

An Inductive Exploration of Effective Selling in the Dutch Mortgage Market

– Selling words –

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Master Thesis

Economics and Business – Specialization Marketing

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Rotterdam, August 20th 2015

[Abstract]

By the use of mystery calling in the Dutch mortgage market, the sales process is evaluated in terms of effectiveness of the salesmen towards the concept of customer-oriented selling.

Observations of the sales interactions are further analysed using an advanced computerized linguistic measure that enabled us to gain insight into the underlying psychologically underpinned subtleties in the speech of effective salespeople. The main finding of this study is a linguistic measure of cognitive complexity and its relatedness to adaptive and effective selling.

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Chapter 1: Introduction

Language reveals a lot about an individual and it can even be said that the way you talk defines you (Pennebaker, Mehl, & Niederhoffer, 2003). Historically, philosophers and scholars in the field of psychology have been interested in speech. Freud (1901) provided several compelling ideas about parapraxes or slips of tongue (i.e. Freudian slip) and what they say about inner thoughts and motives. The introduction of computerized text analysis programs speeded up the process of the formerly expensive human-rated text analysis methods, and made it much more accessible to assess what people say, and expose subtleties helpful in uncovering *why* they might say it. These psychological nuances in an individual's language style could add a whole new dimension to the way we form and interpret language, and is pivotal to this thesis.

This dissertation takes an inductive approach towards the exploration of individual differences between high-performing versus less-performing salesmen. The quest for understanding the foundation of successful selling has been considered the holy grail of personal selling research (Meredith, 2009). With the high pace of innovation, where the availability of knowledge is leaving the consumer better informed, the landscape of selling has changed rapidly over the past few decades. Salespeople in today's knowledge-intensive economy are increasingly called upon finding creative ways of creating value in terms of selling their information. Verbeke, Dietz, & Verwaal (2011) investigated this new sales climate in relation to sales performance and its antecedents. The widespread use of the internet eliminates the traditional role of salespeople to provide, previously less accessible, basic knowledge about specific products or services. This comes with the challenge of delivering scarce information and puts pressure on current salespeople to know more about their products, how these will fulfill the needs of the customer and resolve their issues in any given situation (Verbeke, Dietz, & Verwaal, 2011).

The research environment of this study encompasses the Dutch market of mortgage brokers. This serves as an interesting field of study nowadays, as it has been a tumultuous time with many uncertainties for both mortgage brokers and people seeking to buy a house. After the collapse of the mortgage market in 2008 and a few consecutive downfalls in 2010 and 2011, the market has been under pressure signaled by home sales and prices taking a deep dive. People see buying a house as a huge step and due to the fact that most house buyers do not have the slightest clue about the financial underpinnings of buying a house, many take time and money to request the care and help of a mortgage broker. As this involves engaging a social interaction, words and complex psychological processes will inevitably follow.

The research question in this study is as follows:

“Is the use of words of high-performing salespeople any different compared to the use of words of less-performing salespeople and if so, how can higher sales performance be explained in terms of linguistics?”

This thesis is structured on the basis of several chapters and subchapters based on a classic inductive approach and includes domain establishment, observations, pattern designation followed by a more deductive positioning of the theory. In chapter two, the scope of research will be defined. Here the concept of mortgage broking and the conforming selling domain will be established. By stating the objective of this study and posing the main research question, I will conclude chapter two. Observations will be the directory of chapter three, here both conducted studies are described including its methodologies and results. Chapter four will start at the obtained results and move from there in an attempt to distil a pattern by making an effort to link the findings to existing literature. In chapter five the found pattern will be positioned and conceptually linked to popular literature in the personal selling domain. Chapter six will engage in a discussion about the objective findings, discuss limitations of the present study and finally provide some directions for future research.. Chapter seven we advocate the relevance of this study, provide implications for both scholars and practitioners and conclude with the answering of the research question.

Chapter 2: Scope of Research

In order to define the scope of research, first the context in which this research has been conducted will be explained. After a better insight is given into the concept of mortgage brokers and the Dutch mortgage broking market, an effort is made to further specify the dependent variable of this study.

2.1. Mortgage Brokers and Personal Selling

Greve, Frambach, & Verhallen (1995) say the process of giving consult as a mortgage broker is in line with the concept of consultative selling. They advocate that – in order to effectively perform their task – mortgage brokers must incorporate aspects from consultative selling, such as trying to improve their customers' profit. Within mortgage brokering this would clearly be relevant as well.

Although the goal of persuasion in personal selling is slightly different from the core aspect of consultative selling, in the Dutch mortgage broking market, assuming a linear relationship with personal selling makes sense. This is due to the fact that in the Dutch case, competition is apparent and search costs are low as determined by the policy of all Dutch mortgage brokers (chains) to offer a first consult free of charge. In addition to this, the complexity and high cost of the product put more weight on relationship aspects. Hence, we assume that mortgage brokers feel the need to be persuasive in their prospecting process and thus position themselves in the concept of personal selling. Moreover, active prospecting and relationship building would be relevant, because referrals and repeat purchases are likely to be a big chunk of business.

Also, the situation of the Dutch mortgage market has recently changed from earnings on the basis of provision (used to be around 1% of the mortgage) to a separate service charge. This change resulted in more transparency for consumers and has brought down the average cost of a consult by 15% and has put more pressure on mortgage brokers (Financieel Dagblad, 2015).

Now we have connected mortgage brokers to the concept of a salesperson in the personal selling domain, we must define the scope of the dependent variable, customer satisfaction.

2.2. Customer satisfaction and Sales Performance

In this study mortgage brokers are rated on various variables in terms of customer satisfaction. As sales performance is one of the most important variables for the success of any business, a lot of research in the personal selling domain is related to sales performance. Because performance in this study is not measured as an objective variable in terms of profit or revenue, in order to measure performance of the subjective performance of salespeople in this study, first a conceptual link must be made between customer satisfaction and sales performance.

According to several studies in personal selling, sales performance can be measured in terms of customer value (Setijono & Dahlgaard, 2007). Customer value, as argued by the authors is in many marketing contexts validated as an influencer of customer purchase decisions. Also customer value is perceived to be a more objective variable and would intuitively increase with elevating scores of customer satisfaction (Higgins, 1998; Setijono & Dahlgaard, 2007). To confirm this, a conceptual link was sought and found between customer satisfaction and customer value (Oh, 1999; Eggert & Ulaga, 2002). This substantiates the choice in this study to use customer satisfaction as an indicator of sales performance.

2.3. Objective and Research Question

As this study takes an inductive approach towards the performance of salespeople in the mortgage broking market, no hypotheses will be formulated. Observations about the implications of effective sales performance will be leading for further theoretical analysis and will be specified and explained during this research. The primary measure used to capture sales performance consists of Key Performance Indicators of customer-oriented selling designed by Verbeke and EMIC Research & Consultancy (2014).

After this KPI analysis, further secondary research will be conducted on these findings in terms of the linguistic markers of the salespeople found to be indicative of high sales performance. This will be measured by the use of the Linguistic Inquiry and Word Count (LIWC) software (Pennebaker, Booth, & Francis, Linguistic Inquiry and Word Count: LIWC 2007, 2007). Further explanation on both measures will be provided in the following chapter.

Now that the domain has been established, we can move on to the objective of this dissertation. The main objective of this paper is to observe whether there are linguistic markers of high-performing salesmen as compared to less-performing salesmen. With this in mind and in order to set a starting point for this dissertation, the main research question in this study is stated as follows:

“Is the use of words of high-performing salespeople any different compared to the use of words of less-performing salespeople and if so, how can higher sales performance be explained in terms of linguistics?”

Chapter 3: Observations

As said before, this dissertation will engage in an inductive approach towards the markers of effectiveness in sales performance. The first study concerns the actual calling of the mortgage brokers and will provide an explanation of the way in which our dataset is formed. In the second study, the dataset from the first study will be used to conduct linguistic analysis in order to further break-down the performance of the salespeople in present research.

3.2. Study 1 – Analysis of Customer-Oriented selling

The present research consists of a dual dimensional study of the selling effectiveness of ‘consultative’ salesmen within the six biggest chain businesses in the Dutch mortgage market. The first study consists of a script-based interview conducted by mystery shoppers over the phone, in order to receive a consult from a mortgage broker. Mystery shopping is often used for evaluation of service encounters (Wan, 2010; Wilson, 1998). Mystery calling is in essence the same as mystery shopping, where the sole difference lies in not making an actual store visit but making the call. The objective of mystery calling is evaluating the service process without biasing the target. This objective is reached as salesmen were unaware they were being recorded and evaluated. The resulting interaction is therefore realistically obtained. Furthermore, assumed is that mystery callers were properly selected and trained by EMIC, and that the resulted methodology for obtaining the evaluations is reliable.

