and the variance decreasing from 1.29 to .56. The construct of sales shows an increase in probability for the higher levels (specifically level 6 and 7). Taken together, the results suggest a supportive culture leads to better relationship quality, sales and word-of-mouth.

Figure 89 shows a situation where high levels of satisfaction and trust are required. There is a bipolar split in probability for the salesperson while the customer maintains a high level (level 4 or 5) of supportiveness. Commitment has settled exclusively on level 6, meaning that when trust and satisfaction are high commitment is automatically high. When there are high levels of trust and satisfaction, there is a positive influence on word-of-mouth which settles on level 6. Surprisingly, in the given situation a sale is not guaranteed. In the baseline BN, sales show a small (4%) probability of being a level 7, but in the current situation sales settles exclusively on level 6.

What if a company is experiencing a situation where they have numerous customers who are non-committal to their relationships? This situation is modelled in Figure 92.
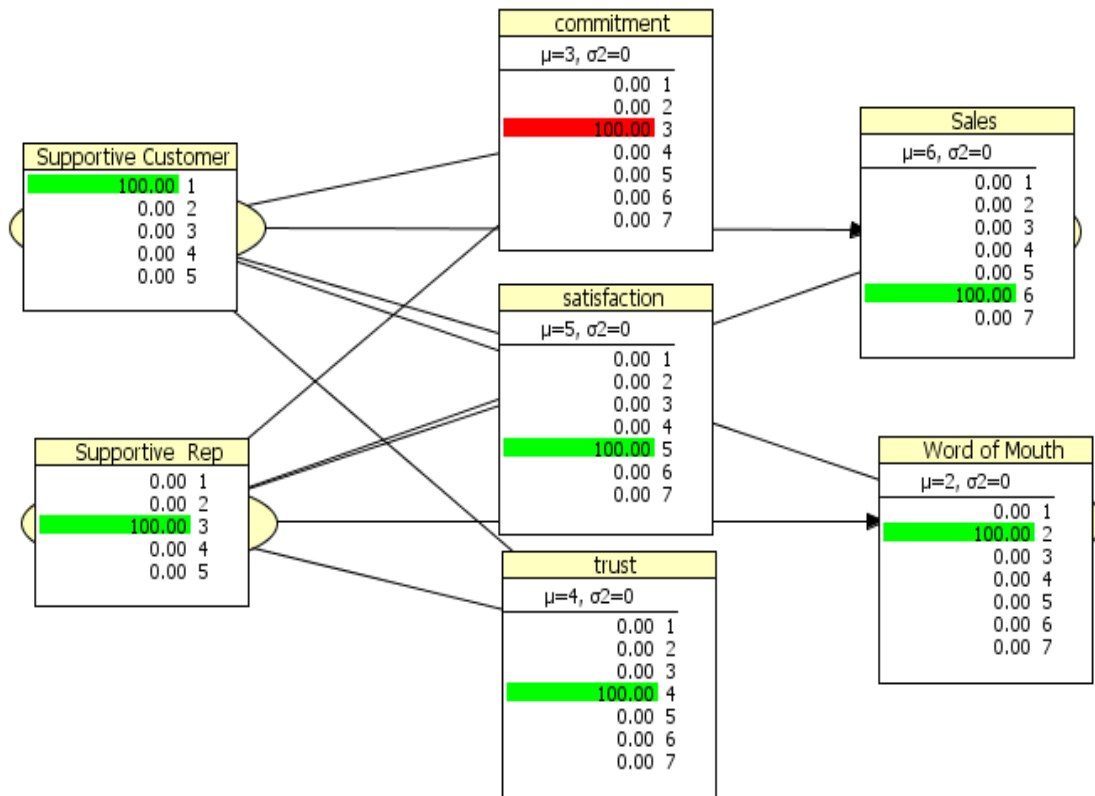
Figure 92: Evidence entered for low commitment

Figure 92 shows a BN where there is a low level of commitment. In this situation the customer has a very unsupportive culture while the salesperson has a moderate level. Satisfaction has 100% probability of being at level 5 while trust has a 100% probability of being at level 4. The decrease in means of both satisfaction and trust, suggest other areas of the relationship may need improvement. Despite the non-committal evidence being entered, there is still a fair chance of a sale occurring with the mean improving from 5.84 to 6. The same cannot be said for word-of-mouth. The baseline BN (Figure 87) shows a probability of 4% for a level 2, while in the current BN there is a 100% probability of a level 2.

Improving the word-of-mouth levels can be achieved in several ways. Figure 90 shows the BN model where word-of-mouth is set to level six. While the customer is required to have level 2 or higher, the salesperson is required to have either level 1 or level 5. Both trust and satisfaction have equal split

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probabilities between levels 6 and 7. Commitment settles on level 6. Not surprisingly, sales settles on level 6.

What happens in a situation where the company or brand is not being recommended? This is modelled in Figure 93.
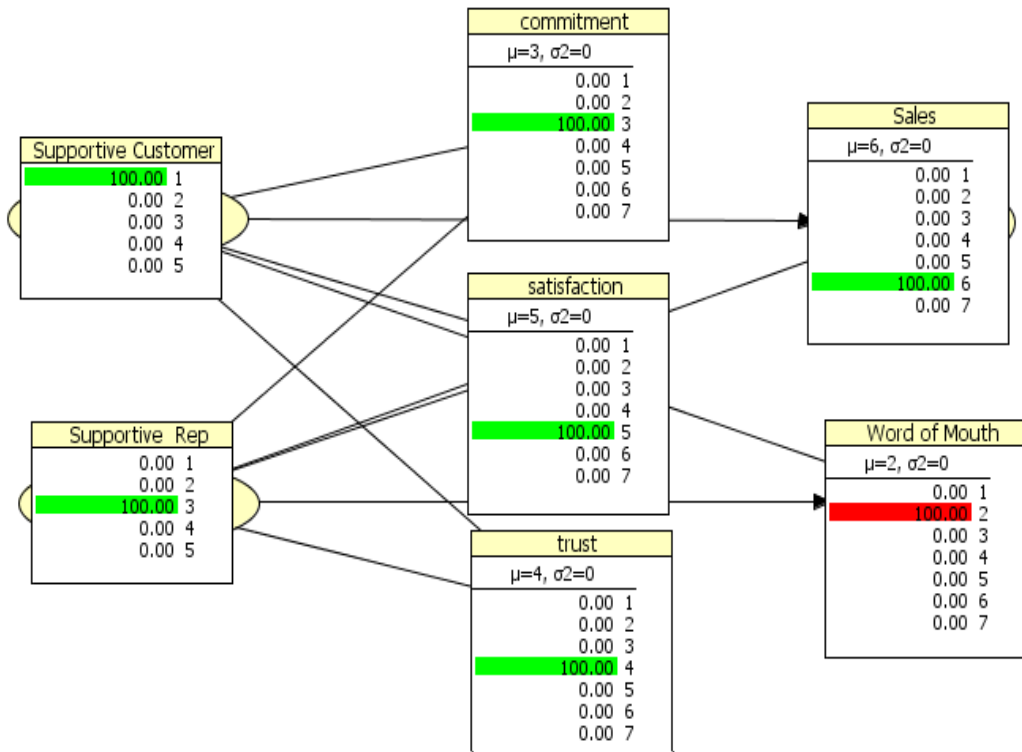
Figure 93: Evidence entered for low word-of-mouth

In a situation where there are low levels of word-of-mouth, the salesperson has moderate levels of supportiveness while the customer has extremely low levels. Commitment, satisfaction and trust all indicate lower levels compared to the baseline BN (Figure 87). Sales settles on level 6, despite the lower levels of relationship quality. Note that Figure 93 is exactly the same BN as Figure 92.

When addressing the construct of sales, how what would guarantee the highest probability for a sale? This situation is modelled in Figure 91, and shows some interesting results. Firstly for the highest chance of making a sale there must be incongruence between the customer and the salesperson, where the customer has low levels and the salesperson has high levels. There need to be moderate levels across all aspects of relationship quality (trust, satisfaction

and commitment). Word-of-mouth settles on a level 4, suggesting that when there is a high probability of a sale, the chance of attaining a referral is reduced.

7.2. Conclusion

A BN is allows a researcher to understand a situation where causality plays a role but where our understanding of what is actually going on is incomplete. A BN uses a set of graphical representations, known as direct acyclic graphs, to describe the domain and causation. An important feature of a BN is it requires no cyclic relationships. A BN uses Bayes' theorem to calculate the probabilities of certain events occurring, while accounting for additional evidence.

In the current study, numerous BNs were generated. The input data for these BNs comes from the polynomial regressions shown in section 6.4. Each of the personality traits was presented and discussed. These discussions are followed by a discussion on aspects of organisational culture, and within each of the discussions, several "what-ifs?" are analysed. Further interpretation of the results will be achieved in the discussion section.

Chapter 8. Discussion and recommendations

The overall research question guiding the study is whether or not a match or mismatch in personality and organisational culture between dyadic pairs of B2B customers and salespeople theoretically and materially affects the relationship quality, sales outcome and word-of-mouth. To answer this question, the study proposed two specific research questions and within each research question were a number of propositions. Figure 8 shows the conceptual location of propositions in relationship to the research model. For easy reference, Figure 8 has been repeated below:
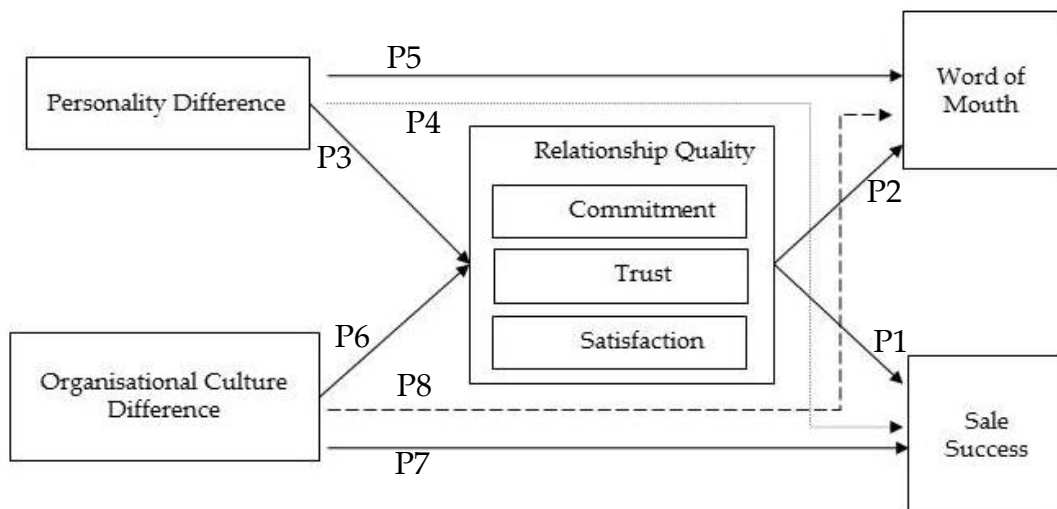
Figure 94: The position of propositions in relation to the model

Throughout this discussion, reference will be made to the polynomial regressions, surface response graphs, stationary points and lines of interest. All the relevant information can be found in the appendix. A summary of the results found is presented in Table 17.

In the following discussion sales success refers to the level of purchase intent (Further discussion can be found in Chapter 2 and Chapter 5).

This chapter will continue in two parts:

1. First the key findings, as they related to each of the constructs, are organised and summarised. This section goes beyond the results chapter in that it starts to unpack each of the constructs in an attempt to better understand what the findings mean, beyond the numbers.

2. Thereafter, a comprehensive theoretical discussion attempts to cover why these relationships occur. Thematic discussion will highlight several patterns after which additional theory will be drawn upon to explain the findings.

Research questions with propositions	Broad conclusions/ support	Summary of specific findings

P₁: Increased Trust, Satisfaction and Commitment will be associated with sale success.	Trust and commitment are associated with sales success, however satisfaction lacks evidence.	This proposition was split into three sub-propositions:
		
		P_{1a}: Trust is associated with the sale success.
		    The PLS-SEM shows a moderate and significant coefficient between sale success and trust (β = .121, p<.05).
		
		P_{1b}: Satisfaction is associated with the sale success.
		    The PLS-SEM results show a small and non-significant path therefore this sub-proposition is not upheld.
		
		P_{1c}: Commitment is associated with the sale success.
		    The PLS-SEM shows a moderate and significant coefficient between sale success and commitment (β = .310, p<.05)

P₂: Trust, Satisfaction and Commitment will be associated word-of-mouth communication.	Evidence is found for Trust, satisfaction and commitment being associated with word-of-mouth.	This proposition was split into three sub-propositions:
		
		P_{2a}: Trust is associated with word-of-mouth communication.
		    There is a significant and strong (β = .34, p<.05) relationship between trust and word-of-mouth.
		
		P_{2b}: Satisfaction is associated with word-of-mouth communication.
		    A moderate and significant (β = .188, p<.05) relationship is found between satisfaction and word-of-mouth.
		
		P_{2c}: Commitment is associated with word-of-mouth communication.
		    A moderate and significant (β = .13, p<.05) relationship is found between commitment and word-of-mouth.

| P3: The personality match between the customer and the salesperson will affect the quality of the relationship. | Broadly speaking a personality match or mismatch between the salesperson and customer does affect the relationship quality. | This proposition examines the relationship between each of the personality traits and the three aspects of relationship quality: trust, satisfaction and commitment.

Extraversion:
Relationship variables maximized when salesperson and customers level of extraversion is moderate.

Agreeableness:
Relationship variables are maximized when the salesperson has moderate levels of agreeableness and the customer has higher levels of agreeableness.

Conscientiousness:
Relationship variables are maximized when the salesperson exhibits higher levels of conscientiousness. Maximization is almost independent of the customers level of conscientiousness

Neuroticism:
Relationship variables are maximized when both the salesperson and customer have low to moderate levels of neuroticism.

Openness:
Relationship variables are maximized at moderate levels of salesperson openness and at high levels of customer openness. |

P4: The personality match between the customer and the salesperson will affect the sale outcome.	There is evidence that a match or mismatch in any of the personality traits will affect the sales outcome.	This proposition examines the relationship between each of the personality traits and the sales outcome. * The range of variance for the sales outcome was under the minimum required values. * Extraversion: Sales outcome is maximized when the salesperson has a moderate level of extraversion while the customer has either a high or low level. * Agreeableness: The sale outcome is almost maximized along the line of congruence however the range of the outcome variable is minimal and therefore was excluded. * Conscientiousness: Generally speaking the sales outcome is maximized when the salesperson and the customer has high levels of conscientiousness. * Neuroticism: The sales outcome is maximized when the salesperson has low levels of neuroticism. Openness: The sales outcome is maximized when the customer has low levels of openness.

P5: The personality match between the customer and the salesperson will affect the word-of-mouth.		This proposition examines the relationship between each of the personality traits and the outcome variable of word-of-mouth.
		Extraversion: The level of word-of-mouth activity is maximized at moderate levels of salesperson extraversion almost independently of the customer.
		Agreeableness: The word-of-mouth outcome is maximized at moderate levels of salesperson agreeableness and high levels of customer agreeableness.
		Conscientiousness: The levels of word-of-mouth activity is maximized at high levels of salesperson conscientiousness almost independently of the customer.
		Neuroticism: The outcome of word-of-mouth is maximized at lower levels of salesperson neuroticism. The relationship is almost independent of the customer.
		Openness: The word-of-mouth outcome is maximized at moderate levels of salesperson word-of-mouth and high levels of customer word-of-mouth.

| P$_6$: The organisational culture match between the customer and the salesperson will affect the quality of the relationship. | | This proposition examines the relationship between each of the organisation culture aspects and the three relationship quality elements, specifically: Trust, satisfaction and commitment.

Bureaucracy:
The relationship quality elements are maximized at higher levels of customer and salesperson bureaucracy.

Innovativeness:
The relationship quality elements are generally maximized at lower levels of salesperson innovativeness and higher levels of customer innovativeness.

Supportiveness:
The relationship quality elements are maximized at high levels of customer supportiveness while the salesperson is required to have either high or low levels of supportiveness. |

P₇: The organisational culture match between the customer and the salesperson will affect the sale outcome.		This proposition examines the relationship between each of the organisation culture aspects Bureaucracy: The sale outcome is maximized when there is moderate levels of customer bureaucracy and moderate to high levels of salesperson bureaucracy. Innovativeness: The sales outcome is maximized at high levels of customer innovativeness and at higher levels of salespersons innovativeness. Supportiveness: The sales outcome is maximised at either high or low levels of supportiveness for both the customer and salesperson

P8: The organisational culture match between the customer and the salesperson will affect the word-of-mouth.		This proposition examines the relationship between each of the organisation culture aspects and the outcome of word-of-mouth Bureaucracy: The outcome of word-of-mouth is maximized at high salesperson and customer bureaucracy Innovativeness: The level of word-of-mouth activity is maximized at low levels of salesperson innovativeness and high levels of customer innovativeness. Supportiveness: Word-of-mouth is maximized at high levels of customer supportiveness and either high or low levels of salesperson supportiveness

8.1. The role of relationship quality

P1: Trust, Satisfaction and Commitment are associated with sale success.

P2: Trust, Satisfaction and Commitment are associated with word-of-mouth communication.

Propositions P_1 and P_2 examine the relationship between the construct of relationship quality and the outcome variables of sales success and word-of-mouth. Figure 15 on p.137 shows the PLS-SEM used in the study, which analyses only constrained difference scores in personality and organisational culture. The paths shown within the model are only the significant paths, meaning that insignificant paths are omitted. Further discussion is required for both propositions, but the meta-construct of relationship quality needs to be reduced to the three constructs of trust, satisfaction and commitment. To aid the discussion each proposition is split into three sub-propositions and will be discussed in turn.

P1a: Trust is associated with the sales success.

P1b: Satisfaction is associated with the sales success.

P1c: Commitment is associated with the sales success.

Proposition one addresses the association between relationship quality and sales success and sub-propositions 1a, 1b and 1c each address an element of relationship quality as it relates to sale success. The PLS-SEM model shows that there are modest coefficient values between trust and sales (β = .12, p<.05) showing evidence for sub-proposition P_{1a}. Sub-proposition P_{1b} expresses the relationship between satisfaction and sale success. This relationship is not upheld due to a lack of evidence, manifesting as a small and non-significant

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path between satisfaction and sales. Sub-proposition P_{1c} focuses on the relationship between commitment and sale success. This path is larger and significant ($\beta = .31$, $p<.05$), giving evidence in support for this sub-proposition.

Next, Proposition P_2 is split into three sub-propositions.

P_{2a}: Trust is associated with word-of-mouth communication.

P_{2b}: Satisfaction is associated with word-of-mouth communication.

P_{2c}: Commitment is associated with word-of-mouth communication.

Sub-propositions P_{2a}, P_{2b} and P_{2c} express the relationships between the individual constructs of relationship quality and word-of-mouth. Support is found for sub-proposition P_{2a} having a significant and strong relationship ($\beta = .34$, $p<.05$). Sub-proposition P_{2b} is supported by a moderate and significant relationship ($\beta = .19$, $p<.05$). Sub-proposition P_{2c} focuses on the relationship between commitment and word-of-mouth, which is moderate and significant ($\beta = .13$, $p<.05$), suggesting that support is found for sub-proposition 2c.