A total of 110 mortgage brokers were interviewed, mostly twice, on the basis of two scripts posing a different customer ‘issue’. Both scripts were tailored around the idea of raising an issue that should elicit a customer-oriented approach from the broker. In the first script the mystery shopper plans a cross-country move to the town or city of the specific advisories office. In this, the broker is asked for the cost of consulting and next steps in the process of moving. In the second script the mystery shopper has received a warning letter saying they are behind on their endowment mortgage and indicates he or she is not satisfied with the services of their prior mortgage broker and wants to make the switch. In both scripts the broker is given an opening onto which he can make a positive impression on the customer. Since the ‘products’ sold in the mortgage market are highly complex with high variability in composition, salesmen can really build on their expertise in trying to establish a rewarding relationship with the customer. Next to that, the long-term profits of securing a follow-up appointment – with a high probability of making the sale – outweigh the costs of investing in building the relationship. This study investigates to what extend salesmen deploy a customer-oriented approach. During this standardized script-based stimulation of salesmen, their reactions were documented for further Key Performance Indicator analysis on customer-oriented selling.

3.2.1. Method: Selection & Measurement of KPI's

In line with the design of the scripts, the recorded conversations subsequently were assessed on 32 different KPI's related to customer-oriented behaviour designed by Verbeke and EMIC Research & Consultancy (2014). The selection of KPI's is made based on seven selected categories of customer-oriented selling, which consists of variables concerning attitude, determining the problem, problem projection, resolving the customer's problem, closing the consult, bringing in next steps, and overall satisfaction (Verbeke & EMIC Research & Consultancy, 2014). A visualisation of these factors is displayed below (see Figure 1).

Each factor subsequently consists of three to seven KPI's, related to customer-oriented selling. The KPI's are presented in *Appendix A*. The assessments are conducted by an expert and were coded on a 5-point Likert scale on each KPI (1 = Very Poor; 2 = Poor; 3 = Acceptable; 4 = Good 5 = Very Good). The factor 'Attitude' of the salesperson's customer-orientation captures variables such as the clarity of communication, the tone of voice of the sales person, and whether or not his or her attitude towards the customer is active, confident and thorough.

Figure 1 – Factors Accounted for in Relation to Customer-oriented Selling



The factor concerning the first step in solving the problem, *'Determining the Problem'* is accounted for by variables that encompass the behaviour of the salesman in terms of giving the customer the time and space needed to enounce the problem/pain; the extent to which the salesman makes an effort in constructing a more elaborate diagnosis of this pain by collecting cues through active and empathetic listening; posing the right questions whilst refraining from interruptive communication or making assumptions; and the extent to which the salesman is being patient and knowledgeable towards the customer in order to provide the comfort and assurance needed to challenge the customer to better formulate the problem.

The third step in successful customer-oriented selling is *'Problem Projection'*, which entails variables concerning the skill of the salesman in mapping the problem prior to providing a solution. These skills include posing good questions in order to provide the customer with a better understanding of the problem; taking the lead and guiding the conversation; structuring the problem by summing up all relevant variables related to the problem; understanding the customers viewing point and adapting to this (no use of terminology without explanation).

The fourth factor *'Resolving the Problem'* includes variables explaining the efforts and effectiveness of salespeople towards problem resolution and the extent to which: a salesman actively makes an effort in resolving the problem; multiple solutions are proposed and explained by the use of examples including costs, pros and cons of each option; and the extent to which problem resolution is achieved.

The factor *'Closing'* concerns the degree to which the salesman summarizes the proposed solutions and controls if these were satisfactory and there are no further questions.

Subsequently, *'Bringing on Next Steps'* provides insight in whether or not the salesman asks for the customer's contact details, the extent to which a proposal for a next step is made and without pushing it.

The last factor holds variables measuring *Overall Satisfaction* which includes the degree to which: the customer is willing to do business with this person / advisory office and would recommend its services and the level of pride shown in his organisation.

3.2.2. Results

Mystery calls to the 110 advisory offices resulted in 210 sales conversations. After coding each sales conversation on the selected variables of customer-oriented selling, the results were analysed. With regard to the objective of this thesis in linking word-use to effective selling, no internal statistical analysis is performed on the KPI study. Statistical analysis will be included after combining the results of both studies. Below a brief discussion of the results is provided with the average scores per factor.

Table 1 – Average Factor Scores

Factor	Average Score
1. Attitude	4,3
2. Determining the Problem	3,8
3. Problem Projection	3,5
4. Resolving the Problem	3,5
5. Closing	1,9
6. Bringing on next steps	3,3
7. Overall satisfaction	3,7
TOTAL	3,4

Because a salesman’s job is firmly rooted in interpersonal communication, it makes sense that the factor Attitude scores best (see table 1). There were no significant outliers among the KPI’s tested as all variables were close to the factor average. In determining the problem it was quite remarkable that at both

KPI’s involved in posing questions to better diagnose the problem, – on average – salesmen were significantly giving a poor performance. At problem projection, the average score of each KPI was acceptable or higher. Although salesmen scored high on the capability to understand someone else’s point of view, they could improve in better summarizing the matter and – again – posing good questions in order to aid the customer in gaining a better understanding of the problem during the conversation. In resolving the problem, the salesmen also scored acceptably or higher. However, they do a lesser job in providing pros and cons of the proposed solutions. With an average score of 1.9 the factor ‘Closing’ scores worst, by far. The salespeople studied scored just acceptable on summarizing the proposed solutions at the end of the conversation. The score was very poor to poor on the remaining two KPI’s that tested the salesman’s controlling behaviour with regard to satisfaction of the answers provided and ruling out further questions. With a score of 1.1 on ‘asking if there are any further questions’ it is fairly safe to say nearly no one took this controlling measure. This is quite alarming as this is a key moment in the customers’ satisfactory evaluation process. When customers get the opportunity to think things over and say they do not have any further questions, they subconsciously signal themselves that they have no unresolved concerns about the initial problem. This allows them to get peace of mind without having any residual anxiety over having forgotten something (Gilge, 2011). The results also give insight in the extent to which a salesman is bringing on next steps. As the main service of an advisory office is giving consults, most salesmen were actively proposing a customary first meeting free of charge. At the same time, they only scarcely inquired for contact details. The KPI’s concerning the willingness to do business and recommending the particular office to others held by the final factor ‘Overall Satisfaction’ resulted an acceptable to good average performance with no remarkable outliers.

As this study investigates the personal selling effectiveness, it is of particular interest to this thesis to define the individual differences and performance drivers of the salespeople studied. For this reason, we performed a second analysis on the differences between good and less effective salespeople. In particular, the second study goes beyond the factors investigated in the first study and addresses the differences in linguistic style of good versus bad sales conversations.

3.3. Study 2 – Linguistic bases of effective selling

That selling is inherently rooted in communication is quite clear. In customer-oriented selling, the focus is on addressing the need of the customer and not on the product offered by trying to help their customers make purchase decisions that will satisfy customer needs (Saxe & Weitz, 1982). Salespeople who are less effective in customer-oriented selling would use a different behavioural approach in both listening and talking. Effective salespeople would be skilful in the production and reception of messages identifying and addressing the need of the customer whereas less effective sales people would put more emphasis on their product and its attributes. The difference between a ‘What can I sell this individual?’-conversation and a ‘How can I best solve this person’s problems?’-conversation is vast. Whereas the first behaviour is focussed on making short-term sales and the latter on building long-term relationships, accompanied by a mutual benefit of the selling relationship. Of particular interest to this dissertation is whether this difference in approach would also be visible in terms of word-use and linguistic style. Naturally, people differ in linguistic style, but could word-use be a predictor of sales effectiveness? This study assesses whether effective salespeople might have similar linguistic styles.

After collecting the results of the KPI analysis, where each KPI was coded with a score from 1 (very poor) to 5 (very good). The means of each conversation were used to select the top fifty and bottom fifty sales performances and enable analysis of the differences between the two groups. After this selection was made, the conversations were transcribed in order to conduct linguistic analysis. To analyse the linguistic styles of effective salespeople, the Linguistic Inquiry and Word-Count (LIWC) software was used (Pennebaker, Booth, & Francis, Linguistic Inquiry and Word Count: LIWC 2007, 2007). The software and its word categories are described in the next paragraphs.

3.3.1. LIWC Software

The computerized text analysis program compares the words in the input file with its dictionaries, containing a total of 6600 words. A dictionary refers to the collection of words that define a particular category. These categories, over sixty in total, range from rather straightforward to more abstract. For example, whereas the category ‘Articles’ consists of “de”, “het” and “een”, the category ‘Positive Emotions’ is more subjective. So when text files enter the program, a word by word comparison is made by testing the prevalence of the specific words with the available dictionaries. LIWC would calculate the percentage of words that fall in a particular category. For example, when scanning a text file, the program output states that 3% of all words spoken were articles and 5% of the words were past tense words.

The more subjective LIWC dictionaries like 'positive emotions' are formed by using human experts to evaluate the words that are suited for this category. At the initial stage of word selection, words were subtracted from dictionaries, thesauruses, questionnaires and lists made by research assistants (Tausczik & Pennebaker, 2010). After this initial selection, three human judges independently evaluated whether a word candidate could be classified in the specific overall psychological category. A word remained in the category, was deleted from the category or added to a category if at least two out of three judges concurred. Then at the final stage, another three judges were used to approve of the selection made and resulted in a correspondence of 93% to 100%. After constant improvement and development of newer versions for over a decade, the most recent version of the software has been released in 2007. LIWC software recognizes 80% of the words in an average text file, the other 20% consists of low frequency words and proper nouns.

The LIWC dictionary stands out from other dictionaries because of its vast selection of and focus on psychological categories. The internal reliability of the software is confirmed by using a reliability coefficient, which measured the correlation of words within the same category (Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007). According to Pennebaker & Francis (1996) several scholars testing the validity of the software, indicated that LIWC successfully measures a wide range of psychometrics and cognitive strategies. In addition to this, due to the fact that all recordings were in Dutch, the availability of a Dutch dictionary was an absolute necessity and another reason for the choice of LIWC.

Also, a word can be classified in multiple categories, for example, the word 'analyse' is classified in 'present' (tense), but also in a subcategory of 'cognitive mechanisms' labelled 'insight'. In language, two broad categories of words exist that have very different psychometric and psychological properties. *Content words* are words that give information about what you are saying (generally nouns, verbs and adjectives) and *Function words* (or style words) are the words that are used to form the sentence and tells something about how you are communicating in order to make sense of the nouns and verbs. The average Dutch vocabulary consists of about 100.000 words, of which only about 500 are function words. However, on average, 55% of the words we use and come across are function words. Even the processing of function words in the brain follows a different path compared to content words (Miller, 1995). Thus, the linguistic style of an individual is mainly depicted by the selection of function words used to explain and make sense of the content.

3.3.2. LIWC's Independent variables

Whereas at the results from the KPI analysis form the dependent variable 'Sales performance', the LIWC linguistic categories act as the independent variables. A discussion on these word-categories is provided below.

3.3.2.1. *Linguistic Processes*

As discussed before, some LIWC categories are mainly grammatical. These are held by the overall group of 'linguistic processes' and contain all function words such as pronouns, auxiliary verbs, prepositions, articles, and conjunctions. Next to function words also common verbs and the different tenses are incorporated in the linguistic processes category. Finally, the category also holds somewhat more general linguistic metrics like 'Word count', 'Words per sentence', 'Dictionary words' (the percentage of all words captured by the program) and 'Words>6 letters'.

3.3.2.2. *Psychological Processes*

The second major group, and corner stone of the program, *Psychological processes* contains an extensive collection of words that are in some way linked to a psychological process. More than 3500 words are divided in six broad categories which are Social processes, Affective processes, Cognitive processes', Perceptual processes', Biological processes and Relativity.

'*Social processes*' contains a large group of words that signal human interaction held by subcategory Communication (e.g. talking, communicating, sharing) as well as all References to others (e.g. they, friend, mother, adult).

'*Affective processes*' contain all words linked to cues of expressing emotion, divided in Positive emotions (e.g. fortunate, thankful, sweet) and Negative emotions (e.g. sad, annoyed, worried).

'*Cognitive processes*' hold word categories signalling a thinking process. The category of Cognitive mechanisms consists of the subcategories Insight (e.g. think, know, consider), Causal reasoning (e.g. because, effect, hence), words that demonstrate a Discrepancy (e.g. would, could, should), words that denote Tentativeness (e.g. maybe, perhaps, likely), words that express Certainty (e.g. absolutely, always, never) and Inhibition (e.g. block, stop). Based on the LIWC 2007 description, the category of Cognitive processes, also contains words that indicate differentiation, classified as Exclusive words (e.g. but, without, excluding) and words that signal integration of matters, classified as Inclusive words (e.g. also, with, and).

The fourth group of psychological processes is formed by words that indicate all '*Perceptual processes*' held by subcategories See (e.g. look, sight, glance), Hear (e.g. listen, spoke, called) and Feel (e.g. pressed, grab, touch).

The next psychological category is formed around topics that suggest any ‘*Biological processes*’ are taking place (e.g. eat, blood, pain).

The final category ‘*Relativity*’ consists of words that have anything to do with Motion (e.g. go, arrive, car), Space (e.g. down, in, thin) and Time (e.g. end, now, until).

3.3.2.3. *Personal concerns & Spoken categories*

Next to basic linguistic and cognitive processes, the authors wanted to include a group of words by means of which the prevalence of certain personal topics could be derived. The group ‘*Personal concerns*’ consists of categories related to Work (e.g. career, colleague, contract), Achievement (e.g. earn, win, reward), Leisure (e.g. cook, chat, movie), Home (e.g. apartment, house, live), Money (e.g. earn, profit, save), Religion (e.g. pray, god, meditate) and Death (e.g. mourn, fatal).

The final group contains ‘*Spoken categories*’ such as Assent (e.g. agree, yes, ok), Nonfluencies (Uh, Ehm, hmm) and Fillers (I mean, you know).

3.3.3. Method

After the division was made between the top and bottom rated conversations, the means were linked to the LIWC output in order to conduct further analysis. This enabled us to get insight in the differences between high and low performance and the underlying commonalities within the groups.

Table 2 – Pearson Correlation

Independent variables	Correlation	Significance level
<i>LIWC categories</i>		
Word Count	0,542	**
Words Per Sentence	0,206	*
We	-0,226	*
Assent	-0,275	**
Cognitive Mechanisms	0,425	**
Insight	0,407	**
Discrepancy	0,289	**
Certain	-0,227	*
Feel	0,200	*
Social	-0,314	**
Communication	-0,379	**
Past	0,218	*
Down	0,339	**
Exclusive	0,352	**
Man or Woman	0,325	**

* $p < 0.05$; ** $p < 0.01$

Due to the large number of variables in the data obtained through the use of LIWC 2007 software, a reduction of dimensions was needed. For this reduction we used a stepwise method. First the significant and relevant correlations between the dependent (Sales Performance) and the various independent variables, more than 60, have been filtered out through the use of the Pearson’s correlation test and an independent T-test between groups. The second

step in dimension reduction is performing a Principal Component Analysis (PCA). This dimension reduction is further analysed by performing multiple regressions.

3.3.4. Results

The first reduction of variables obtained by performing a Pearson Correlation test (see *Table 2*) and an independent samples t-test, leaves us with 15 variables. Each of these variables has a significant correlation with the dependent variable (sales performance) and a significant difference in the mean between the good and bad sales performance group.

The goal of the PCA is to find out if there is an underlying factor that influences the sales performance. The number of factors obtained through the PCA was five components; this is based on Eigenvalue greater than 1 criterion. Furthermore, the Kaiser-Meyer-Olkin Measure (0.621) and Bartlett's Test (sig 0.000) gives us enough confidence about this PCA. The cumulative sums of squared loadings (66.5%) could be higher, but it is still satisfactory. Based on this PCA, several relevant variables have been assigned to the various principal components using the rotated component matrix and pattern matrix.

After the reduction of dimensions the next step concerns drawing out relationships between the principal components and the dependent variable. Due to the fact that the weights of the different variables are unequal, we performed multiple regressions to obtain the weights for the different variables in each principal component.

$$\text{Weight of } X \text{ in Component } A = \frac{\text{Standardized Beta of } X}{\text{Sum of all the significant Standardized Beta in the regression}}$$

All the standardized Beta's used in the calculations were significant. Only Component 5 has been calculated differently, due to the fact that the main component of Component 5 is a dummy variable. After obtaining the weights for every relevant variable the score for a component has been calculated by multiplying the weights of the relevant variable by the standardized value of that variable. The use of the standardized value is due to the huge difference in scales of the data. Through the use of standardized value it is possible to compare each value and obtain a more representative picture.

The last step in this analysis is using a stepwise binary logistic regression model. The choice for a binary logistic regression model instead of a linear regression model is based on occurrence of

heteroscedasticity in the residuals of such a linear regression. This could be attributed to the distribution of the dependent variable.