When viewing the propositions as they relate to the constructs (e.g. proposition P_{1a} and P_{2a} review the relationship of trust and satisfaction and the relationship of trust and word-of-mouth), some interesting aspects are found.

There are significant relationships between the constructs of trust and sales (P_{1a}), and trust with word-of-mouth (P_{2a}). This relationship is found abundantly within prior literature (Crosby et al., 1990; Hennig-Thurau et al., 2002). The relationship of word-of-mouth with trust is stronger than the relationship with sales, which could explain the situation where people only recommend suppliers if they trust their suppliers.

The relationship between commitment and the outcome variables of sales (P_{2c}) and word-of-mouth (P_{2c}) are both significant, but differ in strength.

Commitment to the relationship will have a greater impact on sales compared to its effects on word-of-mouth. Looking at commitment only, it can be concluded that if a company wants to increase its sales, it will need to commit to the relationship with its customer. From the customer's perspective, there is a high chance of making a purchase when there is a commitment to the relationship.

Unlike trust and commitment, satisfaction does not have a significant relationship with sales (P_{1b}). Satisfaction has a significant relationship with word-of-mouth (P_{2b}), but this relationship is not strong.

The findings from this study regarding proposition P_1 and proposition P_2 concur with prior findings from relationship marketing theory (Hudson et al., 2015), which suggests a relationship between relationship quality (trust, satisfaction and commitment) and both sales and word-of-mouth.

When a company wants to increase business-to-business sales, these results suggest that it should focus on developing relationships through commitment and trust. Given the relative strengths of the relationships, the companies should come across as committed to the relationship and then trusting within the relationship. Lastly, when requiring increased sales, the customer does not necessarily need to be satisfied with the relationship. This may appear to be counter-intuitive, but there could be a temporal lag between forming trust, commitment and satisfaction.

This hypothetical relationship lag could give a speculative reason for the relative strengths of the relationships between the constructs. Katsikeas, Skarmeas and Bello (2009) find support for a relationship lag and even suggest that a lag of up to a year could be realistic. In the current context, there may be a short lag for establishing a level of commitment to the relationship, a long lag for establishing a level of trust, and satisfaction may only come after several interactions. Although this reason is somewhat speculative, and beyond the scope of this study, it is believed to be an important note.

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8.2. The role of personality

Research question 1a: Is a personality match (or mismatch) associated with sales outcomes?

The essential answer to *Research Question 1a* is yes; a personality match (or mismatch) is in many cases associated with sale outcomes. It is not enough to know *if* the match (or mismatch) affects the outcome variables; it is also important to know *how* a match or mismatch will affect the outcome. The second research question will be discussed alongside the first research question.

Research question 1b: If personality match/mismatch affects sale outcomes, how does this occur? Does congruence or incongruence improve or harm the sale outcome, at which polar ends of congruence or incongruence do these effects occur and, are these relationships linear or quadratic?

In Section 4.6. , several proposals are set out that will be used as a framework for the discussion. Each proposal will be analysed at the lower levels for each outcome variable (for example, relationship quality will be analysed in terms of trust, satisfaction and commitment). P_3, P_4 and P_5 are most pertinent to research Question 1 and will assist in the discussion:

> P_3: The personality match between the customer and the salesperson will affect the quality of the relationship.

> P_4: The personality match between the customer and the salesperson will affect the sales outcome.

> P_5: The personality match between the customer and the salesperson will affect word-of-mouth.

Extraversion

The personality trait of extraversion is seen as a social trait capturing a person's desired quantity of social interaction (Grant et al., 2011). People with high levels of extraversion typically place themselves at the centre of attention, being cheerful, optimistic, active and talkative (Moore & McElroy, 2012). Conversely, people who exhibit opposite behaviours are considered introverts. Figure 15 shows extraversion has significant effects on both commitment and trust.

The surface response graph for commitment has an inverted bowl shape, which is almost circular. The stationary point is at X = 3.92 and Y = 4.20, meaning commitment is maximised where the customer and salesperson both have moderate-to-high levels of extraversion. Proposition P_3 questions the relationship of congruence between the extraversion of the customer and salesperson. This slope (Y = X) has a negative curvilinear relationship meaning when the customer and salesperson match, commitment is increased, but only to a point, and then it begins to decrease.

From the both the customer's perspective and the salesperson's perspective, there are negative curvilinear relationships to commitment. In a dyadic relationship where a firm can only directly affect one side of the dyad, it is important to acknowledge what can be done by the salesperson to improve commitment. Commitment is improved when there are moderate-to-high levels of extraversion, but not extremely high.

The second element of relationship quality that will be discussed is trust. This response surface graph has a saddle shape with the stationary point at X = 4.19 and Y = 4.08. The line of congruence is Y = X, and the response surface has a negative curvilinear relationship. Proposition P_3 is supported because a match can and does affect the level of trust.

The graph has an interesting shape when you consider each side of the dyad (almost) independently. From the salesperson's perspective, there is a

negative curvilinear relationship, meaning the optimal level of extraversion is moderate-to-high. Any other level of extraversion will harm the level of trust. The customer's extraversion has a very different relationship to trust; specifically it is a more subtle positive curvilinear relationship. From the customer's perspective, it is better to have an extreme level of extraversion, but this relationship is so subtle that there are only marginal differences.

Taken together, there are two important conclusions. Firstly, in a situation where there is a lack of control over the customer's level of extraversion, it is better for the salesperson to exhibit moderate levels of extraversion. Secondly, the impact of extraversion on trust is largely dictated by the salesperson and not the customer.

The final element of relationship quality that needs to be discussed is satisfaction. According to Figure 15, this relationship is insignificant, but is able to explain a fair amount of variance. This response surface has a saddle shape with the stationary point at $X = 3.77$ and $Y = 4.20$. The line of congruence ($Y = X$) has a negative curvilinear relationship, meaning support is found for proposition P_3.

The relationship between satisfaction and trust differs from the customer to the salesperson. They both have a curvilinear relationship but one is positive (customer) while the other is negative (salesperson). Firms that want to increase the level of satisfaction can do so by looking for salespeople with a moderate level of extraversion. Conversely, the customer will attain maximum levels of satisfaction at extreme (either high or low) levels.

It is important to realise the compounding effects of the two curvilinear relationships. The change in satisfaction is largely controlled by the salesperson because the negative curvilinear relationship is stronger than the customer's positive curvilinear relationship. This suggests that when the salesperson has a low level of extraversion, it is almost irreverent what the customer's level of extraversion is, satisfaction will be low.

Proposition P4 hypothesises that a match in extraversion will affect the sales outcome. This proposition finds support from the relationship between extraversion and sales. There is a negative curvilinear relationship, along the line of congruence (Y = X). The graph shows a saddle shape with two very curvilinear relationships, one positive (the customer) and the other negative (the salesperson). This suggests a high level of sales can be achieved when the salesperson has moderate-to-high levels of extraversion and the customer has extreme levels (either high or low). In a situation where only the salesperson's level of extraversion can be analysed it is preferable in most cases to have moderate levels of extraversion, but the compound effect of the curvilinear relationship means the level of sales is more dependent on the customer than on the salesperson.

Proposition P5 addresses the effect that matched levels of extraversion have on word-of-mouth. The graph is very concave with the stationary point at X = 3.75 and Y = 4.03. The relationship along the line of congruence is curvilinear and negative, suggesting proposition P5 is supported.

The customer has small a_x and a_{x^2} values, suggesting the relationship is almost linear, albeit negatively curved. This would mean, at high and low levels of extraversion the level of word-of-mouth will be marginally different. Conversely, the relationship for the salesperson is extremely curvilinear, with the highest level of word-of-mouth occurring where there are moderate levels of extraversion. Taken together, it seems control of word-of-mouth resides almost exclusively with the salesperson.

Taking each relationship into account, there are several conclusions that can be made. Firstly, salespeople have the larger effect in the interaction. This is true for generating trust, satisfaction and word-of-mouth. Secondly, in all the areas it is preferable to have a moderate-to-high level of extraversion. Importantly, the salesperson should not have extreme levels of extraversion (either high or low). Grant (2013) examines situations where salespeople exhibit high levels of

extraversion and finds the salesperson comes across as self-centred or overly excited. The relationship Grant speaks of has an inverted U shape, much like the findings expressed above. However, unlike Grant's research, this study focuses on relationship quality, word-of-mouth and sales performance.

Agreeableness

The personality trait of agreeableness describes people who are kind, friendly or considerate for the needs of others (Graziano & Tobin, 2009). Conversely, people with low levels of agreeableness would have qualities such as being sceptical of others and less concerned with the greater good of others (Graziano & Tobin, 2009). This trait is similar to extraversion in that it deals with a social trait, but agreeableness aims to capture the type of interaction as opposed to the quantity. Figure 15 shows agreeableness has a significant effect on commitment, trust and satisfaction. Figure 16 shows the relationship between agreeableness and commitment. The graph has a stationary point at X = 4.28 and Y = 3.83, which suggests commitment is maximised when the agreeableness of the salesperson is moderate while the agreeableness of the customer is high. Proposition P_3 focuses on the relationship along the Y = X line of interest (the line of congruence). This line is negatively curvilinear, meaning that a perfect match between a salesperson's agreeableness and a customer's agreeableness scores will not lead to the maximum amount of commitment.

In a dyadic relationship where a firm can only control one side, the salesperson's side, it is important to understand how the maximum amount of commitment can be achieved from an interaction. This relationship is negatively curvilinear with the maximum level of commitment achieved where Y = 4.1. This suggests the level of commitment is largely controlled by the customer, provided the salesperson has a moderate level of agreeableness.

Figure 17 represents the relationship between agreeableness and trust. The stationary point is found at X = 3.93 and Y = 3.79. There is a distinct inverted

bowl shape to the graph, meaning that maximum levels of trust can be found when there is a moderate level of agreeableness from the customer and the salesperson. Support for proposition P_3 is evident, because of the relationship along the line of congruence $(Y = X)$. This line is negatively curvilinear meaning that when the levels of agreeableness, for both the customer and the salesperson, are high and low the levels of trust are low.

Because a firm cannot control the level of agreeableness of a customer, the salesperson's level becomes more important. This relationship is negatively curvilinear suggesting that the maximum level of trust can be attained through a moderate level of agreeableness.

Figure 18 shows the relationship between agreeableness and satisfaction. This relationship is differs considerable from the previous two elements of relationship quality. Looking at the graph from the customer's perspective, there appears to be an almost linear relationship with satisfaction. Conversely, from the salesperson's perspective, there is a strongly negative curvilinear relationship, where the maximum level of satisfaction is achieved at $Y = 3.66$.

Proposition P_3 proposes that a match in agreeableness will affect the levels of satisfaction. The results show the effects on relationship quality are significant. The line of congruence $(Y = X)$ has a negative curvilinear relationship, again suggesting extreme levels of agreement between the customer and salesperson are not suited to attain high levels of satisfaction. In a situation where a firm cannot control which customer is approached by a salesperson, only control over salesperson characteristics resides with the firm. As a heuristic rule, the salesperson is required to always have an average level of agreeableness to achieve the maximum level of satisfaction.

In summary, proposition P_3 finds support due to the numerous curvilinear relationships along the lines of congruence for trust, satisfaction and commitment.

Proposition four argues a match in agreeableness will affect sales. Figure 19 shows a graphical representation of the relationship between sales and agreeableness. The graph has a saddle shape with the stationary point found at X = 3.98, Y = 3.58. Proposition P_4 suggests a congruent relationship will affect sales. The line of congruence is found where Y = X, and the results show a positive curvilinear relationship.

Although the principal axes are not on the line of congruence, proposition four finds support. This support comes from the subtle curvilinear relationship along the line of congruence. More interestingly than the subtle positive curvilinear relationship along the Y = X line, is the relationship along the Y = -X line. There is a strongly negative curvilinear relationship, meaning incongruence at extreme levels (low or high) will harm a sales outcome.

The relationship between agreeableness and sales is almost independent of the customer because at high or low levels of agreement from the customer the level of sales is mostly positive. When the salesperson has high levels of agreeableness, there is a stark decline in sales, but when the salesperson has low levels of agreeableness, sales levels are improved.

Proposition P_5 holds that a match in agreeableness will affect word-of-mouth. Figure 20 is used to analyse this proposition. The stationary point is not a maximum or minimum, as the graph has a saddle shape. There is a negative curvilinear relationship occurring from the salesperson's perspective and a mild positive curvilinear relationship coming from the customer's perspective. The proposition claims that along the Y = X line will, the word-of-mouth level should improve.

The Y = X relationship is negatively curvilinear, meaning when there is either high or low levels of agreeableness, the level of word-of-mouth is lower, while with moderate levels of agreeableness the word-of-mouth is higher. From a customer's perspective, there is a positive curvilinear relationship while from the salesperson's perspective there is a negative. This means that the optimal

level of agreeableness for a salesperson is moderate while for the customer the optimal level is either high or low.

There is support for proposition P5, because the line of congruence affects the level of word-of-mouth. However, in a situation where a firm can only influence one side of the dyad, the salesperson's agreeableness is of more concern.

Propositions P3, P4 and P5 are supported when viewing agreeableness congruence between a salesperson and a customer. These relationships are profound and have unique elements that add additional complexity when observing the salesperson-customer dyad.

Conscientiousness

Conscientiousness is the third of five personality traits. Conscientious people are considered vigilant, careful, dutiful and self-disciplined (Azeem, 2013), while people who are considered easy-going, lazy or aimless are regardd as having low levels of conscientiousness (Spangler et al., 2004). Figure 15 shows the PLS-SEM in which conscientiousness clearly effects both trust and satisfaction, but not commitment. Each relationship quality area will be addressed in succession.

The response surface graph showing the relationship between conscientiousness and commitment has a saddle shape, so that the stationary point is neither a maximum nor minimum. Proposition P3 suggests congruence within the dyadic relationship would affect commitment. Support is found for this proposition because of the curvilinear relationship along the line Y = X. It is also interesting to note the curvilinear relationship that exists from the perspectives of both customer and salesperson.

The customer has a mild positive curvilinear relationship with commitment, meaning commitment levels are better at extreme levels of customer conscientiousness. The salesperson has a very different relationship

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with commitment. The graph shows a negatively curved, almost linear relationship between the level of conscientiousness and commitment, meaning at high levels of conscientiousness there are high levels of commitment. When the two relationships are taken together, it becomes evident that the customer's level of conscientiousness has little effect on the level of commitment.

Trust has a very similar relationship to the levels of conscientiousness as commitment does. There is an inverted bowl shape with the stationary point at X = 3.81 and Y = 4.63, meaning the highest levels of trust can be achieved when the customer has moderate levels of conscientiousness and the salesperson has high levels of conscientiousness. The slopes along the line of congruence (Y = X) shows a negative curvilinear relationship exists, providing support for proposition P_3.

There is a subtle negative curvilinear relationship from the customer's perspective while from the salesperson's perspective the curvilinear relationship is more dramatic. Taken together, it appears the salesperson has a large degree of control over the level of trust within the relationship. The differences in trust between a high and low level of conscientiousness for the salesperson is much larger than for the customers.

The final aspect of relationship quality that needs to be addressed is satisfaction. The relationship that conscientiousness has with satisfaction is very similar to that of both trust and commitment. The stationary point is not seen on the graph, but is found where X = 4.29 and Y = 5.28, meaning the customer should have a moderate-to-high level of conscientiousness while the salesperson should maintain a high level of conscientiousness.

The line of congruence (Y = X) has a slight negative curvilinear relationship, meaning high levels of satisfaction are achieved through the matching of conscientiousness, but only up to a point, after which satisfaction will decrease. This relationship provides support for proposition P_3, but further discussion is required.

From the customer's perspective, there is a very subtle, almost linear, relationship with satisfaction. This relationship is negatively curved, suggesting a higher level of satisfaction can be achieved where there is a moderate-to-high level of conscientiousness. On the other hand, the salesperson has a negative curvilinear relationship with satisfaction, but from the graph, the relationship looks almost linear. When the two relationships are accounted for together, there are larger differences for changes in the salesperson's level of conscientiousness compared to the customer's. This indicates the salesperson has a higher degree of control of the level of satisfaction.

Relationship quality has three facets, specifically trust, satisfaction and commitment. Because of this, all three areas need to be accounted for simultaneously. There are several conclusions that can be made regarding the relationship quality, but one supersedes the rest. The salesperson largely controls the level of relationship quality through their level of conscientiousness. This means a customer prefers a salesperson who is cautious, dutiful and self-disciplined over one who is easy-going.

Proposition P_4 explores the relationship between a match in conscientiousness between the salesperson and the customer with sales outcome. This proposition finds support through the analysis of the response surface graph.

The graph has several interesting discussion points. Firstly, the graph cannot show the stationary point at X = 5.59 and Y = 4.03. This stationary point suggests the level of sales can be increased when the salesperson has a high level of conscientiousness and the customer has a moderate level of conscientiousness. Secondly, at low levels of conscientiousness, there is a marked decrease in sales. This again supports the proposition that a match will affect the sales. Congruence between the customer and salesperson has a very subtle curvilinear (almost linear) relationship to sales. Lastly, from both the customer and salesperson perspectives there is an extremely subtle (almost

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linear) relationship to sales. When trying to achieve high levels of sales, the control of the outcome is up to the salesperson as much as it is up to the customer.

Proposition P5 argues a match in personality will affect the level of word-of-mouth. Support is found for this in the slopes along the line of congruence (Y = X). The values of the slopes suggest a negative curvilinear relationship exists (a_x = 4.06 and a_{x^2} = -.29). This relationship suggests congruence improves word-of-mouth but only up to a point. Although congruence is important, the other relationships need to be discussed.

There is a subtle positive curvilinear relationship from the perspective of the customer, meaning higher levels of word-of-mouth at either high or low levels of customer conscientiousness. The salesperson has a different relationship to word-of-mouth, a strongly positive relationship, indicating that as the level of conscientiousness increases, so does the level of word-of-mouth. Compared to the customer, the salesperson has a stronger relationship, indicating that the level of word-of-mouth is controlled to a large extent by the salesperson.

Word-of-mouth communications comprise evaluations of goods and services, but in an informal manner. In a situation where a firm would like to improve the levels of word-of-mouth, salespeople are key. Almost independently of the customer, the salesperson can bring about high levels of word-of-mouth by exhibiting high levels of conscientiousness; conversely, when word-of-mouth activity is low it may be because salespeople have low levels of conscientiousness.

Neuroticism

Neuroticism is the fourth personality trait in the Big Five. People who have high levels of neuroticism would come across as anxious, frustrated or fearful (Ireland et al., 2015). This trait has been largely linked to negative emotions and poor emotional stability, while people who are not neurotic may exhibit characteristics of being carefree, unconcerned and helpful (Teng et al., 2007). The response surface graphs for neuroticism are very different to those for other personality traits.