The stepwise binary logistic regression model which we used was a Wald forward stepwise model. According to the Hosmer and Lemeshow test, Chi-square test this model has a satisfactory robustness. The overall correct prediction percentage of this model at the last step is 71,3% which is better than without the model. The biggest predictor of Sales performance according to this model is Component 2 (Beta of 1.69), followed by Component 4 (1.41) and then Component 1 (-0.88). Component 5 was almost significant in the last step of this model, sig. of 0.051. This means that only Component 3 has no significant effect or relation with the dependent variable whatsoever. Results of the analyses are summarized in *Table 3 & 4* below.

Additional results of the statistical analyses can be found in *Appendices C, D and E*.

Table 3 - PCA - Pattern Matrix (Components based on Eigenvalue >1)

Variable	Component				
	1	2	3	4	5
Communication	-0.82	-0.17	-0.06	-0.23	-0.13
Social	-0.82	-0.08	-0.02	-0.08	0.16
We	-0.65	0.21	0.23	0.09	0.12
Cognitive Mechanisms	0.02	0.91	-0.01	-0.01	0.02
Discrepancy	-0.09	0.81	0.04	-0.07	-0.16
Insight	0.15	0.67	-0.09	-0.07	0.11
Past	-0.05	0.64	0.09	0.03	-0.06
Exclusive	0.07	0.43	-0.41	0.11	0.11
Certain	-0.08	0.06	0.88	-0.02	0.02
Assent	-0.07	-0.05	0.86	-0.07	0.01
Down	0.25	-0.17	0.04	0.83	0.05
WC	0.18	0.23	-0.20	0.61	-0.19
WPS	-0.27	0.01	-0.42	0.49	-0.09
Feel	-0.03	0.12	0.32	0.25	-0.76
Man or Woman	0.19	-0.03	-0.34	-0.18	-0.74

Rotation Method: Oblimin with Kaiser Normalization.

Bold indicates that this item loads onto the component given in the corresponding column

Table 4 - Step-wise Binary Logistic Regression

		Variables in the Equation					95% C.I.for EXP(B)		
		B	S.E.	Wald	d f	Sig.	Exp(B)	Lower	Upper
Step 1 ^a	PC2	1.64	0.40	16.85	1	0.00	5.17	2.36	11.34
	Constant	0.06	0.23	0.06	1	0.80	1.06		
Step 2 ^b	PC2	1.54	0.44	12.28	1	0.00	4.65	1.97	10.98
	PC4	1.83	0.56	10.80	1	0.00	6.21	2.09	18.45
	Constant	0.18	0.27	0.49	1	0.49	1.20		
Step 3 ^c	PC1	-0.88	0.40	4.85	1	0.03	0.42	0.19	0.91
	PC2	1.69	0.48	12.54	1	0.00	5.41	2.12	13.77
	PC4	1.41	0.58	5.98	1	0.02	4.09	1.32	12.66
	Constant	0.06	0.28	0.04	1	0.84	1.06		

a. Variable(s) entered on step 1: PC2.

b. Variable(s) entered on step 2: PC4.

c. Variable(s) entered on step 3: PC1.

Table 5 – Latent variables of significant components

PC1: Socialization	PC2: Cognition	PC 4: Verbal Production
Communication	Cognitive Mechanisms	Down
Social	Discrepancy	Word Count
We	Insight	Words per Sentence
	Past	
	Exclusive	

As seen in *Table 5*, a representation is given of the significant components including the corresponding variables that load the specific component. A latent variable is inferred from each component based on the apparent common denominator. The least contributing component (PC1) holds the variable ‘We’ and also consists of two variables that are associated with social processes (Communication and Social). Hence PC1 is labelled ‘*Socialization*’. PC4 brings a fair contribution and mainly consists of two basic linguistic measures Word Count and Words per Sentence and says something about the degree of loquaciousness of the salesman. Due to the very low means of the variable ‘down’ (0.01; 0.07) PC4 is labelled ‘*Verbal Production*’. Component two is the biggest contributor among all components and on first sight contains a significant amount of variables indicating cognitive processes (Cognitive mechanisms, Discrepancy, Insight and Exclusive). It also holds the variable ‘Past’. This component is labelled ‘*Cognition*’.

As the goal of this thesis is to unveil the less superficial linguistic markers of sales performance, components ‘Cognition’ and ‘Socialization’ really sparked our interest. Due to time and space limitations and the curiosity to further investigate antecedents of high sales performance rather than low, the focus of this thesis will be laid on the effects of ‘Cognition’ on sales performance.

Chapter 4: Pattern

After observing the results, it is plausible that the use of words signalling a cognitive process is related to skilful selling behaviour. But what does this exactly mean? How does a salesman's cognition relate to sales performance? The next part of this dissertation will cast a view at the literature on cognition in relation to successful (customer-oriented) selling as expressed by the use of words.

4.1. Linguistic Markers of Effective Selling

In the following chapter, to further analyse the linguistic variables found, each variable will get exposure on its suggested positive relation to the performance of the salespeople that participated in this study. Please take into account the salesmen in this study are mortgage consultants whom are confronted with a 'problem' cued by a mystery caller. The complexity of the 'product' lengthens the phase of problem definition and the necessity of providing a careful explanation.

4.1.1. Cognitive Words in Selling

As discussed before, 'Cognitive processes' hold word categories signalling a deeper thinking process. LIWC's representation of the category cognitive mechanisms is modular and consists of eight subcategories. Although some cognitive subcategories showed a non-significant correlation with sales performance, the overall category of Cognitive mechanisms is found to have a significant positive correlation with the dependent variable (0.425; 0.001). However, certainty words – a subcategory of cognitive mechanisms – represented by words such as *sure*, *absolutely*, *yes* has a weak downhill negative relationship with the dependent variable (-0.227) and ended up to be part of a non-significant component (PC3). In an effort to gain a better insight into the significant cognitive antecedents of this study's effective sales performances, analysis of the variable 'Cognitive mechanisms' will also include an explanation of the seemingly opposing variable 'Certain'. Although the use of certainty words has been found to be related to coming across as intelligent and confident (Greve & Funder, 2006), a possible explanation for the negative relationship with the dependent variable is that the use of certainty words could also be a marker of cognitive rigidity. That is, language that reflects inflexibility, resoluteness, completeness and omniscience (Hart & Jarvis, 1997) Although we are dealing with a complex product, when the use of certainty words by the salesman is out of balance it would of course be harmful for the selling relationship. Next to this, the use of certainty words has also been linked to situations where interlocutors both recognize the conversation is going nowhere. During such a 'recognized miscommunication' it is common to use

words such as 'sure' and 'yes' in order to wrap up the conversation (Roche, Paxton, Ibara, & Tanenhaus, 2013).

Next to the umbrella category of cognitive mechanisms, its subcategories insight (0.407; 0.001) and discrepancy words (0.289; 0.003) also positively correlate with sales performance and altogether loaded onto PC2. Words in the category insight are suggestive of a thought process and indicate the learning or understanding of environmental cues. Also, when reconstructing a story, people tend to use more insight words (Boals & Klein, 2005). This could mean that a story (e.g. sales pitch) has already been formed in memory and that this knowledge is well-structured.

Words categorized as discrepancy represented by words such as expect, need, should may indicate determination and desires for the future (Mahmud, 2014). The use of discrepancy words is also associated with verbal immediacy. Verbal immediacy says something about the level of an individual's psychological engagement towards the topic reflected in terms of language use (Cohn, Mehl, & Pennebaker, 2001; Pennebaker, Mehl, & Niederhoffer, 2003; Wiener & Mehrabian, 1968). According to the authors, discrepancy words signal an experiential tone relative to a rational tone. Addressing the customer in this way conveys professionalism and may assist the salesperson in building trust in this early stage of the relationship.

The use of words classified as cognitive mechanisms, insight and discrepancy all are linked to the concept of cognitive complexity in literature (Tausczik & Pennebaker, 2010; Slatcher, Chung, Pennebaker, & Stone, 2006);

Moreover, in a study performed on word use in relation to influence behaviour, the use of insight and discrepancy words were the two biggest positive cognitive predictors of influencers in an online social environment (Twitter) (Mahmud, 2014). Effective influence behaviour and effective selling intuitively have much in common and supports the finding that the use of these cognitive words may be relevant to sales performance.