The response surface graph representing the relationship between commitment and neuroticism has a concave shape with the stationary point not visible on the graph. Proposition P$_3$ posits that congruence will affect the level of commitment and, based on the slopes found on the line of congruence, support is found for this proposition. The relationship for congruence is a negative curvilinear relationship, meaning commitment will increase to a point and then will decrease.

There is a negative, almost linear relationship between the customer's level of neuroticism and the level of commitment. Highest levels of commitment are found at lower levels of neuroticism, while the reverse is also true. The salesperson's level of neuroticism has a negative curvilinear relationship with commitment, meaning the highest levels of commitment can be found where there are moderate to low levels of neuroticism. Importantly, at extremely high or low levels of neuroticism the level of commitment is harmed.

The response surface graph of the relationship between trust and neuroticism is similar to that for commitment. The stationary point is at X = 3.75 and Y = -.71, and the graph has a concave shape to it. Proposition P$_3$ addresses congruence between the salesperson and customer. Support is found for this proposition, through the negative curvilinear relationship along Y = X.

There is a very subtle curvilinear (perhaps almost linear) relationship between the customer's neuroticism and the level of trust. This suggests higher

levels of trust are established at lower levels of neuroticism. Unlike the customer, the salesperson has a very clear negative curvilinear relationship with trust. This highest level of trust is achieved when the salesperson's level of neuroticism is at $Y = 2.39$, meaning at a low but not extremely low level.

The final aspect of relationship quality that needs to be discussed is the relationship between neuroticism and satisfaction. The response surface graph has a concave (dome) shape. The stationary point is found where $X = .56$ and $Y = 2.60$. Support is found for proposition P_3 as it applies to satisfaction, because of the relationship along the line of congruence. This relationship is a negative curvilinear relationship, meaning the level of satisfaction will increase, but at very high levels of congruence, satisfaction will decrease.

The customer has a negative curvilinear relationship with satisfaction, meaning the highest levels of satisfaction occur where there are moderate-to-low levels of neuroticism. The salesperson's relationship with satisfaction is a strongly negative curvilinear relationship. The highest levels of satisfaction can be achieved when the salesperson has moderate-to-low levels of neuroticism. Taken together, the levels of satisfaction can be optimised when both the customer and salesperson have low-to-moderate levels of neuroticism.

When amalgamating the analysis of trust, satisfaction and commitment, the results suggest several interesting findings. Firstly, when the salesperson comes across as frustrated, anxious or emotionally unstable, the relationship quality is severely harmed. Secondly, when the salesperson comes across as too helpful, carefree or unconcerned, the relationship is harmed. Seemingly, the salesperson should not be anxious, but also not completely carefree. The customer should receive the feeling that the salesperson cares about them, without over-stepping their boundaries.

Proposition P_4 examines the relationship between neuroticism and sales, suggesting congruence will affect the sales. The small slopes along the line of congruence suggest a negatively sloped but positively curved shape, where $a_x =$

-.73 and a_{x^2} = .07. Support is found for proposition P₄, meaning congruence between the customer and salesperson affects sales.

There is a positive curvilinear relationship between customer neuroticism and sales, where both high and low levels of neuroticism lead to highest sales. This relationship holds independently of the salesperson's level of neuroticism. The salesperson has a subtle negative curvilinear relationship, but this relationship is not consistent for all levels of customer neuroticism. The relationship becomes extremely negative as the customer becomes more neurotic.

These results have two major implications. Firstly, the level of sales is very dependent on the customer's level of neuroticism (preferring either high or low levels), but not on the salesperson's. Secondly, it is up to the salesperson to show lower levels of neuroticism as this will lead to higher levels of sales, independently of the customer.

Proposition P₅ addresses whether congruence between the customer and salesperson will affect the outcome of word-of-mouth. Support is found for this proposition because of the curvilinear relationship that exists between the word-of-mouth and neuroticism, but further analysis of the response surface graph of this relationship is required.

This graph has a saddle shape with both the customer and salesperson having curvilinear relationships, but in opposite directions. The salesperson has a negative curvilinear relationship while the customer has a positive curvilinear relationship; from the perspective of the customer, the highest level of word-of-mouth will occur at high or low levels of neuroticism, while from the salesperson's perspective the best level of word-of-mouth occurs at low levels of neuroticism (Y ≈ 2.53).

Looking at the two relationships together, lower levels of neuroticism are preferred. Although the customer has a positive curvilinear relationship, the changes in neuroticism from the salesperson affect the level of word-of-mouth

more than those of the customer, meaning the salesperson is largely in control of the level of word-of-mouth activity.

When combining the results of relationship quality, sales and word-of-mouth, the study finds that from the salesperson's perspective, lower levels of neuroticism are always preferable. This finding has a caveat, in that extremely low levels of neuroticism may come across as too carefree, or unhelpful.

Openness

Openness to experience (or just openness) is a personality trait that has been the subject of much debate. This construct is also known as intellect or intelligence (Digman, 1990). People who exhibit high levels of openness have characteristics of being imaginative, cultured, curious and original (Barrick & Mount, 1991). They can also be described as being ingenious or deep thinkers and are people who may have an artistic flare (Goldberg, 1990). Proposition P_3 examines the relationship between openness and each of the relationship quality aspects, specifically trust, satisfaction and commitment.

The response surface graph of the relationship between commitment and openness has a saddle shape and the line of congruence (Y = X) has a strongly negative curvilinear relationship, giving support to proposition P_3. Despite this support, further discussion is required on the relationship of the level of openness to commitment to the relationship, from each perspective.

The customer has a subtle positive curvilinear relationship, meaning high levels of commitment are found at high and low levels of openness. Looking at the graph (and from the customer's perspective), it is better to have high levels of openness than low. Unlike the customer, the salesperson has a negative curvilinear relationship, meaning high levels of commitment are found where there are moderate levels of openness. When the two curvilinear relationships are simultaneously accounted for, the highest level of commitment is found

when the salesperson has a moderate-to-low level while the customer has a high level.

The second area of relationship quality is trust. The response surface graph is saddled-shaped and along the line of congruence it has a negative curvilinear relationship, meaning a match in the levels of openness affects the level of trust; but how do these effects occur?

The customer's openness has a positive curvilinear relationship with trust while the salesperson's relationship is strongly negative and curvilinear. This suggests that the customer experiences high levels of trust at high and low levels of openness. The relationship depends largely on the salesperson's level of openness, because when the salesperson has high levels of openness there are low levels of trust for any level of the customer openness. The salesperson would experience high levels of trust at moderate-to-low levels of openness. At high levels of openness, trust is at its lowest.

The level of trust depends largely on the salesperson, meaning if the salesperson wants to have high levels of trust (almost independently of the customer), they should exhibit moderate to low levels of openness.

The final area of relationship quality is satisfaction, a relationship with an almost perfect saddle shape. Proposition P_3 considers the line of congruence ($Y = X$), arguing a match in openness will affect the level of satisfaction. How does the level of satisfaction vary along this line?

From the customer's perspective, there is a positive curvilinear relationship; meaning at both high and low levels of openness, satisfaction is increased. The salesperson has a negative curvilinear relationship, meaning moderate levels of openness give rise to higher levels of satisfaction. When the two relationships are considered together, the highest level of satisfaction can be found when the customer has low levels of openness while the salesperson has moderate levels.

Relationship quality comprises three components. When the analysis for all three areas is taken together, there are two important findings. Firstly, if the

salesperson has to have any one level of openness, it should be a moderate level. Lastly, to a large extent, the salesperson is in control of the relationship quality. If there is a situation where the relationship quality is poor, it could be a sign the salesperson is over-thinking a situation, or is too curious.

Proposition P_4 suggests congruence in the level of openness will affect the level of sales. The response surface graph of this relationship shows a very shallow saddle shape, and along the line of congruence is a negative curvilinear relationship, providing support for proposition P_4.

From the perspective of the customer, there is a positive curvilinear relationship with sales. This suggests high levels of sales are found when there are high or low levels of openness from the customer perspective. The salesperson has a different relationship with sales. There is a very subtle curvilinear (almost linear) relationship with sales. Although the relationship is technically curvilinear, moderate to low levels of openness are preferred for attaining higher sales. Unlike the relationships found between openness and relationship quality, the bulk of control of the level of sales appears to be with the customer.

Proposition P_5 suggests congruence will affect the level of word-of-mouth. Considering slopes along the line of congruence, support is found for proposition P_5. There is a negative curvilinear relationship over the line of congruence, indicating that congruence at medium levels leads to high word-of-mouth.

The customer has a very subtle curvilinear relationship with word-of-mouth. This curvilinear relationship is so subtle that it is almost linear, a relationship which favours higher levels of openness. The salesperson has a very different relationship with word-of-mouth, with a clear negative curvilinear relationship occurring. This suggests the salesperson is required to have moderate to low levels of openness to achieve high levels of word-of-mouth.

When the analysis of relationship quality, sales and word-of-mouth is combined, several results emerge. Firstly, the salesperson always has a negative curvilinear relationship while the customer has a positive curvilinear relationship. Secondly, it is preferable for salespeople to have moderate to low levels of openness. Lastly, the level of relationship quality is controlled by the salesperson, but the levels of sales and word-of-mouth are controlled by the customer.

People with high levels of openness are considered to be curious or imaginative. The salesperson is mainly in control of their relationship quality with the customer using their level of openness (or a firm can be in control, by choosing appropriately open salespeople). The role of the salesperson is to listen to the customer's problems and uplift the customer through admiration and offering them their own products and services. Listening to the customer may require the salesperson to be less original and be less curious, to ensure they don't come across as obnoxious or forward. In a situation where the customer has low levels of openness, perhaps the customer is looking for someone to listen and suggest solutions (be a deep thinker). It is up to the salesperson to come up with ideas but to avoid coming across as obnoxious or a know-it-all.

The results show the customer is in control of the sale and word-of-mouth, meaning it the level of openness the salesperson has is of secondary importance. Although stating the obvious, it is up to the customer to decide if they want to make a purchase, and tell others about their experience. Figure 15 shows the effects of relationship quality on sales and word-of-mouth, and it is argued the salesperson can influence the sale and word-of-mouth through relationship quality.

8.3. The role of organisational culture

Organisational culture is measured using the organisational culture index. This index measures the characteristics of a person's organisational culture according to measures in three areas. The three areas are Bureaucratic, Innovative and Supportive. This section will discuss each research questions as it applies to each of the three organisational culture areas.

Research question 2a: Does an organisational culture match (or mismatch) affect sale outcomes (sale success, word-of-mouth and/or relationship quality)?

Research question 2b: If an organisational culture match/mismatch affects sale outcomes, how does this occur? Does congruence or incongruence improve or harm the sale outcome, at which polar ends of congruence or incongruence do these effects occur and, are these relationships linear or quadratic?

Section 4.6. provides several propositions that will assist in the discussion. Each proposition will be analysed at the lower levels (for example relationship quality will be analysed from trust, satisfaction and commitment). These propositions are repeated below:

P6: The organisational culture match between the customer and the salesperson will affect the quality of the relationship.

P7: The organisational culture match between the customer and the salesperson will affect the sales outcome.

P8: The organisational culture match between the customer and the salesperson will affect word-of-mouth.

Bureaucracy

A person with a bureaucratic organisational culture would typically exude values of power, control and high degrees of systematisation and formality (Lok et al., 2005). Although the PLS-SEM (Figure 15 and Table 8) shows insignificant effects on commitment, trust and satisfaction, the effects should still be discussed. Research question 2a proposes congruence between the customer and salesperson will affect the outcomes of relationship quality, sales and word-of-mouth.

The response surface graph for bureaucracy as it affects commitment is of use in providing some answers to research question 2. The graph has a saddle shape and the line of congruence (Y = X) has a curvilinear relationship with commitment, meaning proposition P_6 is supported. Although it is supported, there are several interesting points on the graph.

From the customer's perspective, there is a very subtle curvilinear (almost linear) relationship where higher commitment is favoured when there are high levels of bureaucracy. From the salesperson's perspective, there is a subtle negative curvilinear relationship with commitment. To achieve high levels of commitment the salesperson needs to have moderate to high levels of bureaucracy. Taking these two relationships together, there is a strong argument for a measure of congruence improving the level of commitment.

The second area of relationship quality is trust and this response surface graph has a saddle shape. The relationship on the line of congruence is almost linear with both the coefficients (a_x and the a_{x^2}) being very small. The relationship is positive, suggesting higher levels of bureaucracy (especially if congruent) provide higher levels of trust, meaning support is found again for proposition P_6.

Despite the linear relationship along the line of congruence, the customer has a curvilinear relationship with trust. To attain the highest levels of trust, the customer should have high levels of bureaucracy, and from the salesperson's

perspective, there is an upward-sloping relationship with trust, meaning at high levels of bureaucracy, there are high levels of trust.

Customer bureaucracy has a very interesting relationship with trust that is dependent on the salesperson. As the salesperson becomes more bureaucratic, so the curvilinear relationship becomes more curvilinear (less linear), meaning when the salesperson has high levels of bureaucracy, there is a strong curvilinear relationship with trust. Conversely, when the salesperson has low levels of trust the curvilinear relationship becomes closer to linear.

The final attribute of relationship quality to be analysed is satisfaction. The response surface graph for bureaucracy and satisfaction has a subtle saddle shape and along the line of congruence is a curvilinear relationship, giving support for proposition P_6.

The second part of research question 2 questions how this relationship works. There is a positive curvilinear relationship between the customer's bureaucracy and satisfaction, but this relationship is altered based on the salesperson's level of bureaucracy; at high levels of salesperson bureaucracy, the curvilinear relationship is clearly observable, but at low levels, the relationship is more like a positive linear relationship. From the perspective of the salesperson, there is a negative curvilinear relationship with between their level of bureaucracy and the level of satisfaction, in which high (but not too high) levels of bureaucracy are favoured. This relationship is seen across all levels of customer bureaucracy.

When the two relationships are considered simultaneously, the highest levels of satisfaction occur when the salesperson has high levels of bureaucracy and the customer has either high or low levels of bureaucracy.

Proposition P_6 addresses the effects of congruence on total relationship quality, therefore trust, satisfaction and commitment need to be considered together. Broadly, relationship quality is increased when the customer and the salesperson have high levels of bureaucracy. If a firm would like to increase the

relationship quality it would need its salespeople to exhibit values of power, control and high degrees of systematisation and formality.

The relationship between the levels of bureaucracy and sales is questioned through the seventh proposition. The response surface graph of this relationship has an elliptical dome shape with the stationary point at X = 2.76 and Y = 3.38. Proposition P$_7$ argues congruence affects sales, and support is found in the proposition. The line of congruence has a negative curvilinear relationship, meaning congruence will improve sales but only up to a point. The second principal axis is not too different from the line Y = X (Y = 1.39X + .45), further suggesting that congruence (except at extreme levels) benefits sales.

The graph has a dome shape, suggesting there are curvilinear relationships with sales for both the customer and the salesperson. This means the customer should have moderate levels of bureaucracy to attain high levels of sales. The salesperson should have moderate-to-high levels of bureaucracy to attain high levels of sales.

When looking at both relationships, it is interesting to note the slope along the line of congruence. The curvature along this line is small but negative (a_x = 4.46 and a_{x^2} = -.72), meaning there is a negative curvilinear relationship along this line, but for smaller values, the coefficient of a_x dominates, resulting in an upward slope. When interpreted, this relationship shows high levels of sales occur when there are moderate-to-high levels of salesperson bureaucracy and low-to-moderate levels of customer bureaucracy.

The last outcome variable is word-of-mouth, and proposition P$_8$ addresses the relationship between bureaucracy and word-of-mouth. The response surface graph has a saddle shape, and the line of congruence has a very subtle curvilinear relationship with word-of-mouth, meaning support for proposition P$_8$ is found.

From the perspective of the customer there is a strong positive curvilinear relationship with word-of-mouth, meaning that at high and low levels of

bureaucracy, word-of-mouth is increased. From the salesperson's perspective there is a negative curvilinear relationship, where the highest levels of word-of-mouth can be found where the salesperson has moderate-to-high levels of bureaucracy.

The understanding of a bureaucratic culture is centred on power, hierarchy, procedures and control. It appears the outcome variables all increase when the salesperson has a higher level of bureaucracy. There are several reasons why this may occur. Firstly, the customer may perceive the salesperson as being in control of the situation, and this would explain why relationship quality is increased. Secondly, the customer may perceive the salesperson as efficient and knowledgeable when they are following procedures set out by their organisation. Thirdly, the customer may perceive salespeople who have procedures as coming from a professional background. Lastly, at low levels of salesperson bureaucracy the customer may perceive the salesperson as inexperienced, out of control, or inadequate for the job.

Most relationships between the customer and the outcome variables are positive and curvilinear, so that at either a high or a low level of bureaucracy the outcomes are improved. In situations where there are low levels of bureaucracy, perhaps the customer knows what they want or has gone through their own processes (prior to engaging with a salesperson).

Innovative Culture

Innovative organisational cultures would typically have value sets comprising change, entrepreneurialism, excitement and dynamism. There is an improved understanding of accepting risks, taking challenges and stimulating creativity (Lok et al., 2005). Although the PLS-SEM (Figure 15 and Table 8) shows insignificant effects on commitment, trust and satisfaction, the effects should still be discussed. In particular, the level of innovation for the salesperson does not have much variance (only .4), meaning the range of values is severely constrained.

The relationship between commitment and innovation can be analysed through a response surface graph. This relationship has a saddle shape, although it isn't obvious. Proposition P$_6$ suggests congruence will affect the outcome variable of commitment. Along this line is a curvilinear relationship ($a_x = 21.79$ and $a_{x^2} = -.21$), therefore proposition P$_6$ is supported, although further analysis is required.

From the customer's perspective, higher commitment is found when the customer has a highly innovative culture. This relationship holds true for all levels of the salesperson's innovativeness. From the salesperson's perspective, the relationship to commitment depends heavily on the customer. When the customer has high levels of innovation, the salesperson is required to match these levels. When the customer has low levels of innovation, it is preferable for the salesperson to have low levels of innovation. In other words, congruence benefits commitment.

The second element of relationship quality under investigation is the relationship between trust and innovation. The response surface graph of this relationship is saddle shaped, with the relationship along the line of congruence (Y=X) being almost flat. The a_x value is .5702 and the a_{x^2} value is -.1128, meaning there is minimal effect on trust along the line of congruence. For this

reason among others, the study concludes that proposition P$_6$ is **not** supported as far as innovation is concerned. Other reasons for this conclusion are: first, the PLS-SEM shows no significant effects of innovation on trust; second, the polynomial regression R^2 value of innovation explaining the variance in trust is only .104, the lowest for all constructs on trust; and last, the a_x and a_{x^2} values are extremely small.

The final element of relationship quality is satisfaction. This response surface graph has a saddle shape. Proposition P$_6$ questions if there is an effect on satisfaction (as it relates to the relationship quality) for the organisational cultural element of innovation. There is again little support for proposition P$_6$, and the study concludes that proposition six is **not** supported for several reasons. Firstly, the PLS-SEM results found in Figure 15 and Table 8 show innovation has an insignificant path to satisfaction. Secondly, Table 14 shows the R^2 value (.041) for the polynomial regression of innovation on trust, the smallest R^2 value for explaining the variance in satisfaction. Lastly, along the line of congruence the slopes are extremely small. The a_x value is .72 and the a_{x^2} value is -.45.