4.1.2. Differentiation between constructs

The word category of exclusive, representing words such as but, without, excluding signal the making of a distinction between different constructs or categories are indicative of a deeper thought process. The skill of differentiating between different concepts in order to structure the listeners mind in terms of what lies within a given domain and what does not. The use of exclusivity words is widely recognized as an important indicator of an individual's linguistic or cognitive complexity. To give an example of the effects of exclusive words from the transcripts:

*Bij je bestaande adviseur, **tenzij** je zegt ik wil daar helemaal niet meer naartoe, daar is een hersteladvies in eerste instantie kosteloos, **maar** als je naar een andere adviseur gaat dan zijn daar kosten aan verbonden.*

In above example a customer is considering a switch of mortgage broker. Here, by using 'tenzij' (unless) and 'maar' (but) the mortgage broker accounts for different possible situations in relation to the customer's perspective. This adds to the integrity of the given advice and is linked to better sales performance in this study. As the use of exclusive words provides insight into the complexity of the salesperson's linguistic constructs, it is also indicative of people telling the truth (Newman, Pennebaker, Berry, & Richards, 2003). Because telling a false story is a highly cognitively complex task, in deceptive behaviour, one reserves a large part of their available cognitive load for telling and framing the lie. In this, it would be very hard to also include additional information about something that is not true. On top of that, it would also increase the chances of telling an inconsistent story. This is a keen example of how someone may subconsciously 'leak out' their incentives through the use of language. This would certainly not suggest that less performing salesmen are telling a lie, more so that – according to this study – good performing salesmen use more exclusive words which could help them to come across as being more truthful and hence lead them to gain more respect.

4.1.3. Use of Past Tense

The final linguistic marker associated with PC2 is the use of verbs past tense. Although it has been paired with the cognitive linguistic markers in the factor analysis, the use of past tense seems somewhat distanced from the concept of cognitive complexity. The Pearson Correlation showed a significant weak positive uphill relationship with sales performance (0.218; 0.029). A possible explanation for its linearity with the cognitive linguistic markers of sales performance might be that good salesmen would both be interested in customers' past experiences and elaborate on past experiences with references to the past.

However, there is more, the use of past tense verbs could also aid their professional representativeness. In research in the field of social cognitive sciences it has been found that the use of past tense indicates the creation of psychological distance which serves as a marker of politeness (Brown & Levisson, 1987). Greater temporal distance is associated with more politeness because it is more abstract and indirect. For example, "what was your name" would be more polite than "what is

your name". The latter is more confronting. Using the past tense in this example signals that one knows the other might already mentioned his / her name and conveys more politeness.

The Construal Level Theory (CLT) states politeness and hence more abstractness in the use of language is associated with high levels of construal thinking which essentially argues that temporal distance influences an individual's cognitive perception of the same event (for a detailed discussion on construal level theory see (Trope & Liberman, 2003; Liberman & Trope, 2008; Liberman, Trope, & Stephan, 2007). Whereas concrete, detailed and contextual information (e.g. by talking in present tense) provokes proximity and leads to low-level construal thinking (e.g. switching from mortgage broker), abstract and distal cues (e.g. talking in past tense) creates a psychological distance and generates high-level construals (e.g. desire to finish mortgage repayments at retirement). Because the direct, present tense approach focussed on the short term, proximity situation is easily perceived, it enables an individual to make better judgements and increases analytical problem solving skills compared to a distant high-level construal. This is because distal stimuli cannot be experienced directly, they are mentally construed. Abstract representations cannot be perceived and thoroughly analysed but are imagined, remembered and predicted generating a sense of improbability and distance (Forster, Friedman, & Liberman, 2004; Nan, 2007; Wakslak & Trope, 2008).

As the framing of information in past tense leads to politeness and abstract thinking – connoting social distance – it enables the salesperson to influence social distance (already present at a first acquaintance), transcend their knowledge and engage in effective referential communication. Following this line of reasoning, Nan found that the persuasive impact of a gain frame increases when temporal or psychological distance (politeness) towards a social entity (e.g. salesman) is greater. (Stephan, Liberman, & Trope, 2010). Hence, the use of past tense in a sales context would be beneficial for persuasiveness and may subsequently lead to a better sales performance.

Moreover, in an early study in the field social cognitive sciences in writing concerning interpersonal cognitive complexity and abstractness and the quality of students' persuasive writing, high levels of abstractness in writing were both positively related to better strategic adaptation to the target-reader, appropriateness of tone and overall persuasive writing quality (Piché & Roen, 1987). Importantly, the findings of this study also found a clear relationship between cognitive complexity and abstractness and supports our findings of the relatedness between the concept of cognitive complexity and abstractness as indicated by the use of past tense.

In short, the use of past tense has much richer opportunities than solely situating the use of the verb in the past.

4.2 Linguistic Markers of Cognitive Complexity

After describing all linguistic markers found that were grouped together in principal component two initially labelled 'cognition', there is an evident conclusion to draw. All cognitive markers of high sales performance found (cognitive mechanisms, insight, discrepancy and exclusive) are theoretically linked to cognitive complexity. In addition to this, when analysing the remaining linguistic category 'past' we found an interesting relationship between social distance and abstractness. Since abstractness is profoundly linked with cognitive complexity, a clear pattern emerges which leads us to safely assume the finding of linguistic markers of cognitive complexity.

Since this marker is found in relationship with high sales performance in the Dutch mortgage market, the next task is to further explore the relationship between cognitive complexity and effectiveness in selling.

Chapter 5: Linguistic Cognitive Complexity and Adaptive Selling

There has been done extensive research on cognitive complexity in relation to effective sales performance and customer-oriented selling. Up until now, linguistic markers of the cognitive antecedents of effective customer-oriented selling have not yet been explored. This dissertation addresses this gap in literature.

As this study inductively provides some early evidence that linguistic markers of cognitive complexity might be effective indicators of successful customer-oriented selling, in this chapter a more deductive approach is taken in an effort to position this finding in existing literature on cognitive complexity and personal selling.

This chapter will be concluded with linking the found linguistic measure of cognitive complexity to *Adaptive Selling*, the widely acknowledged form of effective selling behaviour.

5.1. Conceptualizing Personal Selling

Personal selling is conceptualized by (Weitz, Castleberry, & Tanner Jr., 2004) as an “interpersonal process whereby a seller tries to properly identify and satisfy the needs of the customer in a mutually, long-term beneficial manner suitable for both parties”. This way of selling depends on successful interpersonal communication between a buyer and a seller with a view to achieve mutual goal fulfilment through social interaction (Webster Jr., 1968; Williams & Spiro, 1985). From a seller’s perspective, personal selling is a two-way interpersonal process which involves the use of persuasive communication.

Personal selling is critical for any business as sales representatives are identified as being among the most important relationship building communicators in a business organization. With the growing tendency to apply *relationship marketing* – the focus of marketing activities on establishing, developing, and maintaining cooperative, long-term relationships (Morgan & Hunt, 1994) – the role of the salesman has also changed over the years from provider to value creator, as argued by (Wotruba, 1991). Whereas the traditional salesman was focussed on making short-term sales, the emphasis has shifted to building and maintaining a sustainable and long-term relationship with the customer. As organizations evolved to emphasize a more *customer-oriented* approach – the degree to which a salesperson is trying to help the customer make purchase decisions that will satisfy customer needs (Saxe & Weitz, 1982)– next to meeting the customers’ product requirements, considering and evaluating the sales process requirements is equally important (Szymanski D. M., 1988). For example, when a customer does not have the entire say in acquiring a good or service (e.g. discussing a switch of mortgage broker with one’s spouse), trying to push in closing the sale would reduce the chances of making a sale. Keeping in mind this dual dimension of need gratification is key

to effective personal selling. In other words, a salesperson's task involves more than merely offering a product or service.

In personal selling, the salesperson's foremost task is to skilfully engage in effective communication. To do this, first, a salesperson needs to effectively collect cues and impressions of the customer. Social psychology regarding social perception argues that in any interaction, the more knowledge someone has about the beliefs, intentions and preferences of an interlocutor the better he can participate in effective interpersonal communication (Steiner, 1955). Putting to use this skill of social perception is very relevant in the sales process since acquired information about the customer and the specific sales situation is key in choosing an appropriate selling strategy. For example, selling to customers with differing personalities (e.g. risk-averse / dominant) in a specific selling environment (e.g. new vs. existing customer) ask for a different selling approach. This chosen strategy will be leading for the development and transmission of persuasive messages. And because of the dynamics of a social situation, this will be a circular process where the reactions of the customer are to be evaluated and subsequently communication has to be appropriately adjusted during the course of the conversation.

5.2. The Cognitive Selling Paradigm

Unravelling the antecedents of sales performance has intrigued both scholars and practitioners for many years. Early research has focussed on the effects of personal (motivation, aptitudes, skill levels and role perceptions), environmental (competition, economic situation and sales potential) or organizational factors (corporate culture, supervision and support mechanisms) (Churchill, Ford, Hartley, & Walker, 1985). Churchill and his co-authors conducted a meta-analysis of 70 years and ended with the statement that salesman's aptitude seems promising. With this borne in mind, after decades of uncovering only marginally contributing variables and failing to underpin the most important determinants of effective sales performance, a shift to investigating personal selling spheres was suggested (Szymanski 1990). In particular, the cognitive component of a sales person's effectiveness in selling became a popular domain among leading researchers. This movement to the domain of cognitive sciences includes research that is "a contemporary, empirically based effort to answer longstanding epistemological questions - particularly those concerned with the nature of knowledge, its components, its sources, its development and its deployment" (Gardner, 1987, p. 6). Thus, the 'cognitive selling paradigm' focusses on linking selling behaviour to salespeople's underlying knowledge structures and thought processes (Porter & Inks, 2000). In the past three decades, many scholars have contributed to this still growing line of research (Weitz, Sujan, & Sujan,

1986; Leigh & McGraw, Mapping the Procedural Knowledge of Industrial Sales Personnel: A Script-Theoretic Investigation, 1989; Szymanski & Churchill Jr., 1990; Porter & Inks, 2000).