Proposition P$_7$ questions the relationship between a match in innovation and sales outcome; the response surface graph has a saddle shape. To test the proposition, the line of congruence should be analysed. The line of congruence has a negative curvilinear relationship, where a_x = 4.0916 and a_{x^2}=-.5543. This suggests as the level of innovation increases, so does the sales, but only to a point. This curvilinear relationship shows support for proposition P$_7$, but further discussion on the relationship is required.

From the customer's perspective, there is a negative curvilinear relationship to sales, preferring higher levels of innovation. At lower levels of innovation, the level of sales is severely harmed. From the salesperson's perspective, there is a positive curvilinear relationship, but still the relationship favours higher

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levels of innovation. At lower levels of innovation the level of sales drops drastically.

Proposition P$_8$ argues that congruence between the customer and the salesperson's level of innovation will affect the level of word-of-mouth. Support for this proposition is lacking for several reasons. Firstly, the slopes along the line of congruence are both very small, suggesting a minimal effect on word-of-mouth. Secondly, there are no significant effects found in the PLS-SEM. Lastly, the R^2 value reported is very small (.044).

Relationship quality comprises trust, satisfaction and commitment. The study finds support for congruence when looking at commitment, but there is a lack of support for both trust and satisfaction. From an overarching perspective, proposition P$_6$ fails to find support, indicating that congruence in the organisational cultural element of innovation does not necessarily affect relationship quality. The two outcome constructs, sales and word-of-mouth, have differing results. Proposition P$_7$ is supported, but proposition P$_8$ lacks the required support. There are several possible explanations for these findings.

Firstly, organisations that are considered innovative reflect values around change, excitement and dynamism. The salesperson may choose to display more conservative behaviours when interacting with a customer, in fear that over-excitement would harm the relationship, drive away the sale or destroy reference value. This explanation is based on the understanding that although a salesperson may appear to embody the innovativeness of the organisation, when they interact with a customer, they may alter their engagement. The salesperson is hedging, in hopes that the alteration may improve the interaction.

Secondly, it is well known people dislike change. Change management theory (Appleby & Tempest, 2006; Parsley & Corrigan, 1994) provides detailed accounts of people resisting change, and perhaps in the current study the

salespeople and the customer both resisted the embodiment of change. Do Cho and Chang (2008) analyse salespeople and the process they go through in adopting innovative technologies. They find the influence of innovativeness does not reduce the level of resistance, showing that salespeople do not always adopt the innovativeness of their companies.

Lastly, the findings may be due to characteristics of the sample. It is believed that the sample members may all have come from a risk-averse population. All salespeople and the majority of the customers are over the age of 30. No salesperson tenure is less than a year, and most salespeople have some ownership in their company. In the event of losing a valued customer because of unnecessary risks being taken, these characteristics are not conducive to easy recovery.

Supportive

A company that has a supportive organisational culture would have values aligned to human-values and harmonious relationships (Lok et al., 2005). Within the relationship marketing field, it is not surprising that to embody a supportive organisational culture has measurable effects on relationship quality (as seen in Figure 15 and Table 8). Research question 2a examines whether or not congruence of supportiveness affects the outcome variables, while research question 2b aims to understand the nature of any effect better. There are three propositions which will be applied in the discussion of the organisational culture of supportiveness.

The first element of relationship quality that will be discussed is commitment, which has a response surface graph with a saddle shape. The line of congruence between the customer and the salesperson has a strong negative curvilinear relationship with commitment. Because of this relationship, support is found for proposition P_6.

From the customer's perspective, there is a negative curvilinear relationship with commitment preferring moderate-to-high levels of supportiveness. The salesperson has a positive curvilinear relationship with commitment, where either high or low levels of supportiveness will yield high levels of commitment. When the two relationships are considered together, for there to be high levels of commitment, the customer should have high supportiveness while the salesperson has either high or low levels of supportiveness.

The second aspect of relationship quality is trust. The response surface graph of this relationship has a convex shape with the stationary point outside the range of the axes. Analysing the extremely positive curvilinear relationship along the line of congruence provides support for proposition P_6.

The customer exhibits a positive linear relationship with trust, meaning high levels of trust can be found by having high levels of supportiveness. Conversely, low levels of supportiveness may lead to lower levels of trust. The salesperson has a positive curvilinear relationship with trust, suggesting high levels of trust are found with either low and high levels of supportiveness.

The final area of relationship quality that needs to be addressed is satisfaction. The response surface graph has a bowl shape, with stationary point at $X = 2.19$ and $Y = 3.63$. This point shows the level of satisfaction is lowest when the customer has a low level of supportiveness and the salesperson has a moderate level of supportiveness. The line of congruence is again positively and curvilinear, giving evidence to support proposition P_6.

The customer has a positive curvilinear relationship with satisfaction, where high levels of satisfaction are found at high levels of supportiveness. The salesperson also has a positive curvilinear relationship with satisfaction, but the relationship with satisfaction is dependent largely on the customer's levels of supportiveness.

Proposition P_6 questions whether congruence would affect relationship quality, and the answer is that congruence affects relationship quality to an

extent. Although it is affected, and support is found for proposition P_6, the relationships are curvilinear in nature, and congruence in supportiveness improves relationship quality, but primarily when supportiveness is high.

Proposition P_7 suggests congruence in supportiveness affects the level of sales. The response surface graph of this relationship has a concave shape with its stationary point at X = 2.92 and Y = 3.59. Proposition P_7 finds support through the analysis of the line of congruence. The coefficients over this line suggest a positive curvilinear relationship exists, but further analysis needs to be done from both the salesperson and customer perspectives.

Both the salesperson's and the customer's relationship with sales is positive and curvilinear. This means high levels of sales can be achieved where levels of supportiveness are either high or low for both the customer and the salesperson. The graph shows that as long as neither the customer nor the salesperson has a moderate level of supportiveness, the level of sales will be improved.

The relationship between supportiveness and word-of-mouth is what proposition P_8 addresses. The response surface graph of this relationship has a saddle shape. The line of congruence has an extremely positive curvilinear relationship with word-of-mouth, meaning proposition P_8 is supported.

For the customer, there is a negative curvilinear relationship with word-of-mouth, favouring higher levels of customer supportiveness. The salesperson has a positive curvilinear relationship such that at both high and low levels of supportiveness the level of word-of-mouth would be improved. When the relationships are considered together, it is preferable to have high levels of customer supportiveness and either high or low levels of salesperson supportiveness to attain high levels of word-of-mouth activity.

Organisations that have high levels of supportive culture would typically desire harmonious relationships with a focus on the people involved. The

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specific values include (but are not limited to) trust, encouragement and relationship-orientation. In all cases it appears high values of outcome variables can be brought about by high levels of supportiveness from both the customer and the salesperson.

The lines of congruence for each surface response graph show positively curvilinear relationships, meaning the outcome variables will begin at a high level, diminish to a point and then return to the high point. This would suggest that at moderate levels of supportiveness (by both the customer and the salesperson), each outcome variable is low, if not minimal. The customer may interpret moderate supportiveness as semi-trusting and half encouraging, meaning the salesperson is not really interested in doing business with the customer. Conversely, the salesperson may believe the customer is not ready to make the purchase, not ready to engage with the salesperson and perhaps may see the customer as wasting their time. At high levels of supportiveness, the customer and the salesperson could view the interaction as promising because there is a sense of trust and "want" for the relationship. Conversely, at low levels of supportiveness the interaction would be clear to both sides of the dyad, and may be perceived without expectations.

8.4. A reflection on theory

Chapter 4 presented several theories used to tie the arguments within the thesis together. This section will substantiate and comment on the results, based on the theories put forward earlier.

Social exchange theory (Homans, 1961), argues a set of obligations are created when people independently do things for each other. Social exchange theory can be broadly understood through a cost-rewards perspective. The theory is governed by a set of assumptions, repeated below:

> *"The basic assumptions of SET [social exchange theory] are (1) people are rational and calculate the best possible means to engage in interaction and seek to maximize profits/returns; (2) most gratification is centred in others; (3) individuals have access to information about social, economic, and psychological dimensions that allows them to assess alternatives, more profitable situations relative to their present condition; (4) people are goal oriented; (5) building social 'credit' is preferred to social 'indebtedness'; and (6) SET operates within the confines of a cultural context (i.e., norms and behaviours being defined by others)."* (Narasimhan et al., 2009, p. 2)

Social exchange theory may help to explain some of the findings in the PLS-SEM (Figure 15 and Table 8), which found that the relationship quality elements had different effects on the outcome variables of sales and word-of-mouth. Commitment affected sales more than it did word-of-mouth, while trust affected word-of-mouth more than it did sales. Satisfaction did not significantly affect sales but did affect word-of-mouth.

Social exchange theory has a number of assumptions that need to be addressed, and some assumptions which cannot be commented upon because they fall outside the scope of this study. For example, one assumption is that people are rational and will always maximize profits or returns. Rationality was

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not theorised upon, measured or analysed and therefore it would be inappropriate to comment on the rationality of the salesperson or customer. That said, without overstepping the scope of the study, there are several assumptions that can and should be discussed.

Social exchange theory assumes that people are goal oriented, which may explain why commitment affects sales more than trust does. Perhaps people don't necessarily need to trust their supplier, as long as the customer knows the supplier wants to achieve the same goals. Engaging in word-of-mouth activities would require additional trust in the supplier because when the customer recommends the supplier to a third party, the customer needs to trust the supplier to deliver on the service. Should the supplier not deliver, there may be damage to the relationship between the customer and the third party.

Randall and O'driscoll (1997) suggest two types of commitment: affective and calculative. Affective commitment is an emotional commitment while calculative commitment is more rational and economically-based. It is believed that when conducting business both types of commitment should be used to come to a conclusion. Affective commitment is used more in sales while calculative commitment is used when conducting word-of-mouth activities.

Another assumption of social exchange theory is that building social credit is preferred to social indebtedness. The calculative commitment would be used to calculate the social credit gained when engaging in WOM while affective commitment would allow the sale to be done in an unknown environment.

In Boulding et al. (1993), evidence is found for two conceptualisations of satisfaction. The first views satisfaction as a transactional value while the second views satisfaction as cumulative. The results of this study show satisfaction affects only word-of-mouth and not sales. This finding aligns with the idea that satisfaction has two elements. In the situation of a business-to-business interaction, it appears satisfaction is a cumulative experience and over

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time the level of satisfaction would lead the customer to recommend the supplier to other prospects.

The second theory used in the research is emotional contagion theory and explains why people emotionally converge (Schoenewolf, 1990). This theory heavily relies on the understanding that people want to be like each other. There is evidence that emotional convergence between two people can occur on both a consciousness and sub-conscious level (Barsade, 2002). If this theory holds true in all cases, the current study should have strong findings along the complete line of congruence.

When looking at convergence of personality traits, we find curvilinear relationships along most of the traits. Depending on the exact parameters of the curve, this finding suggests that the outcome variable can be best when there are moderate levels of each construct, and worst at the extreme (either high or low) levels of the personality traits. This is certainly not always the case, notably when looking at sales and word-of-mouth. The slopes of congruence between the personality traits for these outcome variables are much less severe, suggesting a more linear relationship.

Emotional contagion theory is therefore not completely upheld as a theory that can explain the congruence of personality traits improving relationship quality. It has been suggested that people are more susceptible to emotional contagion when there is a pre-existing rapport and a goal to affiliate (Chartrand & Lakin, 2013). The current study finds this partly true, because of the curvilinear relationship that exists when there is congruence at high levels of each personality trait.

When each personality trait is analysed against the outcomes of sales and word-of-mouth, relationships can be close to linear, showing support for emotional contagion theory. A prime example is the response of sales to conscientiousness. The slopes found are extremely small, suggesting the congruent relationship is almost linear.

So why is emotional contagion theory supported when looking at sales but not when looking at relationship quality? Bailey et al. (2001) analyse the service industry, specifically frontline staff dealing with customers. Medler-Liraz and Yagil (2013) look at the emotions of employees as they affect the customer experience; in both cases, emotional contagion theory is supported. In those contexts, the customer has arguably gone through the relationship-building process and is ready to make a purchase. It is then up to the front line employees to "close" the deal through congruence with the customers. In the current study the customers are not ready to purchase and are still in the decision-making-process.

When looking at organisational culture, only the supportiveness aspect is found to affect relationship quality. The emotional contagion theory could explain why Bureaucracy and Innovativeness do not significantly affect the relationship quality. Bureaucracy is centred on power, authority and procedure and innovative cultures have characteristics like adopting change, engaging with challenges and generally accepting risks. Supportiveness is associated with relationships and human values. Emotional contagion theory explains why people emotionally converge, and perhaps supportiveness affects relationship quality because, either consciously or sub-consciously, the salesperson and customer have emotionally converged.

The third theory used in the current study is social bonding theory (Hirschi, 1969). It has four elements to consider, specifically: attachment to significant other, commitment to traditional types of action, involvement in traditional activities and beliefs in the moral values of society (Özbay & Özcan, 2008). It has been observed that employees who have a strong social bond with people in their own organisation conduct themselves in a manner where the relationship would not be placed in jeopardy (Yoo et al., 2014). This may shed some light on the lack of evidence for the effects of Bureaucracy and Innovativeness within the study.

Bureaucracy is associated with hierarchy, power and authority. Social bonding theory suggests people who work in a bureaucratic organisation would tend to exhibit behaviour similar to the people within their organisation. Social bonding theory suggests that customers would not go against policy or procedures. The lack of effects found could indicate that members of the sample group preferred to maintain relationships with people they have previously worked with, as opposed to a newer salesperson. Maybe bureaucratic organisations have a procedure that outlines how to purchase a product and the procedure does not allow for interactions with the salesperson.

From an innovativeness perspective, social bonding theory suggests that the people within an innovative organisation may prefer to adopt change in a very different way. For example, although the type of product being sold was not accounted for within the study, it is possible that innovative organisations are purchasing more digital products, or conducting more business in the online world. Another aspect of innovative companies is the acceptance of a challenge; they may elect to stop outsourcing and begin producing products in-house.

The final theory that may assist in explaining some results seen in the current study is homophily theory (Vissa, 2011). This theory is premised on the similarity of two individuals leading to mutual attraction, trust and consequently new tie formation, commonly expressed as "birds of a feather flock together." Support is found in this theory due to the curvilinear relationships along the lines of congruence, but perhaps the theory can be expanded upon to suggest a reason for the curvilinear relationship.

What happens in a situation where two people are too similar? Shiota and Levenson (2007) argue the phrase of "birds of a feather flock together" has become too common and over-used. They question whether similar personality traits necessarily lead to greater relationship satisfaction. Their study was conducted with the context of marriage and long-term relationships, but it is

believed the results are still applicable. They find that "birds with too-similar personalities may face increasing difficulty in flying together over time" (p. 672). They explain that in the beginning of the relationship, having similar personalities does not affect satisfaction, but as time passes, the similarities harm the relationship.

The current study reports a number of curvilinear relationships along the lines of congruence. The study finds that the relationships are, for the most part, negatively curvilinear. This suggests that congruence in personality and organisational culture at low levels would improve the outcome measurement, but will only do so up to a point. After this point, the level of the outcome would then begin to decrease. The decreases found in the current study are not large, but it is believed that over time, such decreases can compound and lead to a situation similar to that of Shiota and Levenson (2007).

The current research applied the essence of homophily to the constructs of personality and organisational culture and found that similarity affects relationship quality, but it is believed that homophily theory should be amended to include a temporal element or caveat. Perhaps the explanation by Vissa (2011, p. 7) on homophily theory can be altered in the following to say: "similarity of two individuals leads to mutual attraction, trust and consequently new tie formation [but not over a prolonged period]."

8.5. Theoretical Development Based on Empirical Patterns

The overall research question guiding the study is whether relative match or mismatch between the personalities and organisational cultures of customer buyers and salespeople in business-to-business contexts may affect relationship quality, sales outcome and word-of-mouth. When adopting an overarching perspective there are several patterns of similar relationships that emerges in this thesis. As explained in section 6.4.1. certain models are excluded because

they do not meet the minimum required range. The remaining patterns are discussed below.

8.5.1. Outcome maximization at the midpoint of salesperson constructs

This group of relationships are typified by relational outcomes maximized along a negative curvilinear line along the salesperson personality constructs (i.e. the relationship outcome is maximized when the salesperson has a moderate level of the personality construct, and decreases as the salesperson tends to either of the extremes). There are 12 relationships that exhibit this characteristic and are found in Table 18.

Table 18: Relationships where the outcome variable is maximized at the midpoint of salesperson construct

Input variables	Outcome variables	Sub-Group
Extraversion	Word-of-mouth	Flat
Extraversion	Trust	Saddle Shape
Extraversion	Satisfaction	Saddle Shape
Agreeableness	Commitment	Higher
Agreeableness	Word-of-mouth	Higher
Agreeableness	Satisfaction	Higher
Neuroticism	Commitment	Lower
Neuroticism	Trust	Lower
Neuroticism	Satisfaction	Lower
Neuroticism	Word-of-mouth	Higher
Openness	Commitment	Higher
Openness	Word-of-mouth	Higher
Openness	Trust	Higher
Openness	Satisfaction	Saddle Shape

In this group the "preference" for moderate personality scores for the salesperson can perhaps be explained using social exchange theory (Homans, 1961) and uncertainty reduction theory (C. R. Berger & Calabrese, 1975). It has been argued that when people engage in social relations, they may wish to

avoid unwelcome differences (McCrae, 1996), and perhaps a technique for achieving this would be to avoid extreme levels. The unwelcome differences could be seen as costs during the sales process and a salesperson with moderate personality traits would be less at risk when interacting with their customers. Uncertainty reduction theory (C. R. Berger & Calabrese, 1975) suggests that people attempt to reduce uncertainty about others through learning about them. This learning process may take some time, making the moderate level of the personality trait more desirable.

Although the outcome is often maximized at the midpoints of the salesperson's personality ranges, the customer has several unique patterns within the larger group. Looking at this group of 13 relationships, it is noted that seven of the relationships have improved outcomes when the customer expresses high levels of their personality trait. Each personality trait will be discussed in turn.

Firstly, people who have high levels of agreeableness may come across to others as kind, caring and concerned (Graziano & Tobin, 2009). The relationships of agreeableness with commitment, agreeableness with word-of-mouth and agreeableness with satisfaction can be explained using excitation-transfer theory (Pechmann & Shih, 1999). Firstly, excitation-transfer theory explains the transfer of stimuli from one emotion to another (Puri, 2011). Perhaps, as the customer exhibits more care, concern and kindness, so they would be more likely to recommend the supplier to others or become more committed to the relationship or satisfied in the relationship. These relationships generally are considered positive and align themselves closely with the findings of Szymanski and Henard (2001).