5.3. Knowledge Structures and Effective Selling

(Marshall & Michaelis, 2001) state that studying the cognitive structures of salesmen belong among the most promising conceptual foundations for the future of research in effective selling.

A person's knowledge structure is composed out of two components, a declarative and a procedural component. Declarative knowledge consists of a set of situational cues and domain specific information (e.g. customer types, selling situations) in order to recognize and properly classify prospects and selling situations. Procedural knowledge consists of a set of heuristics determining what influence technique and selling routines to use with each type of customer (e.g. sequence of events in an initial sales call) (Leigh & Rethans, 1984; Weitz, Sujan, & Sujan, 1986; Porter & Inks, 2000). Research on declarative knowledge in the context of chess performance of experts (including some chess Grand masters) versus novices (the nonexperts) was conducted by De Groot (1965). In the experiment, both experts and novices were shown an actual chess composition for five seconds. After this, they were asked to re-create the composition of the pieces from memory. Whereas players below expert level appeared to be unable to do this, experts showed – on average – a nearly perfect reconstruction of the game displayed. Note that expert players are expected to have a total of around 50.000 chess arrangements stored in memory (Simon & Schaeffer, 1992). However, when the pieces were randomly distributed across the board, experts and novices appeared to be almost identical in their ability to recreate the arrangement from memory. This indicates that individuals draw from their prior knowledge by recognizing familiar patterns stored in memory. Consequently, less performing individuals are still in the process of building and reorganizing their knowledge which causes them to take a less organized approach and perform worse in complex problem-solving tasks than more skilled individuals (De Groot, 1965; Chase & Simon, 1973; Shepherd, Gardial, Johnson, & Rentz, 2006)

Sales research in declarative knowledge found that high performing salespeople have richer and more interrelated declarative knowledge structures regarding customers' needs and customer types than their less skilled colleagues (Szymanski D. M., 1988; Sujan, Sujan, & Bettman, 1988). The authors also investigated procedural knowledge of low and high performing salesmen and found that customer categories of effective salespeople contained both more sales strategies and information about customers. In other words, the selling scripts of effective salespeople (procedural knowledge)

are found to be more elaborate, distinctive and hypothetical than less performing salespeople (Leong, Busch, & Roedder John, 1989; Shepherd, Gardial, Johnson, & Rentz, 2006)

With regards to cognitive complexity, researchers found a significant relationship between cognitive complexity and the ability to (1) perceive and define a sales situation (2) effectively process customers' impressions and establish a frame of reference from prior knowledge (3) know which next steps are to be taken in the situation encountered (Foss & Stenvold, 1994). This indicates that more elaborate knowledge structures in terms of declarative and procedural knowledge are associated with cognitive complexity and effectiveness in sales.

5.4. Constructivism & Cognitive Complexity

Constructivism is a popular communication theory and was first mentioned by Kelly (1955) introducing the Personal Construct Theory. This theory is based on the notion that as people socially interact they form interpretations of the world around them in ways of grouping events and experiences based upon differences and similarities. The abstract impressions formed about a social situation or individual (e.g. nice, tall, etc.) construes a mental representation of that individual, referred to as a personal construct. The basis of constructivist theory is that the human being is wired to and relies on cognitively making sense of the environment thus not being able to directly confront with reality, but always through his / her interpretive schemes (O'Keefe, Delia, & O'Keefe, 1980; Meredith, 2009). Said differently, in order to understand and interpret impressions concerning social interactions – or the environment in general – people process information by relying upon existing knowledge structures. However, as said before, this can only be an interpretation of reality as one's intentions and attitudes cannot be perceived directly (Delia, A construct analysis of the concept of credibility, 1976).

As knowledge and communication are fundamental to us, constructivism theory has been a popular stream of research and is highly influenced by research in the field of psychology, social psychology and research in cognitive structures within the field of cognitive sciences. Cognitive structures allow an individual to define situations, create perspectives of others and manage the forming of shared knowledge, meaning and social behaviours when interacting and communicating with others. These cognitive structures are the foundation of someone's ability to develop heuristics about someone or about certain behaviour and consequently provides guidelines and general rules that can be put to use in predicting behaviour and choosing communication strategies within various social contexts. A person's construct system will be leading in generating interpersonal judgements about others.

One of the most studied outcome variables regarding a person's knowledge structures has been *cognitive complexity* which essentially argues that individuals differ in their ability to perceive and process social cues. This social-cognitive ability referred to as cognitive complexity is understood as an information processing variable that indexes the level of sophistication with which individuals discern and process information about the social world (Samter, 2002). Constructivists use Crockett's (1965) Role Category Questionnaire (RCQ) as the central measure for cognitive complexity. This measure captures the complexity of constructs about others when people are asked to generate impressions about individuals they know. These impressions are then scored by trained coders for construct system qualities such as differentiation, abstractness and organization (for a detailed discussion on RCQ see Burlison & Waltman, 1988). For example, consider someone who at one point displays positive behaviour (helping out others with their homework, supporting a friend after his / her breakup), but at other times has the tendency to display negative behaviour (participating in making fun of someone, talking bad behind someone's back). Some people will use only half of this information and decide this person is either good or bad. Others will use all the information but will not be able to form a conclusive opinion about what really leads to this person's behaviour and decide he or she is incalculable. Other people will be able to explain the variations in this person's behaviour by perhaps linking it to the trait of 'insecurity' to the point that this individual will likely display behaviour that conforms to the behaviour of the group. This latter explanation is indicative of more capability in the abstract and differentiated distillation of social behaviour, strikes most people as being more revealing and insightful and conforms with higher levels of sophistication and cognitive complexity.

Generally speaking, the more differentiated and abstract a person's system of constructs is, the more cognitively complex a person is considered to be. *Differentiation* refers to the amount of constructs a person uses to describe the situation. People with better differentiation draw from multiple sources of knowledge to describe a situation in terms of recognizing existing similarities and differences in the social and contextual situation. *Abstractness* refers to the conceptual quality of a construct, from non-abstract or concrete behavioural constructs to more abstract psychological and motivational constructs with increasing comprehensiveness and less global evaluations (Delia, O'Keefe, & O'Keefe, 1982). Both abovementioned concepts of cognitive complexity are linguistically linked to sales performance in this study, differentiation is depicted by the use of *exclusive words* (e.g. unless, but) and abstractness is indicated by the use of *past-tense*.

5.6. Persuasive and Person-Centred Communication

As mentioned before, abstractness and differentiation have been linked to higher levels of persuasiveness writing (Piché & Roen, 1987). Further research on cognitive complexity in communication has shown that cognitive complexity is related to a wide variety of communication-related abilities. Cognitive complex individuals are suggested to be skilled in acquiring and processing social information which positive impacts their ability of message production and message reception (Burlison & Caplan, 1998). Concerning message production, in routinely encountered social situations people can rely on simple, scripted message production (e.g. hello, how are you?) without taking into account the specific characteristics of the target audience. However, in challenging communicative tasks (e.g. persuading, informing, comforting) one can no longer rely on these automated scripts. In order to reach the specific communication goal (e.g. persuasion), consideration and awareness of the other's feelings, traits, knowledge and desires is required.

Piché & Roen already found that highly persuasive messages were more directed towards the perspective of the audience and the goals of the person to be persuaded. Less effective persuaders more often argued from their own perspective by demonstrating their own need. Consequently, it has been found that cognitively complex communicators are more likely to produce highly person-centred messages (Applegate, 1980; Burlison B. R., 1994). This makes sense from a cognitive perspective as the production of person-centred messages is a highly complex task because it requires the consideration and integration of multiple goals. In a sales context for example, the salesman has a primary goal of persuading, but in addition also has secondary goals such as making the communication target feel comfortable, respected and liked while expressing the willingness to get involved. A less cognitively complex salesperson might only focus on his primary goal, persuading the target to purchase the good or service (Burlison B. , 2007). Burlison (1994) has found that person-centred messages are more relevant to communication partners because they are tailored to the personality of the interlocutor and the contexts of the conversation.

5.7. Cognitive Complexity and Adaptive Selling

Building upon Thompson (1973), who argues that *"there is no one sales situation and no one way to sell"*, Weitz (1981, p. 89) assumes the interaction between sales behaviour and the sales environment on an individual level and proposes a contingency framework of salespersons' effectiveness. The main element of Weitz's framework is based on the notion that salespeople have the opportunity to adapt their behaviour to a specific customer and situation in order to maximize the effectiveness of the interaction.

Weitz broke new ground and paved the way for other research in the field of adaptive selling. Adaptive selling has been one of the most popular streams of research in personal selling. Personal selling provides the unique opportunity for salesmen to tailor-make their sales presentations for each customer and selling situation (Sujan, Weitz, & Sujan, 1988). After some scholarships provided support for Weitz' claim about the positive effects of creating and modifying a sales strategy to a specific customer, Weitz, Sujan & Sujan (1986) proposed the Adaptive Selling Framework (*Appendix F*). The authors defined adaptive selling as "The practice of altering of sales behaviours during a customer interaction or across customer interactions based on perceived information about the nature of the selling situation". Particularly important to the model is the moderating effect of the salesperson's capabilities on the effectiveness of practicing adaptive selling. The authors stress the need for salespeople of having "an elaborate knowledge structure of sales situations, sales behaviours, and contingencies that link specific behaviours to situations in memory". In order to utilize this knowledge, salespeople must also skilfully intercept cue's about the customer, categorize the selling situation in memory and apply similar situational knowledge to approach the current situation (Weitz, Sujan, & Sujan, 1986). Because a salesperson has to collect and process impressions, react and evaluate, adaptive selling is rooted in cognition. To be adaptive in selling salespeople use several cognitive heuristics and stereotypes to manage and process impressions in order to correctly classify prospects automatically. Hence, effective salesmen rely on categories contained in long-term memory to aid in processing the large amounts of differentiated information.

Related to this dissertation, research by Porter & Inks examines the practice of adaptive selling in relation to a salesperson cognitive complexity. In this study the authors use the 16-item 'ADAPTS scale' developed by Spiro & Weitz (1990), to measure adaptive selling. It measures five personal traits of adaptive selling including (1) Self-monitoring – 'degree to which they alter self-presentation' (2) Empathy – 'e.g. degree of perspective taking' (3) Androgyny – 'related to flexibility in interpersonal interactions' (4) Being an opener – 'being able to elicit information from the customer' (5) Locus of control – 'intrinsic reward orientation'. The cognitive complexity scores of a total of 161 industrial sales representative were compared with their predisposition to practice adaptive selling. Results show that the more cognitively complex a salesperson is, the more likely he or she is to practice adaptive selling.

In order to examine the relationship between adaptive selling and sales performance, a meta-analysis of 155 studies in the field of adaptive selling were combined by Franke & Park (2006). Interestingly, the results show that the practice of adaptive selling increases performance across all

three used measures of sales performance – self-rated, manager-rated as well as objective performance.

Moreover, in a mortgage market it would be very relevant to use adaptive selling as the benefits of adaptive selling would most likely outweigh the costs of putting extra effort into exploring and satisfying the needs of the customer. Hence, adaptive selling is most probable to occur here as argued by Giacobbe, Jackson, Crosby, and Bridges (2006) adaptive selling is most likely to occur when (1) product complexity is high (2) the range of alternatives and dependency on the knowledge of the salesperson are high and (3) the customer value is high (referrals, repeat sales). All these conditions are at effect in the Dutch mortgage market.

Chapter 6: Discussion, Limitations and Directions for Future Research

Previously mentioned person-centred communication (i.e. outcome variable of cognitive complexity) intuitively shares great similarities with customer-oriented selling used in this study. As said before, person-centeredness in communication has frequently been linked to increased adaptation to the target audience (e.g. the customer). Because the found linguistic markers of cognitive complexity in this study are linked to effective sales performance in terms of customer-oriented selling it can be said that these linguistic markers might also be indicative of effectiveness in adaptive selling, a widely acknowledged form of effective selling (Meredith, 2009).

As it is wise to reflect on the present study in order to make suggestions for improvement, limitations of this study will be provided. The database of conversations with mortgage brokers presented by EMIC research and consultancy hold an extensive collection of conversations. However, we suggest that the selection of 100 conversations may have caused the dataset to contain insufficient variation. In the future, a larger dataset could perhaps draft a more solid representation of the mortgage broker population. In addition to this, for similarity of conduct purposes, only the mortgage broking chains were selected. We assumed they all use similar selling scripts and thus would be generalizable. The same implication applies here, for the sake of better representation it might be better to also include privately owned mortgage broking offices.

Limitations also lie in the use of automated software. As the linguistic analysis with the use of LIWC software enables us to quickly assess the language of a sales script, it also has some obvious disadvantages. In comparison with human-rated cognitive complexity, for example, a word like “but” is also a marker of cognitive complexity, however, not in every case. When saying “I love to drink Coca Cola, but sometimes, when the sweetness hurts my teeth, I hate it”. ‘But’ in this sentence indicates the integration of multiple views in the topic discussed. On the other hand, when someone says “he loves to drink Pepsi, but that’s just stupid”. The ‘but’ in this sentence does not convey cognitive complexity at all, because it is just a black and white way to make a rhetorical point and connotes simplicity. Whereas human-rated cognitive complexity would easily make these distinctions, in the LIWC software both ‘but’s’ in this case would be registered as being cognitively complex. It is apparent that this limitation must have affected results in one way or another (Suedfeld, Tetlock, & Streufert, 1992).

A possibly fruitful direction for future research is investigating the relationship between the found linguistic markers of cognitive complexity and effective sales performance in adaptive selling. In addition to this, another possibility is a further investigation and application of the richness of the present dataset generated by EMIC Research & Consultancy in the Dutch mortgage broking market.

Chapter 7: Conclusions

The findings of this study show that efforts to pin down successful sales performance is a long road to success. As we have provided some proof that linguistic markers of cognitive complexity account for some variance in explaining sales performance, identification of an integral measure for effectiveness in selling remains to be a considerable challenge. If not impossible.

However, after other numerous studies investigated LIWC's linguistic markers in relation to effectiveness in other area's such as influence behaviour and psychology this study sheds some of the first light into the relatedness of the use of words and the practice of customer-oriented, adaptive selling and personal selling in general.

Despite the prevalence of research and the profoundly suggested relationship between cognitive complexity and effective selling behaviour such as adaptive selling, researchers have neglected the possibilities of a computerized measure of cognitive complexity in measuring sales effectiveness.

Concerning this, the contributions of this study to the field of personal selling are evident. As stated before, nowadays the time and money required to test an individual on his predisposition to the practice of adaptive selling is substantial. Indeed, with the use of human-coded tests of cognitive complexity the costs will likely outweigh the benefits.

With this being said, the present findings suggest that computerized testing cognitive complexity of a salesperson as marked by the language he or she uses, could yield interesting practical pay-offs. For example, when putting such a measure into practice in the selection of salesmen, by just using his or her application letter as input it could essentially say – in a split-second – how cognitively complex this individual is. This cost-effective practical implication of the LIWC software able to identify markers of cognitive complexity and perhaps a variety of other psychological traits that would interest the recruiters of business organizations has great potential.

In addition to this, the findings of this study could also assist the training of salespeople. Although cognitive complexity is person-bound and cannot be quickly trained, the found relationship between customer-oriented and adaptive selling to sales performance is still very relevant for sales practitioners. Training salespeople to focus on the needs of the customer in trying to help him or her make a purchase decision is an effective starting point to begin with.

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Appendix A Key Performance Indicators

KPI's Grouped per Factor (Verbeke & EMIC Research & Consultancy, 2014)

1. Attitude

- 1.1. The employee speaks loud and clear
- 1.2. The employee has a pleasant voice
- 1.3. The employee has a friendly and active attitude
- 1.4. The employee has a confident and thorough approach

2. Determining the Problem

- 2.1. From the first moment the employee lets me enounce my problem/pain in an inviting and non-interruptive manner
- 2.2. The employee poses clear diagnostic questions (open and closed) in order to determine the problem
- 2.3. The employee poses open questions at the right moment
- 2.4. The employee does not make assumptions
- 2.5. The employee actively listens to my questions and answers
- 2.6. The employee is a patient and empathetic listener
- 2.7. The employee is knowledgeable . This provided me the comfort and assurance to better formulate my problem.