The second personality trait is openness. Traits associated with openness include being curious, broad-minded and cultured (Barrick & Mount, 1991). The relationship between openness and commitment, word-of-mouth and trust can be explained by social penetration theory (Altman & Taylor, 1973) and

politeness theory (P. Brown & Levinson, 1987). Social penetration theory suggests that as a relationship between two people develops, interpersonal communication moves from non-intimate levels to more intimate levels (Altman & Taylor, 1973). It is believed that customers who are more curious, broad-minded and cultured would have the ability to engage with the salesperson in a more meaningful way and on a deeper level, resulting in improved levels of trust, commitment and word-of-mouth.

The final personality trait along the customer axis is neuroticism, with its perceptively negative aspects such as fear, anxiety and frustration. This suggests that outcome of word-of-mouth is increased when people are anxious or fearful. Perhaps, this situation can be understood as a risk mitigating strategy (Arndt, 1967; Nadeem, 2007). The current study has not speculated on the type of the word-of-mouth communications that the customer would be engaging in, but perhaps customers use word-of-mouth communications to vent their frustrations and anxiety or to express their expectations.

Three of the remaining seven relationships require the customer to exhibit low levels of neuroticism (specifically satisfaction, trust and commitment). Social exchange theory (Homans, 1961) suggests that when the customer has fewer negative obligations (the need to be fearful or anxious towards the salesperson), the more trusting and committed the customer will be to the relationship. It is interesting to note that these three constructs together make up relationship quality. This suggests that less neurotic customers benefit from improved relationship quality.

There are four remaining relationships and of these four, three relationships involve the personality trait extraversion; the remaining one is with openness. The relationships of extraversion-trust, extraversion-commitment and openness-satisfaction are all technically saddle shaped, but the saddle shapes are weak and can be approximated as flat. This suggests that the level of word-

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of-mouth activity, satisfaction or trust is almost independent of the customer's level of extraversion.

8.5.2. Outcome maximization at a high level of salesperson constructs

Relationships within this group are characterised by high levels of outcome variables when the salesperson has high levels of bureaucratic organisational culture or the personality trait of conscientiousness. Table 19 shows the specific constructs associated with bureaucracy and conscientiousness.

Table 19: Outcome maximization at high a level of salesperson constructs

Input variables	Outcome variables
Bureaucracy	Satisfaction
Bureaucracy	Commitment
Bureaucracy	Trust
Bureaucracy	Word-of-mouth
Bureaucracy	Sales
Conscientiousness	Satisfaction
Conscientiousness	Commitment
Conscientiousness	Trust
Conscientiousness	Word-of-mouth

Superficially, it may appear that the organisational culture construct of bureaucracy and the personality trait of conscientiousness do not share similarities, but a list of associated sub-traits may be instructive: a person with highly bureaucratic organisational culture would typically be more procedural, structured and regulated, while a person who exhibits high levels of conscientiousness would typically be thorough, vigilant and careful.

The field of business ethics, corporate governance and corporate social responsibility are wide and diverse, with many meta-analyses being conducted in different areas focusing on different elements (Griseri & Seppala, 2010). Jamali, Safieddine and Rabbath (2008) highlight several corporate governance

principles including: accurate disclosure of information and diligent exercise of board responsibilities. These internal policies and procedures are important, but a company should also be answerable to all stakeholders (Dunlop, 1998).

Bureaucratic characteristics and conscientiousness traits lend themselves to engaging with elements of good business ethics. The salesperson needs to appear to the customer that they are abiding by the rules and following the procedures of good business practice. Practically, this would mean that salespeople who come across as skipping procedures, being less thorough and not looking out for their customers would harm the relationship.

It should be noted that this argument does not perfectly account for the relationship of bureaucracy with sales. Although the outcome variable is maximized when the salesperson has higher levels of bureaucracy, there is a slight decrease in the outcome variable at the highest level of salesperson bureaucracy. This may indicate that although due diligence is required, too much causes the outcome of sales to decrease. Using social exchange theory (Homans, 1961), it can be argued that too much diligence creates additional costs which in turn may cause a degradation in the sales outcome.

8.5.3. Outcome maximized at high levels of customer constructs

Relationships within this group have three noticeable features. Firstly, along the salesperson construct there is a positive curvilinear relationship such that at both high and low levels of the salesperson construct, the outcome variables are improved. Secondly, along the customer construct there is a tendency for the outcome variable to improve with high levels of the customer's construct. Lastly, the input variable is an aspect of organisational culture, namely Supportiveness, each time. Table 20 shows the four relationships found within this group.

Table 20: Outcome maximized at high levels of customer constructs

Input variables	Outcome variables

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Supportiveness	Word-of-Mouth
Supportiveness	Commitment
Supportiveness	Trust
Supportiveness	Satisfaction

From the salespersons perspective, the outcomes are improved at both high and low levels of supportiveness. Logically and by pure definition, it is expected that at high levels, the outcome variables are improved; however the same is less expected at low levels of supportiveness. At low levels of supportiveness the salesperson may come across as less collaborative, and less relationship-oriented. If we see the outcomes as a type of performance outcome, then this relationship can be explained through an understanding of self-efficacy.

Using social cognitive theory (Bandura & Walters, 1963), self-efficacy is understood as the salesperson's ability to succeed in specific situations or accomplishing certain tasks. Perhaps when the salesperson comes from a culture of low levels of supportiveness, it allows the customer to become independent. This reasoning is congruent with self-determination theory (Ryan & Deci, 2000): the salesperson is allowing the customer to become more autonomous, effectively allowing the customer to own the interaction.

Much has been said from the salesperson's perspective. However the customer's perspective is just as important. It can be logically deduced that customers who have high levels of supportiveness (have characteristics of being collaborative, encouraging, trusting and relationship-orientated), would tend to have high levels of relationship quality (trust, satisfaction and commitment).

The logical deduction fails to explain why word-of-mouth improves with the customer's level of supportiveness. Social exchange theory (Homans, 1961) and human capital theory (H. G. Johnson, 1960) address the idea that people create obligations which need to be repaid at some point in the future. Using

these theories, perhaps customers engage in word-of-mouth to increase their human capital (become more valued) within their own social networks.

8.5.4. Anomalies

The three groups above account for twenty-seven of the thirty-three relationships. The remaining six relationship are therefore grouped into a single category called anomalies and are presented in Table 21. This group of relationships lacks a solid theoretical underpinning, and as such each relationship will only be described and in-depth discussions for each relationship will not be entertained.

Table 21: Thematic Anomalies

Input variable	Outcome Variable	Brief explanation
Innovation	Trust	Outcome maximization at the midpoint of Customer constructs
Innovation	Word-of-mouth	Outcome maximization at the midpoint of Customer constructs
Openness	Sales	Outcome maximization at the midpoint of Customer constructs
Extraversion	Commitment	Dome shaped
Agreeableness	Trust	Dome shaped
Supportiveness	Sales	Upside down dome shaped

Although placed into the anomaly group, there are still certain elements that are common. Firstly, there are three relationships that are similar: innovation-trust, Innovation-word-of-mouth and openness-sales. In these relationships the outcome variable improves when the customer has a moderate level of the input variable; however the relationships have distinct differences.

Firstly, innovation-trust does not maintain a similar relationship across all values of the salesperson's innovation. As the salesperson increases their level of innovation, the customer's relationship with trust goes from curvilinear to a much more linear relationship. Secondly, innovation-word-of-mouth

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relationship also exhibits the change in customer relationship however this change appears to alter the curvilinear relationship but does not become linear. Lastly, the relationship between openness and sales has a curvilinear relationship for all values of the salesperson, but the change in sales is marginal. It is only when the customer has extremely low levels of openness and the salesperson also has low levels of openness that the value of sales increases dramatically.

There is a lack of theoretical underpinning for these three relationships but it is believed that since innovative organisational cultures have values that reflect change, excitement and dynamism, they could be closely associated with the characteristics of openness (including being curious and broad-minded).

The next three relationships (extraversion-commitment, agreeableness-trust and supportiveness-sales) all have dome shapes but again each relationship has a unique element to it. Commitment is maximized when the salesperson has a higher level of extraversion than the customer. Conversely, trust is maximized when customer has a higher level of agreeableness than the salesperson. The last relationship that exhibits a dome shape is between supportiveness and sales. The unique element is that the dome shape is inverted, featuring improved sales at each of the four corners of the graph.

8.6. Practical applications

The current study shows several analyses where higher levels of the personality traits were desired over lower ones or where moderate levels of a personality trait lead to negative outcomes. The study also highlights the importance of organisational culture, specifically supportive cultures. Having a high level of supportive organisational culture leads to positive outcomes. The practical applications for the study will be grouped into two groups. The first group is of practical applications as they relate to personality traits and the second is of practical applications as they relate to organisational culture.

8.6.1. Practical applications as related to personality

It is first argued that personality can change and that the change needs to come from some impetus. The section then presents some practical applications on how a firm could achieve better levels of the outcome variables.

Several theories and authors have discussed whether a person's personality can change. Although this section aims to discuss the practical implications, it is important to provide some evidence that personality can change.

Furnham (1984, 1990) argues that people may elect to alter a specific level of a certain personality trait to remain socially desirable. For example, in a situation where the socially accepted level of neuroticism is extremely high, people may alter their own levels of neuroticism to suit the desired level. A person's personality is based on a set of beliefs and qualities and through their own efforts and education these may be changed (Dweck, 2008). This theory of change is known as a malleable or incremental theory. Roberts, Wood and Smith (2005) argue that personality is changed over time, through the social investment principle. Three assumptions underlie this principle:

1. People build identities though psychological commitments within social environments and these are known as social roles.

2. These social roles carry with them a set of expectations and contingencies.

3. These roles are invested into over time and through social living.

With an understanding that a salesperson's personality can change, the next question is how can this change be facilitated? An important function of any organisation is ensuring that their salespeople have the correct skills for interacting with customers (Ahearne, Jelinek, & Rapp, 2005; Cron, Marshall, Singh, Spiro, & Sujan, 2005; Pettijohn, Pettijohn, & Taylor, 2002). There is much literature in this field, see the meta-analyses by Harris, Mowen and Brown (2005) and Chiaburu, Oh, Berry, Li and Gardner (2011).

In Section 7.1. several BNs are analysed in detail. These BNs can be used in a practical manner to see how particular outputs can be reached. For example, Figure 43 (repeated below for ease of reading) shows that the salesperson is required to have lower levels of agreeableness to achieve high levels of satisfaction and trust.
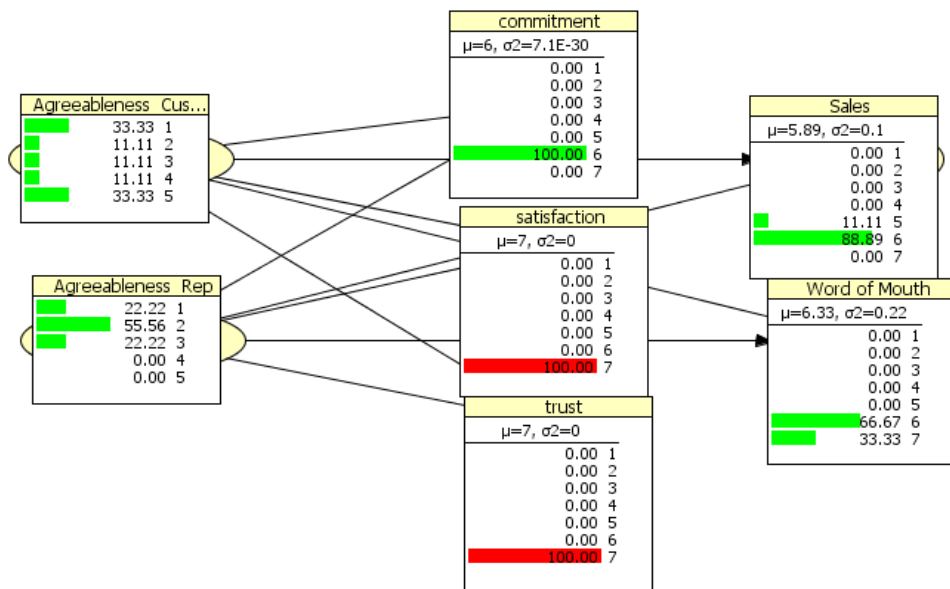
Figure 95 (repeated): Evidence entered for relationship quality

To prevent repetitive discussions, a summary is provided in Table 22 addressing the requirements of each personality trait to achieve the required outcome variables.

Table 22: Summary of personality trait BNs

Salespersons' Personality Trait	High level of Relationship Quality	High levels of Sales	High level of Word of mouth
Extraversion	High	N/A	High
Agreeableness	Low	High	Low
Conscientiousness	High	N/A	High
Neuroticism	Low	N/A	Moderate
Openness	Moderate	Low	Moderate

An organisation would be able to assess the personality of its salespeople and provide training so that salespeople could exhibit the correct levels of specific personality traits in an effort to achieve the desired outcome.

8.6.2. Practical applications as applied to organisational culture

In Section 7.1. the Bayesian Networks for organisational culture were discussed and analysed. A summary of the findings is presented in Table 23.

Table 23: Summary of organisational culture BNs

Salespersons' Personality Trait	High level of Relationship Quality	High levels of Sales	High level of Word of mouth
Bureaucratic	High	N/A	High
Innovative	Low	N/A	High
Supportive	High	N/A	High

The findings from this thesis could guide companies in adopting certain characteristics of organisational culture. Remembering that organisational culture extends to the systems, procedures and policies that a company has, the results suggest several practical applications.

Firstly, to achieve high levels of relationship quality and word-of-mouth outcome there should be high levels of bureaucratic characteristics. It has been argued that companies perform due diligence when engaging with their customers, demonstrate that they are doing things correctly.

Secondly, the results show that high levels of innovativeness lead to low levels of relationship quality, but high levels of word-of-mouth. Lastly, a high level of supportive organisational culture would lead to a high level of relationship quality and word-of-mouth activity.

8.7. Limitations and direction for future research.

Research limitations are traditionally discussed from a methodological or statistical perspective (Bowen & Wiersema, 1999), but an acknowledgement of theoretical limitations is important for any future research to be able to benefit. This section discusses the limitations and some mitigating decisions that were taken to reduce the impact of each limitation. Inherent in each limitation is the opportunity for future research to overcome said limitation.

Theoretical limitations and future research

Chapter 2, Chapter 3 and Chapter 4 discuss several theories and constructs used within the study. However, through the selection of these topics, others were excluded.

In Section 2.2. arguments are made that the construct of purchase intention is so close in measuring sales that the two could be used interchangeably. The study attempts to get actual sales data from organisations, but the sample was not forthcoming with sales data. Reasons provided from the sample were largely related to the sensitivity of the data. Future research could address this issue by capturing the actual sales outcome.

Section 2.3. argues for the use and importance of word-of-mouth communications within the business-to-business context. It was further argued that electronic word-of-mouth communications and traditional word-of-mouth communications have similar effects within the business-to-business context, and as such are considered one and the same. Future research could account for electronic word-of-mouth communications separately from traditional word-of-mouth communications.

Chapter 3 and Chapter 4 discuss and explore the constructs of personality and organisational culture. It is largely accepted that the construct of personality comprises extraversion, agreeableness, conscientiousness,

neuroticism and openness (Ajzen, 2005; Arnould et al., 2004), but there are other ways to perceive the construct of personality. Similarly, there are several ways to perceive organisational culture. This thesis used the Organisational Culture Index (Wallach, 1983) which comprises three categories, specifically Bureaucracy, Supportiveness and Innovativeness. Perhaps in future research other types of personality and organisational culture could be used, possibly confirming these results or presenting new findings.

The omittance of inter-personality and inter-cultural differences was not by accident. It is believed that proper due diligence should be given to these two areas and therefore was beyond the scope of the current study and as such these two areas may provide good grounding for additional research.

Organisational climate as a construct is very similar to organisation culture, this may give the assumption that the results from this study would be similar if organisational climate were used a construct. Future research may investigate this assumption and determine if the similarities found between organisational culture and organisational climate permeate into other relationships.

Chapter 4 explores and discusses several theories explaining why certain relationships exist and what may have caused specific results to occur. It is recognised that a limitation of the study is exposed through the theories that have been selected. The thesis used several theories that have been well-established but future research could perhaps explore different theories.

Methodological limitations and future research

The current research adopts a positivist research paradigm. Using this paradigm requires researchers to adhere to several assumptions and therefore may raise some limitations, but consideration was given to the choice of paradigm. The relationship under investigation is of a dyadic nature. The current study is aligned closely with prior literature (Bond Jr. & Kenny, 2002;

Kenny et al., 2006; Maguire, 1999) involving dyads from a quantitative perspective. Tates and Meeuwesen (2001) use a combination of qualitative and quantitative perspectives but comment that most research using dyads is quantitative (and therefore positivist) in nature. The model presented in Figure 1: Graphical representation of the research examines causality and how each construct affects the others. This analysis necessitated the use of quantitative analysis techniques but may have missed underlying themes. Perhaps in future research, the paradigm can be changed, which may lead to different results.

Reliability and validity is another large concern for many researchers. Reliability is largely concerned with consistency (Malhotra & Birks, 2007) while validity is concerned with the accuracy of the scales used (W. Chu et al., 1995). For the results to be reliable and consistent, similar results should be achievable within a larger context. There are several known limitations on populations, sample frames and samples and a possible problem with the current study's population is that it may have been defined too broadly which may affect the generalizability of results (this is discussed in section 5.2.1.). Due to time and resource constraints, the sample was drawn using a convenience sampling method. The sample was drawn only from Gauteng region implying that generalisability of results outside this region may be doubted. It is argued that this limitation could be mitigated by the similarity of SMEs across South Africa, and the fact that the constructs under investigation are generic to most business transactions. Future research may aim to investigate the same model but use a different population or sampling frame.

Although the measures used in the current study come from prior studies, by selecting the measures in section 5.3, the study is excluding other measures. This can be seen as a limitation of the study because if other measures were selected, different insights may have been gleaned. This limitation is mitigated by using measures that have provided valid and reliable results in prior

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research. Future research may elect to use different questions that come from other works.

Another limitation concerning the sample is its size. In Chapter 5 the amount of data collected is argued to be more than acceptable, but as seen later in the analysis, there are some issues. It is believed that although more data could have been collected, the data that was retrieved was extremely rich, providing the necessary input for the analysis. Future research may study a larger sample.

When collecting data using a survey there is the possibility of attracting common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The data collected in this thesis was collected using a survey, but data for each side of the dyad was collected independently. This independence would largely mitigate common method bias for the sample of 100 dyadic responses. Another limitation regarding the administration of the survey was that the survey was only available in one of the eleven official languages, English. This may have deterred people who prefer to conduct business in other languages from answering the questionnaire. Future research may wish to translate the survey into several other languages; however this may present additional limitations.

A final limitation of this research is that it is cross-sectional in nature, as opposed to longitudinal. This constraint opens the study up to the limitations associated with cross-sectional work. Perhaps a sales success or failure may not occur within the time span of the study, and so the successful sale may be reported as a sales failure because the final outcome occurs outside the data collection period. Data collection occurred over a six-month period which is believed to allow ample time for a sale completion; however this temporal limitation will never be fully mitigated. To overcome the temporal limitation questions were added to the study, which captured the intention of making the sale. Unfortunately, companies were not forthcoming with actual sales information and only sales intent could be used.

8.8. Conclusion

The overall research question guiding the study is whether a relative match or mismatch between the personalities and organisational cultures of customer buyers and salespeople in business-to-business contexts affects relationship quality, sales outcome and word-of-mouth. It is felt that this thesis provides a new insight into these complex relationships.

There is much interest in personality and organisational culture research and the amalgamation of both personality and organisational culture into a single study is believed to build upon this interest. This thesis employs the well-known constructs of personality (specifically the Big Five personality traits) and organisational culture (specifically the organisational cultural index), specifically using the dyadic relationship that exists between salesperson and customer.

It is believed that this research provides a framework for a better understanding of other dyadic relationships through the use of polynomial regression techniques and response surface modelling. A combination of these two analysis techniques provides several interesting findings, further shedding light on the dyadic interaction.

Ultimately, the dyadic relationship of salesperson-customer, in the context of personality and organisational culture, is believed to hold the key to improving the sale of products and services within a business-to-business context.

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Appendix

Survey questions

The survey cover letter for both the customer and salesperson is omitted but is available on request.

Customer Survey

What is your age in years? _____

Please indicate which gender you belong to?   Male ☐   Female ☐

How long have you been working at your current organisation?

　　　Year's _____   Months _____

What position do you currently hold in your organisation? _____

How long have you been in your current position?   Year's _____   Months _____

To what extent do you agree or disagree with the following statements	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Agree	Strongly Agree
I often recommend this service provider to others	①	②	③	④	⑤	⑥	⑦
I spoke of the service provider much more frequently than about any other service providers	①	②	③	④	⑤	⑥	⑦
I spoke of this service provider much more frequently than about service providers of any other type	①	②	③	④	⑤	⑥	⑦
I spoke of this service provider to many individuals	①	②	③	④	⑤	⑥	⑦

Please rate how your relationship is with your service provider for each of the following questions

	Not at all	Low	Slightly	Neutral	Moderately	Very much	Extremely
How much do you trust your service provider?	①	②	③	④	⑤	⑥	⑦
How much can you count on your service provider?	①	②	③	④	⑤	⑥	⑦
How dependable is your service provider?	①	②	③	④	⑤	⑥	⑦
How committed are you to your service provider?	①	②	③	④	⑤	⑥	⑦
How dedicated are you to your service provider?	①	②	③	④	⑤	⑥	⑦
How devoted are you to your service provider?	①	②	③	④	⑤	⑥	⑦
How satisfied are you with your service provider?	①	②	③	④	⑤	⑥	⑦
How content are you with your service provider?	①	②	③	④	⑤	⑥	⑦
How happy are you with your service provider?	①	②	③	④	⑤	⑥	⑦

Here are a number of characteristics that may or may not apply to you. Please choose a number for each statement to indicate the extent to which you agree or disagree with that statement

Disagree Strongly	Disagree A Little	Neither Agree nor disagree	Agree a little	Agree strongly
1	2	3	4	5

____ 1. is talkative	____23. tends to be lazy
____ 2. tends to find fault with others	____24. is emotionally stable, not easily upset
____ 3. does a thorough job	____25. is inventive
____ 4. is depressed, blue	____26. has an assertive personality
____ 5. is original, comes up with new ideas	____27. can be cold and aloof
____ 6. is reserved	____28. perseveres until the task is finished
____ 7. is helpful and unselfish with others	____29. can be moody
____ 8. can be somewhat careless	____30. values artistic, aesthetic experiences
____ 9. is relaxed, handles stress well	____31. is sometimes shy, inhibited
____10. is curious about many different things	____32. is considerate and kind to almost everyone
____11. is full of energy	____33. does things efficiently
____12. starts quarrels with others	____34. remains calm in tense situations
____13. is a reliable worker	____35. prefers work that is routine
____14. can be tense	____36. is outgoing, sociable
____15. is ingenious, a deep thinker	____37. is sometimes rude to others
____16. generates a lot of enthusiasm	____38. makes plans and follows through with them
____17. has a forgiving nature	____39. gets nervous easily
____18. tends to be disorganized	____40. likes to reflect, play with ideas
____19. worries a lot	____41. has few artistic interests
____20. has an active imagination	____42. likes to cooperate with others
____21. tends to be quiet	____43. is easily distracted
____22. is generally trusting	____44. is sophisticated in art, music, or literature

Please describe how well each statement represents your organisation.

	Does not describe my organisation	Sometimes does not describe my organisation	Sometimes describes my organisation	Describes my organisation
hierarchical	①	②	③	④
procedural	①	②	③	④
structured	①	②	③	④
ordered	①	②	③	④
regulated	①	②	③	④
established, solid	①	②	③	④
cautious	①	②	③	④
power-orientated	①	②	③	④

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Risk Taking	①	②	③	④
results orientated	①	②	③	④
creative	①	②	③	④
pressurized	①	②	③	④
stimulating	①	②	③	④
challenging	①	②	③	④
enterprising	①	②	③	④
driving	①	②	③	④
collaborative	①	②	③	④
relationships-orientated	①	②	③	④
encouraging	①	②	③	④
sociable	①	②	③	④
personal freedom	①	②	③	④
equitable	①	②	③	④
safe	①	②	③	④
trusting	①	②	③	④

	Would definitely not purchase	Would Not make purchase	Might not make purchase	May or may not purchase	Might make purchase	Would make purchase	Would definitely purchase
Would you buy this product?	①	②	③	④	⑤	⑥	⑦
How likely is it that you buy the product	①	②	③	④	⑤	⑥	⑦

	Strongly Disagree	Disagree	Slightly Disagree	Neither agree nor disagree	Slightly Agree	Agree	Strongly Agree
It is likely that I will transact with this retailer in the near future.	①	②	③	④	⑤	⑥	⑦
Given the chance, I intend to conduct business with this retailer.	①	②	③	④	⑤	⑥	⑦
Given the chance, I predict that I should use this retailer's products or services in the future.	①	②	③	④	⑤	⑥	⑦

Salesperson Survey

What is your age in years? _____

Please indicate which gender you belong to?   Male ☐   Female ☐

How long have you been working at your current organisation?

Year's _____   Months _____

What position do you currently hold in your organisation? _____

How long have you been in your current position?   Year's _____   Months _____

Please rate how your relationship is with your customer for each of the following questions

	Not at all	Low	Slightly	Neutral	Moderately	Very much	Extremely
How much do you trust your customer?	①	②	③	④	⑤	⑥	⑦
How much can you count on your customer?	①	②	③	④	⑤	⑥	⑦
How dependable is your customer?	①	②	③	④	⑤	⑥	⑦
How committed are you to your relationship?	①	②	③	④	⑤	⑥	⑦
How dedicated are you to your relationship?	①	②	③	④	⑤	⑥	⑦
How devoted are you to your relationship?	①	②	③	④	⑤	⑥	⑦
How satisfied are you with your relationship?	①	②	③	④	⑤	⑥	⑦
How content are you with your relationship?	①	②	③	④	⑤	⑥	⑦
How happy are you with your relationship?	①	②	③	④	⑤	⑥	⑦

Here are a number of characteristics that may or may not apply to you. Please choose a number for each statement to indicate the extent to which you agree or disagree with that statement

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1	2	3	4	5

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_____ 2. tends to find fault with others	_____ 24. is emotionally stable, not easily upset
_____ 3. does a thorough job	_____ 25. is inventive
_____ 4. is depressed, blue	_____ 26. has an assertive personality
_____ 5. is original, comes up with new ideas	_____ 27. can be cold and aloof
_____ 6. is reserved	_____ 28. perseveres until the task is finished
_____ 7. is helpful and unselfish with others	_____ 29. can be moody
_____ 8. can be somewhat careless	_____ 30. values artistic, aesthetic experiences
_____ 9. is relaxed, handles stress well	_____ 31. is sometimes shy, inhibited
_____ 10. is curious about many different things	_____ 32. is considerate and kind to almost everyone
_____ 11. is full of energy	_____ 33. does things efficiently
_____ 12. starts quarrels with others	_____ 34. remains calm in tense situations

____13. is a reliable worker	____35. prefers work that is routine
____14. can be tense	____36. is outgoing, sociable
____15. is ingenious, a deep thinker	____37. is sometimes rude to others
____16. generates a lot of enthusiasm	____38. makes plans and follows through with them
____17. has a forgiving nature	____39. gets nervous easily
____18. tends to be disorganized	____40. likes to reflect, play with ideas
____19. worries a lot	____41. has few artistic interests
____20. has an active imagination	____42. likes to cooperate with others
____21. tends to be quiet	____43. is easily distracted
____22. is generally trusting	____44. is sophisticated in art, music, or literature

Please describe how well each statement represents your organisation.	Does not describe my organisation	Sometimes does not describe my organisation	Sometimes describes my organisation	Describes my organisation
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procedural	①	②	③	④
structured	①	②	③	④
ordered	①	②	③	④
regulated	①	②	③	④
established, solid	①	②	③	④
cautious	①	②	③	④
power-orientated	①	②	③	④
Risk Taking	①	②	③	④
results orientated	①	②	③	④
creative	①	②	③	④
pressurized	①	②	③	④
stimulating	①	②	③	④
challenging	①	②	③	④
enterprising	①	②	③	④
driving	①	②	③	④
collaborative	①	②	③	④
relationships-orientated	①	②	③	④
encouraging	①	②	③	④
sociable	①	②	③	④
personal freedom	①	②	③	④
equitable	①	②	③	④
safe	①	②	③	④
trusting	①	②	③	④

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Consumer decision making process

The understanding that consumers go through a decision making process of recognising a need, searching for information, evaluating alternatives, making a purchase and post purchase behaviour is well accepted (Arnould et al., 2004; Lerner, Small, & Loewenstein, 2004; Rodgers & Harris, 2003). Although the decision making process is deceptively simple, it fraught with problems of bias and irrationality (Lerner et al., 2004; Rodgers & Harris, 2003). Within each stage of the process there is the potential to make mistakes resulting in the incorrect decision being reached.

As an illustrative example, in the first stage of the decision making process the goal is to recognise a need. The problem with a consumer identifying their own need is that the consumer may incorrectly identify their need. A second problem at this stage is that the purchase may need to resolve the problems of multiple people (J.-H. Park, Tansuhaj, & Kolbe, 1991). A third potential problem is that any one person may be confined to operate within certain limits. This last problem is specifically prevalent in large corporate decision making where there is much bureaucracy or "red tape" (Amason, 1996; Busenitz & Barney, 1997; Gigerenzer & Gaissmaier, 2011).

The other stages of the process in the consumer decision making process have similar problems however due to space limitations they will not be highlighted in the proposal. Firms attempt to provide assistance for the problems faced in the consumer decision making process through the use of salespeople (Arthur, Scott, & Woods, 1997; O'reilly, 2007; Oh, Yoon, & Hawley, 2004; J. Park, Tansuhaj, Spangenberg, & McCullough, 1995). Firms don't only use salespeople in their marketing strategies; they also use other forms of advertising, promotion and customer relationship techniques.

Although salespeople can give sound advice, there is a sense of trust between the customer and the supplier which needs to be fostered and built

upon. It is argued that a large mitigating factor for avoiding the pitfalls that lie in the decision making process is not only the presence of a salesperson but rather the larger relationship between the customer and the supplier.

Selling Technique

Selling techniques are the techniques that sales people employ when interacting with a customer. Hite and Bellizzi (1985) equate selling techniques to an understanding of the personal selling process (Spiro et al., 1976). The personal selling process has been at the heart of most selling techniques and as such deserves a substantive explanation.

In the late 1970s and early 1980s a number of authors grappled with the personal selling process (Crissy, Cunningham, & Cunningham, 1977; E. O. Johnston, O'Connor, & Zultowski, 1984). Hite and Bellizzi (1985, p. 19) provide a summary of the process. Step 1 involves prospecting for customers; Step 2 is the pre–approach; Step 3 is the approach; Step 4 is the sales presentation; Step 5 is handling objections; Step 6 is known as the close and lastly Step 7 is the post–sale follow-up. As different marketing strategies started to emerge, so they were applied to the personal selling process. In the mid-1990s marketing began moving towards the idea of relationship marketing and as such the idea of personal selling needed to be adjusted to see a sale from the customer perspective (Brooksbank, 1995).

Once research had applied the personal selling process to different marketing strategies, questions arose as to the effectiveness of the process (Dwyer, Hill, & Martin, 2000). Jaramillo and Marshall (2004) investigated the differences between top performing sales people compared to bottom performing sales people. Both Moncrief and Marshall (2005) and Shannahan, Bush, Moncrief and Shannahan (2013) make the argument that the seven steps

of the personal selling process have become outdated and as such suggest adopting a new perspective for long term sustainability is needed.

Spiro and Weitz (1990) advocate the use and measurement of adaptive selling. The landmark work by Weitz, Sujan and Sujan (1986) suggests that the ability for a sales person to adapt and alter their sales presentation allows them to personally sell. This provides a unique experience and best opportunity for making the sale to the customer. Recently, Román and Iacobucci (2010) provide a comprehensive model for the antecedents of adaptive selling. These works show that although the personal selling process has historically been perceived as static, the process can be improved through the ability for a sales person to adapt to the circumstances of the sale environment.

The early work relating to the personal selling process laid the foundation for a plethora of work for the interaction between the customer and a supplier. The customer supplier relationship needs to be viewed as a long term goal (as opposed to a quick sale) suggesting that over time customers become more profitable to a supplier. Due to the temporal nature of a relationship building on previous engagements, it is vital to begin a relationship on the best possible footing. In a convincing book by Gitomer (2008), the argument is solidified in the following quote:

"Develop rapport and personal engagement, or don't start the selling (buying) conversation" (p. 10).

Response surface graphs for all constructs

Extraversion

Hypothetical Surface for Commitment by Extraversion Customer (X) and Extraversion Rep (Y)

$Z = -15.10 + (-0.27\,X^2) + (1.07\,X) + (9.24\,Y) + (0.25\,XY) + (-1.22\,Y^2)$

$R^2 = 0.16$
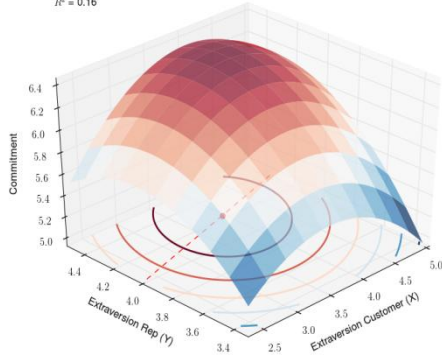
Hypothetical Surface for Trust by Extraversion Customer (X) and Extraversion Rep (Y)

$Z = -24.45 + (0.12\,X^2) + (-2.57\,X) + (17.89\,Y) + (0.39\,XY) + (-2.39\,Y^2)$

$R^2 = 0.26$
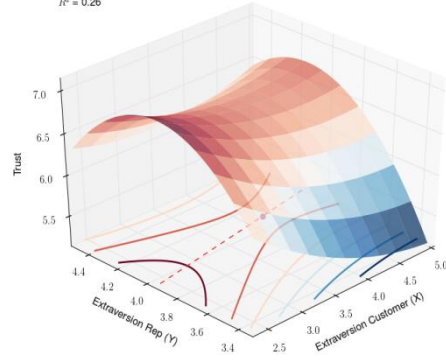
Hypothetical Surface for Satisfaction by Extraversion Customer (X) and Extraversion Rep (Y)

$Z = -19.83 + (0.17\,X^2) + (-2.42\,X) + (15.47\,Y) + (0.28\,XY) + (-2.06\,Y^2)$

$R^2 = 0.16$
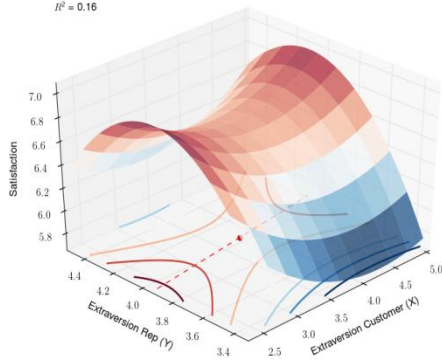
Hypothetical Surface for Word of Mouth by Extraversion Customer (X) and Extraversion Rep (Y)

$Z = -52.57 + (-0.03\,X^2) + (-1.53\,X) + (30.67\,Y) + (0.43\,XY) + (-4.01\,Y^2)$

$R^2 = 0.30$
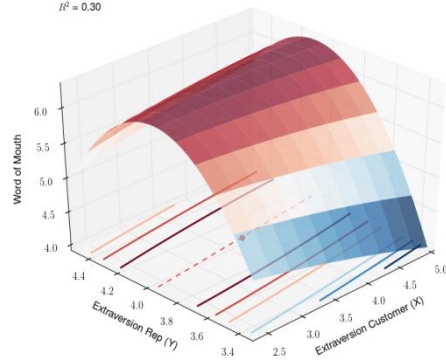
Hypothetical Surface for Sales by Extraversion Customer (X) and Extraversion Rep (Y)

$Z = -9.03 + (0.27\,X^2) + (-1.07\,X) + (8.42\,Y) + (-0.23\,XY) + (-0.94\,Y^2)$

$R^2 = 0.13$
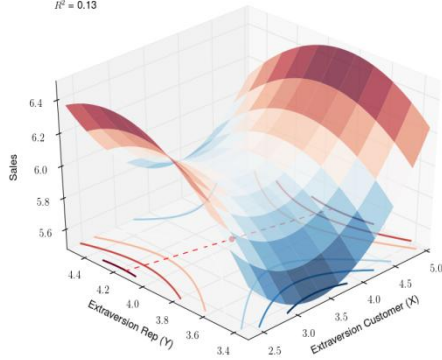
Agreeableness

Hypothetical Surface for Commitment by Agreeableness Customer (X) and Agreeableness Rep (Y)

$$Z = -33.04 + (-0.58\,X^2) + (5.65\,X) + (14.39\,Y) + (-0.18\,XY) + (-1.78\,Y^2)$$
$$R^2 = 0.16$$
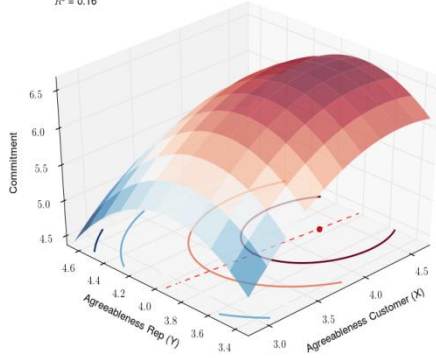
Hypothetical Surface for Trust by Agreeableness Customer (X) and Agreeableness Rep (Y)

$$Z = -31.24 + (-1.05\,X^2) + (7.03\,X) + (12.84\,Y) + (0.32\,XY) + (-1.86\,Y^2)$$
$$R^2 = 0.27$$
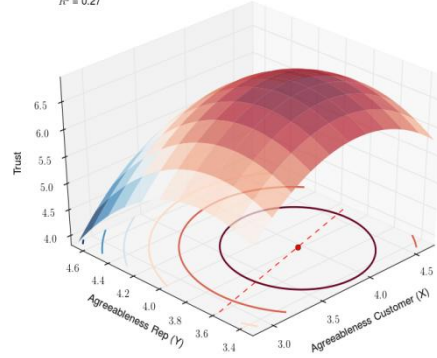
Hypothetical Surface for Satisfaction by Agreeableness Customer (X) and Agreeableness Rep (Y)

$$Z = -15.96 + (-0.02\,X^2) + (-0.27\,X) + (11.78\,Y) + (0.17\,XY) + (-1.61\,Y^2)$$
$$R^2 = 0.15$$
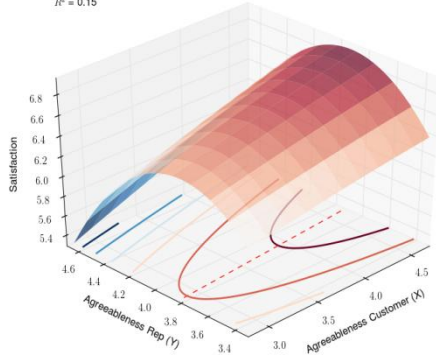
Hypothetical Surface for Word of Mouth by Agreeableness Customer (X) and Agreeableness Rep (Y)

$$Z = -17.82 + (0.64\,X^2) + (-7.57\,X) + (19.36\,Y) + (0.89\,XY) + (-2.97\,Y^2)$$
$$R^2 = 0.30$$
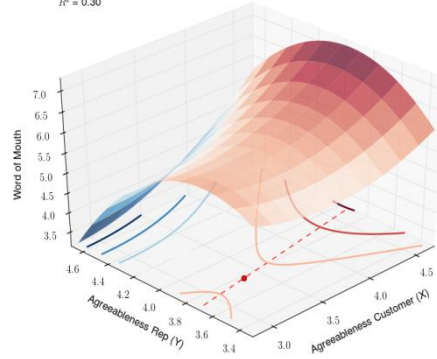
Hypothetical Surface for Sales by Agreeableness Customer (X) and Agreeableness Rep (Y)

$$Z = 11.22 + (0.06\,X^2) + (-2.02\,X) + (-0.68\,Y) + (0.43\,XY) + (-0.14\,Y^2)$$
$$R^2 = 0.04$$
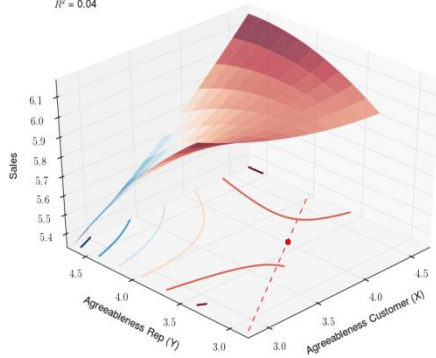
Conscientiousness

Hypothetical Surface for Commitment by Conscientiousness Customer (X) and Conscientiousness Rep (Y)

$Z = -3.92 + (0.19\,X^2) + (-0.71\,X) + (4.38\,Y) + (-0.15\,XY) + (-0.35\,Y^2)$
$R^2 = 0.18$
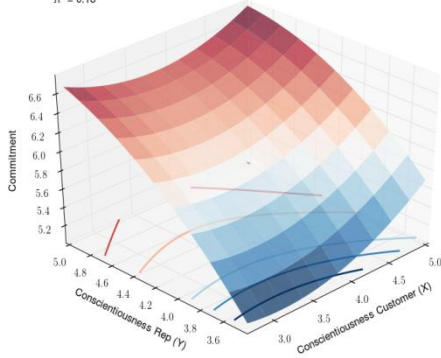
Hypothetical Surface for Trust by Conscientiousness Customer (X) and Conscientiousness Rep (Y)

$Z = -16.94 + (-0.15\,X^2) + (1.33\,X) + (9.15\,Y) + (-0.04\,XY) + (-0.97\,Y^2)$
$R^2 = 0.26$
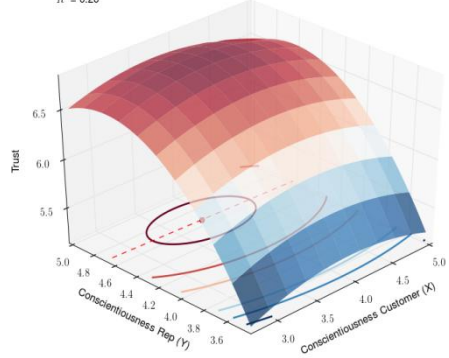
Hypothetical Surface for Satisfaction by Conscientiousness Customer (X) and Conscientiousness Rep (Y)

$Z = -5.27 + (-0.12\,X^2) + (1.29\,X) + (3.55\,Y) + (-0.05\,XY) + (-0.32\,Y^2)$
$R^2 = 0.17$
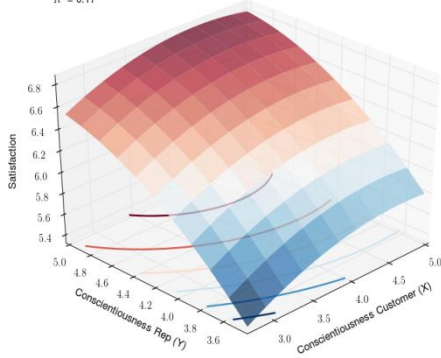
Hypothetical Surface for Word of Mouth by Conscientiousness Customer (X) and Conscientiousness Rep (Y)

$Z = -6.26 + (0.37\,X^2) + (-3.35\,X) + (7.41\,Y) + (0.10\,XY) + (-0.76\,Y^2)$
$R^2 = 0.31$
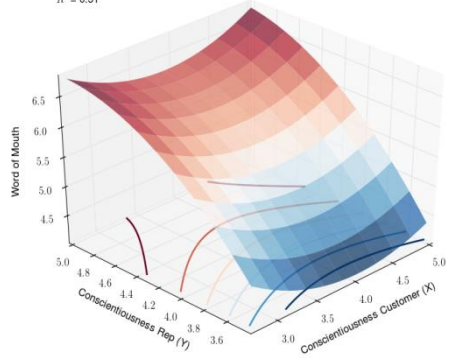
Hypothetical Surface for Sales by Conscientiousness Customer (X) and Conscientiousness Rep (Y)

$Z = 3.46 + (-0.03\,X^2) + (0.86\,X) + (0.03\,Y) + (-0.12\,XY) + (0.08\,Y^2)$
$R^2 = 0.06$
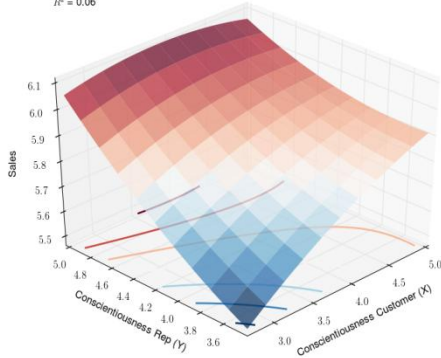
Neuroticism

Hypothetical Surface for Commitment by Neuroticism Customer (X) and Neuroticism Rep (Y)

$Z = -2.04 + (-0.00\ X^2) + (-0.05\ X) + (6.32\ Y) + (-0.08\ XY) + (-1.09\ Y^2)$
$R^2 = 0.17$
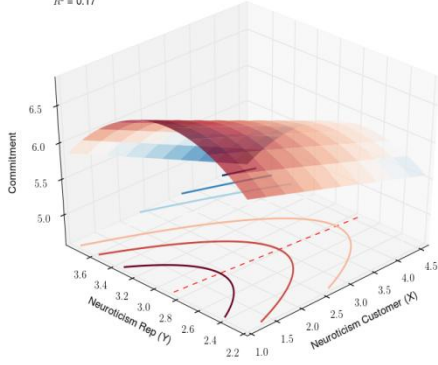
Hypothetical Surface for Trust by Neuroticism Customer (X) and Neuroticism Rep (Y)

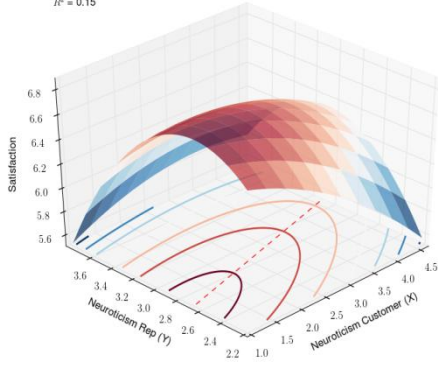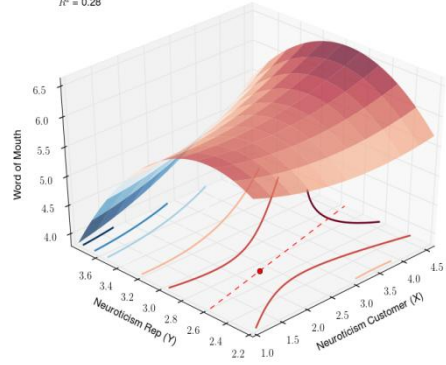$Z = 1.64 + (0.01\ X^2) + (-0.88\ X) + (4.63\ Y) + (0.26\ XY) + (-0.98\ Y^2)$
$R^2 = 0.24$
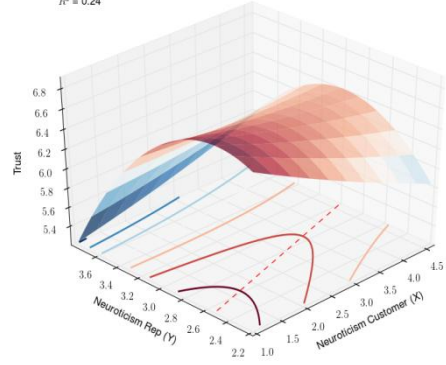
Hypothetical Surface for Satisfaction by Neuroticism Customer (X) and Neuroticism Rep (Y)

$Z = 0.39 + (-0.05\ X^2) + (-0.56\ X) + (5.10\ Y) + (0.24\ XY) + (-1.01\ Y^2)$
$R^2 = 0.15$

Hypothetical Surface for Word of Mouth by Neuroticism Customer (X) and Neuroticism Rep (Y)

$Z = -2.97 + (0.07\ X^2) + (-1.24\ X) + (7.74\ Y) + (0.34\ XY) + (-1.57\ Y^2)$
$R^2 = 0.28$

Hypothetical Surface for Sales by Neuroticism Customer (X) and Neuroticism Rep (Y)

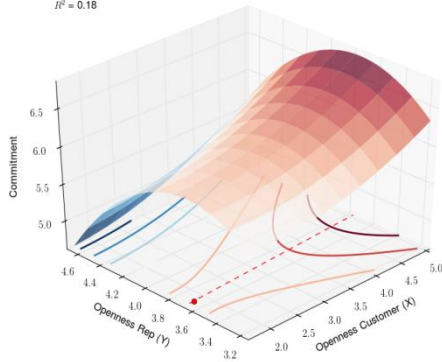$Z = 7.30 + (0.10\ X^2) + (-0.30\ X) + (-0.43\ Y) + (-0.12\ XY) + (0.09\ Y^2)$
$R^2 = 0.09$
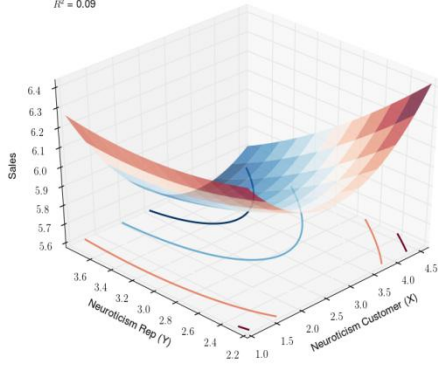
Openness

Hypothetical Surface for Commitment by Openness Customer (X) and Openness Rep (Y)

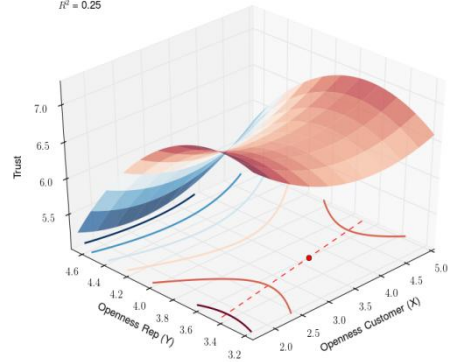$Z = -11.42 + (0.07\,X^2) + (-0.53\,X) + (9.80\,Y) + (0.08\,XY) + (-1.36\,Y^2)$
$R^2 = 0.18$

Hypothetical Surface for Trust by Openness Customer (X) and Openness Rep (Y)

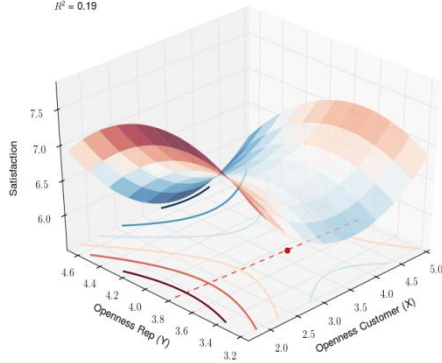$Z = -4.80 + (0.15\,X^2) + (-1.85\,X) + (8.29\,Y) + (0.22\,XY) + (-1.27\,Y^2)$
$R^2 = 0.25$

Hypothetical Surface for Satisfaction by Openness Customer (X) and Openness Rep (Y)

$Z = -6.36 + (0.32\,X^2) + (-2.04\,X) + (8.94\,Y) + (-0.08\,XY) + (-1.16\,Y^2)$
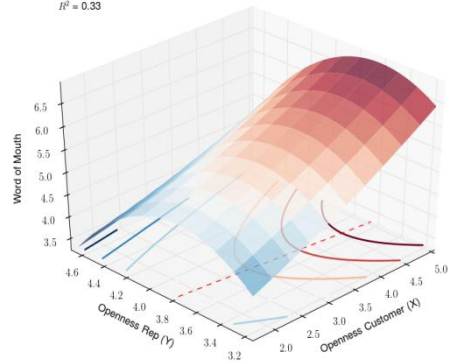$R^2 = 0.19$

Hypothetical Surface for Word of Mouth by Openness Customer (X) and Openness Rep (Y)

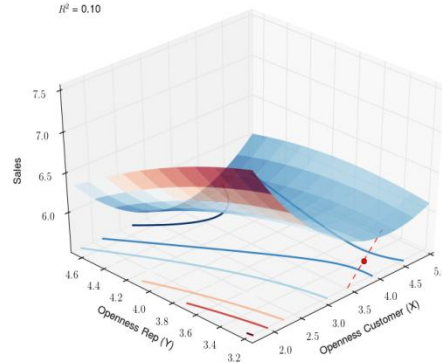$Z = -26.80 + (0.04\,X^2) + (1.02\,X) + (16.14\,Y) + (-0.20\,XY) + (-2.09\,Y^2)$
$R^2 = 0.33$

Hypothetical Surface for Sales by Openness Customer (X) and Openness Rep (Y)

$Z = 10.73 + (0.23\,X^2) + (-2.68\,X) + (0.49\,Y) + (0.22\,XY) + (-0.21\,Y^2)$
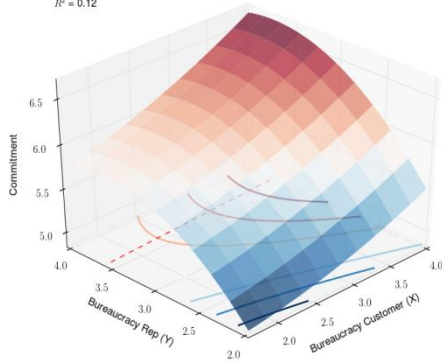$R^2 = 0.10$

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Bureaucracy

Hypothetical Surface for Commitment by Bureaucracy Customer (X) and Bureaucracy Rep (Y)

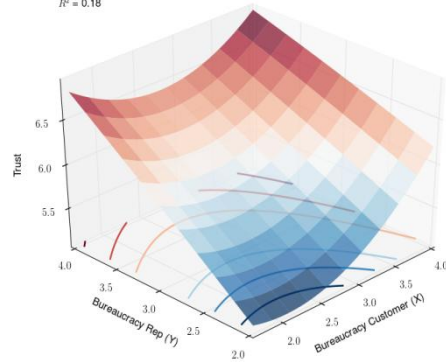$Z = 0.94 + (0.06\,X^2) + (-0.19\,X) + (2.73\,Y) + (0.05\,XY) + (-0.39\,Y^2)$

$R^2 = 0.12$

Hypothetical Surface for Trust by Bureaucracy Customer (X) and Bureaucracy Rep (Y)

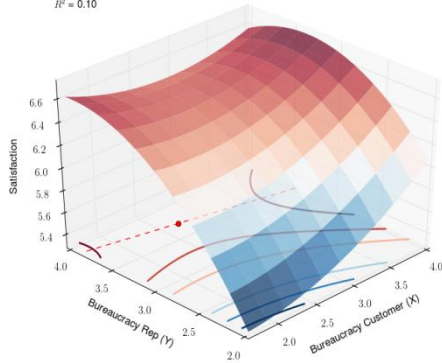$Z = 3.99 + (0.31\,X^2) + (-0.91\,X) + (1.27\,Y) + (-0.21\,XY) + (-0.02\,Y^2)$

$R^2 = 0.18$

Hypothetical Surface for Satisfaction by Bureaucracy Customer (X) and Bureaucracy Rep (Y)

$Z = 0.78 + (0.12\,X^2) + (-0.01\,X) + (3.10\,Y) + (-0.17\,XY) + (-0.36\,Y^2)$
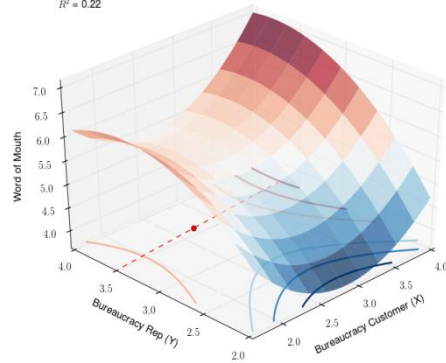
$R^2 = 0.10$

Hypothetical Surface for Word of Mouth by Bureaucracy Customer (X) and Bureaucracy Rep (Y)

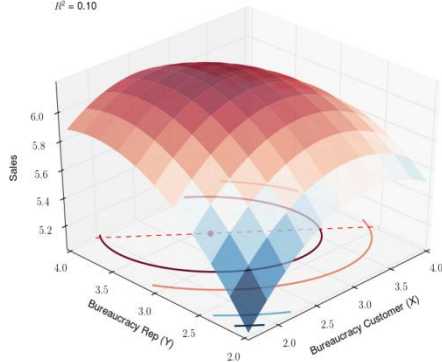$Z = 4.62 + (0.86\,X^2) + (-5.49\,X) + (4.65\,Y) + (0.25\,XY) + (-0.75\,Y^2)$

$R^2 = 0.22$

Hypothetical Surface for Sales by Bureaucracy Customer (X) and Bureaucracy Rep (Y)

$Z = -0.76 + (-0.25\,X^2) + (1.94\,X) + (2.52\,Y) + (-0.17\,XY) + (-0.30\,Y^2)$
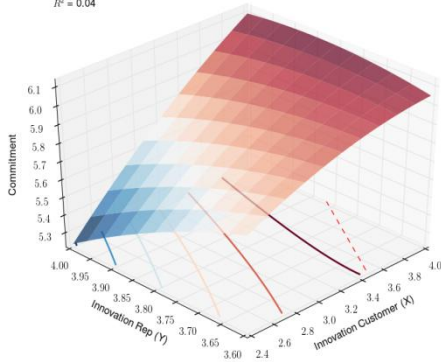
$R^2 = 0.10$

Innovative

Hypothetical Surface for Commitment by Innovation Customer (X) and Innovation Rep (Y)

$Z = 2.30 + (-0.09\,X^2) + (-2.45\,X) + (4.23\,Y) + (0.89\,XY) + (-1.01\,Y^2)$
$R^2 = 0.04$

Hypothetical Surface for Trust by Innovation Customer (X) and Innovation Rep (Y)

$Z = 5.84 + (0.51\,X^2) + (-10.17\,X) + (10.74\,Y) + (1.85\,XY) + (-2.47\,Y^2)$
$R^2 = 0.10$
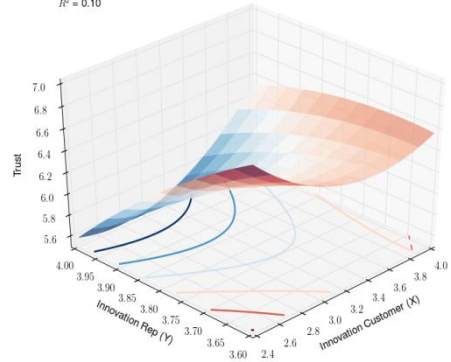
Hypothetical Surface for Satisfaction by Innovation Customer (X) and Innovation Rep (Y)

$Z = 4.29 + (0.78\,X^2) + (-7.23\,X) + (7.95\,Y) + (0.58\,XY) + (-1.40\,Y^2)$
$R^2 = 0.04$

Hypothetical Surface for Word of Mouth by Innovation Customer (X) and Innovation Rep (Y)

$Z = 4.39 + (0.68\,X^2) + (-7.23\,X) + (8.10\,Y) + (0.79\,XY) + (-1.62\,Y^2)$
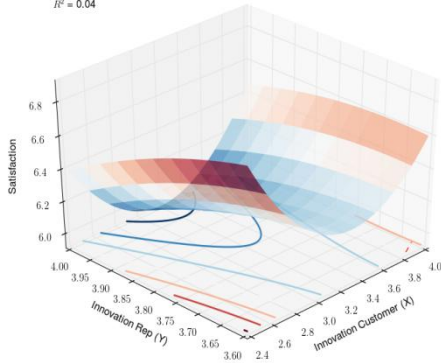$R^2 = 0.04$
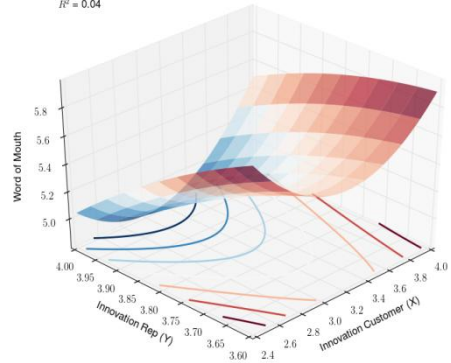
Hypothetical Surface for Sales by Innovation Customer (X) and Innovation Rep (Y)

$Z = -1.62 + (-0.35\,X^2) + (7.03\,X) + (-2.94\,Y) + (-1.15\,XY) + (0.95\,Y^2)$
$R^2 = 0.05$
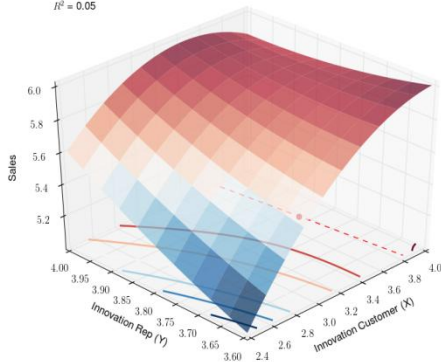
Supportive

Hypothetical Surface for Commitment by Supportive Customer (X) and Supportive Rep (Y)

$Z = 124.98 + (-0.54\ X^2) + (1.59\ X) + (-67.47\ Y) + (0.69\ XY) + (8.91\ Y^2)$
$R^2 = 0.15$
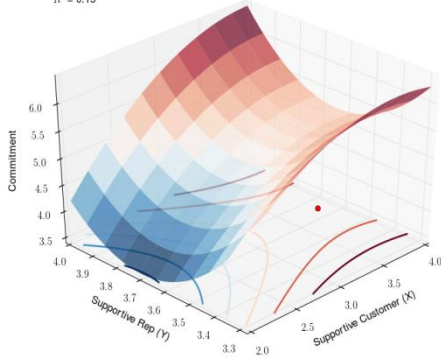
Hypothetical Surface for Trust by Supportive Customer (X) and Supportive Rep (Y)

$Z = 151.18 + (0.02\ X^2) + (-1.79\ X) + (-78.56\ Y) + (0.69\ XY) + (10.36\ Y^2)$
$R^2 = 0.26$

Hypothetical Surface for Satisfaction by Supportive Customer (X) and Supportive Rep (Y)
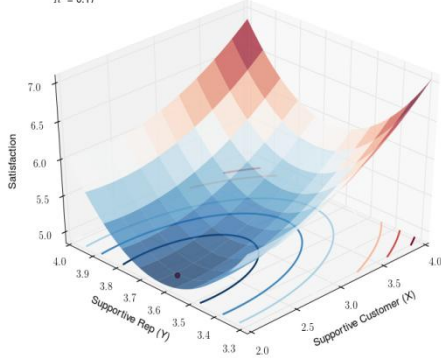
$Z = 112.57 + (0.32\ X^2) + (-0.57\ X) + (-58.94\ Y) + (-0.23\ XY) + (8.18\ Y^2)$
$R^2 = 0.17$

Hypothetical Surface for Word of Mouth by Supportive Customer (X) and Supportive Rep (Y)

$Z = 210.16 + (-0.48\ X^2) + (0.83\ X) + (-113.79\ Y) + (0.82\ XY) + (15.15\ Y^2)$
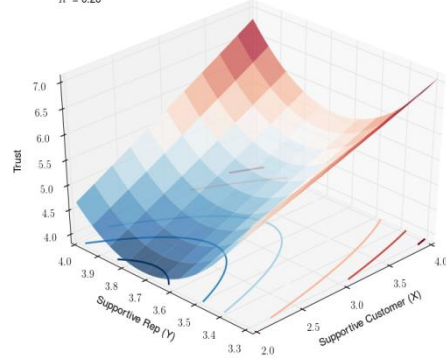$R^2 = 0.21$
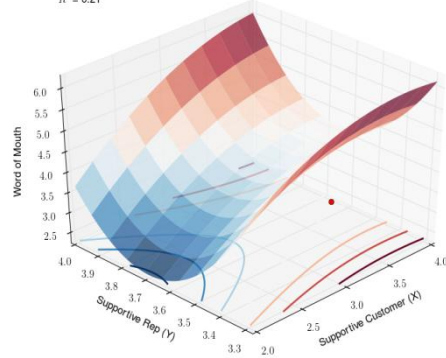
Hypothetical Surface for Sales by Supportive Customer (X) and Supportive Rep (Y)

$Z = 52.24 + (0.42\ X^2) + (-0.48\ X) + (-25.73\ Y) + (-0.55\ XY) + (3.80\ Y^2)$
$R^2 = 0.11$
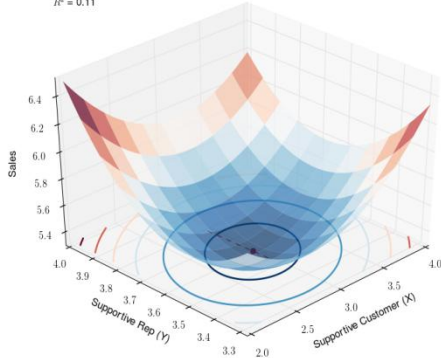
Stationary points and principal axes

Personality Trait	Outcome	Stationary Point		First Principal Axis		Second Principal Axis	
		X_0	Y_0	P_{10}	P_{11}	P_{20}	P_{21}
Extraversion	Commitment	3.9189	4.2047	3.6908	.1312	34.0841	-7.6244
Extraversion	Trust	4.1875	4.0780	3.7580	.0764	15.3185	-1.8865
Extraversion	Satisfaction	3.7656	4.2047	3.6908	.1312	34.0840	-7.6244
Extraversion	Word-of-mouth	3.7463	4.0254	3.8237	.0539	79.5688	-18.5364
Extraversion	Sales	3.6482	4.0223	4.3689	-.0950	-34.3762	10.5255
Agreeableness	Commitment	4.2758	3.8349	4.1551	-.07488	-53.2673	13.3546
Agreeableness	Trust	3.9259	.37875	3.0347	.1918	24.2615	-5.2151
Agreeableness	Satisfaction	11.3254	4.2611	3.6578	.0533	216.8684	-18.7726
Agreeableness	Word-of-mouth	3.3192	3.7531	3.3507	.1212	31.1286	-8.2475
Agreeableness	Sales	3.9828	3.5824	1.0593	.6335	9.8693	-1.5785
Conscientiousness	Commitment	3.9176	5.4024	5.9291	-.1345	-23.7337	7.4372
Conscientiousness	Trust	3.8135	4.634	4.7282	-.0246	-150.1070	40.5770

Personality Trait	Outcome	Stationary Point		First Principal Axis		Second Principal Axis	
		X_0	Y_0	P_{10}	P_{11}	P_{20}	P_{21}
Conscientiousness	Satisfaction	4.2864	5.2818	5.8233	-.1263	-28.6534	7.917
Conscientiousness	Word-of-mouth	3.8561	5.1378	4.9643	.0450	90.8533	-22.2287
Conscientiousness	Sales	5.5910	4.0258	17.1020	-2.339	1.6352	.4276
Neuroticism	Commitment	275.6397	-6.9642	2.8889	-.0357	-7717.9864	27.9750
Neuroticism	Trust	5.1413	3.0428	2.3881	.1273	43.4194	-7.8535
Neuroticism	Satisfaction	.5568	2.5985	2.5313	.1206	7.2146	-8.2907
Neuroticism	Word-of-mouth	2.270	2.7020	2.4724	.1012	25.1362	-9.8830
Neuroticism	Sales	4.4999	5.5107	9.3914	-.8624	.2929	1.1595
Openness	Commitment	1.7513	3.6571	3.6109	.0270	68.6297	-37.0979
Openness	Trust	3.6330	3.5736	3.2937	.0770	50.7272	-12.9791
Openness	Satisfaction	3.6393	3.7222	3.8193	-.0267	-132.6542	37.4736
Openness	Word-of-mouth	-2.6134	3.9847	3.8642	-.0461	60.6507	21.6827
Openness	Sales	4.15303	3.3358	2.3679	.2331	21.1553	-4.2907

Organisational Culture	Outcome	Stationary Point		First Principal Axis		Second Principal Axis	
		X_0	Y_0	P_{10}	P_{11}	P_{20}	P_{21}
Bureaucracy	Commitment	.0827	3.4723	3.4677	.0555	4.9634	-18.0269
Bureaucracy	Trust	4.6691	9.7817	11.1242	-.2875	-6.4571	3.4779
Bureaucracy	Satisfaction	2.6692	3.6739	4.1408	-.1749	-11.5856	5.7169
Bureaucracy	Word-of-mouth	2.6740	3.5507	3.3415	.0782	37.7286	-12.7817
Bureaucracy	Sales	2.7637	3.3788	5.37418	-.7220	-.4490	1.3850
Innovative	Commitment	2.7207	3.2948	2.1927	.4051	10.0113	-2.4687
Innovative	Trust	3.6076	3.5286	2.4978	.2857	16.1540	-3.4997
Innovative	Satisfaction	3.3463	3.5354	3.0997	.1302	29.2347	-7.6797
Innovative	Word-of-mouth	3.3825	3.3275	2.7647	.1664	23.6558	-6.0097
Innovative	Sales	3.7409	3.8152	13.6885	-2.6393	2.3978	.3789
Supportive	Commitment	3.8121	3.6389	-101.2790	27.522	3.7774	-.0363
Supportive	Trust	-45.6367	5.3052	1381.0531	30.1456	3.7913	-.0332
Supportive	Satisfaction	2.1866	3.6327	156.3339	-69.8350	3.6014	.0143
Supportive	Word-of-mouth	3.9412	3.6493	-146.5926	38.1208	3.7526	-.0262
Supportive	Sales	2.9235	3.5940	40.0831	-12.4813	3.3598	.0801

Slopes along lines of interest

Personality Trait	Outcome	Y = X		Y = -X		First Principal Axis		Second Principal Axis	
		α_x	α_{x^2}	α_x	α_{x^2}	α_x	α_{x^2}	α_x	α_{x^2}
Extraversion	Commitment	10.3136	-1.2363	-8.1699	-1.7405	2.0366	-.2598	571.4365	-72.9080
Extraversion	Trust	15.3185	-1.8865	-20.4543	-2.6584	-1.1240	.1342	3468.4576	-414.1439
Extraversion	Satisfaction	13.0568	-1.6064	-17.8880	-2.1622	-1.3700	.1819	4051.9422	-538.0196
Extraversion	Word-of-mouth	29.1418	-3.6067	-32.2043	-4.4674	.1148	-.0153	10413.9	-1389.9122
Extraversion	Sales	7.3533	-.8994	-9.4855	-.4332	-2.1032	.2883	776.4432	-106.4156
Agreeableness	Commitment	20.0389	-2.5358	-8.7421	-2.1755	4.9279	-.5762	2734.0324	-319.7068
Agreeableness	Trust	19.8716	-2.5907	-5.8044	-3.2362	8.3075	-1.0580	419.0997	-53.3758
Agreeableness	Satisfaction	11.5093	-1.4579	-12.0469	-1.7971	.3526	-.01556	12903.6	-569.6758
Agreeableness	Word-of-mouth	11.7859	-1.4450	-26.9308	-3.2220	-4.6628	.70240	1386.3763	-208.8405
Agreeableness	Sales	-2.7042	.3467	-1.3365	-.5170	-2.1903	.2750	7.8255	-.9824
Conscientiousness	Commitment	3.6692	-.3070	-5.0828	-.0091	-1.6187	.2066	159.2849	-20.3294
Conscientiousness	Trust	10.4850	-1.1614	-7.8211	-1.0804	1.1412	-.1496	12205.9	-1600.3447

Personality Trait	Outcome	Y = X		Y = -X		First Principal Axis		Second Principal Axis	
		α_x	α_{x^2}	α_x	α_{x^2}	α_x	α_{x^2}	α_x	α_{x^2}
Conscientiousness	Satisfaction	4.8427	-.4857	-2.2613	-.3849	1.0131	-.1182	174.1347	-20.3127
Conscientiousness	Word-of-mouth	4.0583	-.2907	-10.7617	-.4938	-2.8534	.3700	2907.7664	-377.0372
Conscientiousness	Sales	.8965	-.0749	.83214	.1611	-7.4633	.6674	.7941	-.0710
Neuroticism	Commitment	6.2733	-1.1711	-6.3655	-1.0149	-.2721	.0005	472366.2	-856.8544
Neuroticism	Trust	3.7515	-.7113	-5.5078	-1.2220	-.2728	.0265	639.7791	-62.2200
Neuroticism	Satisfaction	4.5432	-.8181	-5.6627	-1.2886	.03618	-.03249	79.3090	-71.2212
Neuroticism	Word-of-mouth	6.5035	-1.1650	-8.9750	-1.8379	-.4081	.0899	712.4769	-156.9359
Neuroticism	Sales	-.7310	.0748	.1373	.3059	-2.4101	.2678	-.7753	.0862
Openness	Commitment	9.2647	-1.2088	-10.3318	-1.3631	-.2552	.0729	6554.8360	-1871.3603
Openness	Trust	6.4439	-.9059	-10.1446	-1.3457	-1.1327	.1559	1576.9764	-217.0322
Openness	Satisfaction	6.9011	-.9208	-10.9847	-.7623	-2.346	.3223	11901.9	-1635.2123
Openness	Word-of-mouth	17.1623	-2.2435	-15.1260	-1.8488	.2561	.0490	-5159.1545	-987.0487
Openness	Sales	-2.1896	.2438	-3.1739	-.1950	-2.2797	.2745	38.0321	-4.5788

Organisational Culture	Outcome	Y = X		Y = -X		First Principal Axis		Second Principal Axis	
		$α_x$	$α_{x^2}$	$α_x$	$α_{x^2}$	$α_x$	$α_{x^2}$	$α_x$	$α_{x^2}$
Bureaucracy	Commitment	2.5451	-.2797	-2.9197	-.3815	-.0108	.0651	21.3259	-128.9134
Bureaucracy	Trust	.3644	.0912	-2.1805	.5040	-3.4686	.3714	5.5594	-.5953
Bureaucracy	Satisfaction	3.0990	-.4125	-3.1108	-.0661	-.7452	.1396	67.3918	-12.6239
Bureaucracy	Word-of-mouth	-.8375	.3612	-10.1434	-.1455	-4.6724	.8737	668.5316	-125.0067
Bureaucracy	Sales	4.4616	-.7207	-.5803	-.3809	1.5631	.2828	5.886	-1.0649
Innovative	Commitment	21.7855	-.2090	-6.6813	-1.9932	-.5725	.1052	45.9935	-8.4524
Innovative	Trust	.5702	-.1128	-20.9178	-3.8135	-6.0054	.8323	261.2018	-36.2019
Innovative	Satisfaction	.7210	-.0451	-15.1829	-1.1966	-5.5386	.8275	575.8649	-86.0425
Innovative	Word-of-mouth	.8704	-.1486	-15.3369	-1.7229	-5.1970	.7682	422.6585	-62.4764
Innovative	Sales	4.0916	-.5543	9.9782	1.7520	-69.7047	9.3166	4.8828	-.6526
Supportive	Commitment	-65.8736	9.0604	69.0626	7.6855	-51597.7 [5]	6767.5625	4.1968	-.5505
Supportive	Trust	-80.3433	11.0631	76.7679	9.6901	890901.0 [5]	9432.1026	.8159	.0089
Supportive	Satisfaction	-59.5166	8.2736	58.3709	8.7240	-174547.5 [5]	39913.0 [5]	-1.3843	.3165
Supportive	Word-of-mouth	-112.9588	15.4830	114.6134	13.8416	-173749.3	22042.7	3.9098	-.4960
Supportive	Sales	-26.2017	3.6720	25.2498	4.764	-3504.4012	599.3501	-2.3244	.3975