3. Problem Projection

- 3.1. I better understand my problem as a result of the employee's good questions
- 3.2. I better understand my problem as a result of the conversation
- 3.3. The employee guided me through the interview process in a pleasant way.
- 3.4. After structuring the problem the employee makes a recapitulation of the matters discussed
- 3.5. The employee can imagine into my knowledge on the matter and does not use terminology Without an explanation

4. Resolving the Problem

- 4.1. The employee actively thinks along and makes an effort in resolving the problem
- 4.2. The employee proposes multiple solutions
- 4.3. The employee explains the solution using examples.
- 4.4. The employee clearly makes an effort in providing pros & cons of the proposed solutions.
- 4.5. The employee provides pricing information of the proposed solutions when asked for.
- 4.6. As a result of the interview my problem is resolved

5. Closing

- 5.1. The employee summarized the proposed solution(s) at the end of the conversation
- 5.2. The employee controls if the answer to my question is satisfactory
- 5.3. The employee controls if I have any further questions

6. Bringing on next steps

- 6.1. The employee asks for my contact details (when relevant)
- 6.2. The employee proposes a next step (talk or appointment)
- 6.3. The employee proposes this next step without exerting any kind of force

7. Overall satisfaction

- 7.1. I want to do business with this person
- 7.2. This person shows pride in his organisation
- 7.3. I think I am going to utilize the services of this advisory office
- 7.4. I would recommend this advisory office

Appendix B Average KPI Scores

KPI	Average (1-5)	Factor Average
1.1	4,4	4,3
1.2	4,1	
1.3	4,4	
1.4	4,1	
<hr/>		
2.1	4,6	3,8
2.2	2,6	
2.3	2,5	
2.4	4,2	
2.5	4,4	
2.6	4,1	
2.7	3,9	
<hr/>		
3.1	3,0	3,5
3.2	3,8	
3.3	3,7	
3.4	3,0	
3.5	4,2	
<hr/>		
4.1	3,7	3,5
4.2	3,1	
4.3	4,1	
4.4	3,0	
4.5	3,2	
4.6	3,7	
<hr/>		
5.1	3,3	1,9
5.2	1,4	
5.3	1,1	
<hr/>		
6.1	1,7	3,3
6.2	3,8	
6.3	4,4	
<hr/>		
7.1	3,5	3,7
7.2	4,2	
7.3	3,5	
7.4	3,5	

Appendix C

SPSS Output of T-test and Descriptive Statistics

Results of t-test and Descriptive Statistics L1WC categories by Sales Performance

	Sales Performance				95% CI for Mean		df		
	<3.2		≥3.2		Difference				
	M	SD	n	M	SD	n			
Word Count	329.56	248.26	50	648.18	290.88	51	211.75, 425.48	5.92**	99
Words Per Sentence	19.39	6.57	50	22.68	8.92	51	0.19, 6.38	2.10*	99
We	1.08	0.86	50	0.72	0.60	51	-0.66, -0.07	-2.47*	99
Assent	4.69	2.32	50	3.58	1.62	51	-1.90, -0.32	-2.80**	99
Cognitive Mechanisms	5.10	1.79	50	6.51	1.40	51	0.77, 2.04	4.41**	99
Insight	1.02	0.73	50	1.62	0.68	51	0.32, 0.88	4.29**	99
Discrepancy	2.52	1.09	50	3.16	1.00	51	0.22, 1.05	3.05**	99
Certain	5.13	2.12	50	4.22	1.70	51	-1.66, -0.14	-2.36*	99
Feel	0.02	0.07	50	0.06	0.12	51	0.00, 0.08	2.15*	99
Social	9.61	2.91	50	7.96	1.68	51	-2.58, -0.71	-3.50**	99
Communication	3.36	1.70	50	2.28	0.98	51	-1.63, -0.53	-3.93**	99
Past	0.94	0.66	50	1.28	0.75	51	0.06, 0.62	2.38*	99
Down	0.01	0.05	50	0.07	0.13	51	0.03, 0.10	3.30**	99
Exclusive	5.12	1.78	50	6.24	1.52	51	0.47, 1.78	3.41**	99

* $p < 0.05$

** $p < 0.01$

Appendix D SPSS Output Regarding Principal Component Analysis

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
MW	,51	,502	101
WC	490,4455	313,26610	101
WPS	21,0505	7,98091	101
We	,8983	,76031	101
Assent	4,1325	2,06070	101
Cogmech	5,8088	1,74929	101
Insight	1,3232	,76621	101
Discrep	2,8442	1,08855	101
Certain	4,6700	1,96466	101
Feel	,0423	,10004	101
Social	8,7774	2,49711	101
Comm	2,8159	1,47863	101
Past	1,1118	,72626	101
Down	,0382	,10065	101
Excl	5,6869	1,74076	101

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,619
Bartlett's Test of Sphericity	Approx. Chi-Square	982,660
	df	136
	Sig.	,000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4,507	26,509	26,509	4,507	26,509	26,509	3,177
2	2,502	14,720	41,229	2,502	14,720	41,229	2,884
3	1,984	11,670	52,900	1,984	11,670	52,900	2,920
4	1,307	7,691	60,590	1,307	7,691	60,590	1,611
5	1,012	5,955	66,545	1,012	5,955	66,545	2,419
6	,938	5,516	72,060				
7	,893	5,253	77,313				
8	,774	4,552	81,865				

Structure Matrix

	Component				
	1	2	3	4	5
Comm	,669	-,229	-,293	-,073	-,525
Social	,635	-,134	-,315	-,334	-,427
We	,564	,164	-,435	-,217	-,195
Cogmech	-,056	,912	,104	,066	,144
Discrep	-,039	,800	-,003	,186	,016
Insight	-,190	,671	,175	-,035	,092
Past	,057	,632	-,036	,111	,121
Certain	,178	-,033	-,902	-,092	-,273
Assent	,184	-,157	-,902	-,093	-,329
Excl	-,158	,482	,484	-,017	,280
Feel	-,045	,183	-,196	,783	,266
MW	-,275	,043	,423	,760	,070
Down	-,237	-,037	,201	,123	,851
WC	-,251	,375	,431	,356	,762
WPS	,096	,132	,433	,151	,476

Component Correlation Matrix

Component	1	2	3	4	5
1	1,000	-,055	-,192	-,131	-,160
2	-,055	1,000	,093	,080	,154
3	-,192	,093	1,000	,094	,287
4	-,131	,080	,094	1,000	,177
5	-,160	,154	,287	,177	1,000

Component Score Coefficient Matrix

	Component				
	1	2	3	4	5
MW	-,034	-,041	,165	,577	-,195
WC	,025	,076	,038	,104	,358
WPS	,121	,010	,130	,037	,233
We	,174	,104	-,142	-,088	,041
Assent	-,014	-,011	-,375	,027	,014
Cogmech	,011	,338	-,005	-,036	-,006
Insight	-,054	,248	,040	-,111	-,044
Discrep	,005	,298	-,033	,096	-,084
Certain	-,009	,034	-,390	,010	,044
Feel	,050	,025	-,174	,590	,110
Social	,175	,003	-,022	-,120	-,112
Comm	,195	-,042	,008	,122	-,217
Past	,047	,235	-,057	,038	,039
Down	,010	-,068	-,079	-,073	,549
Excl	-,006	,157	,168	-,119	,041

Appendix E SPSS Output Regarding Binary Logistic Regression

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	6,117	8	,634
2	4,600	8	,799
3	10,011	8	,264

Contingency Table for Hosmer and Lemeshow Test

		Goed_Slecht = ,00		Goed_Slecht = 1,00		Total
		Observed	Expected	Observed	Expected	
Step 1	1	10	8,592	0	1,408	10
	2	8	7,679	2	2,321	10
	3	8	6,758	2	3,242	10
	4	4	6,162	6	3,838	10
	5	5	5,517	5	4,483	10
	6	4	4,709	6	5,291	10
	7	3	3,967	7	6,033	10
	8	3	3,156	7	6,844	10
	9	3	2,350	7	7,650	10
	10	2	1,110	9	9,890	11
Step 2	1	10	9,267	0	,733	10
	2	8	8,559	2	1,441	10
	3	9	7,724	1	2,276	10
	4	6	6,976	4	3,024	10
	5	4	5,443	6	4,557	10
	6	5	4,600	5	5,400	10
	7	3	3,645	7	6,355	10
	8	3	2,293	7	7,707	10
	9	2	1,233	8	8,767	10
	10	0	,260	11	10,740	11
Step 3	1	10	9,722	0	,278	10
	2	10	9,088	0	,912	10
	3	7	7,895	3	2,105	10
	4	6	6,527	4	3,473	10
	5	3	5,441	7	4,559	10
	6	7	4,512	3	5,488	10
	7	2	3,128	8	6,872	10
	8	2	2,117	8	7,883	10
	9	3	1,339	7	8,661	10
	10	0	,231	11	10,769	11

Classification Table^a

Observed			Predicted		
			Goed_Slecht		Percentage Correct
			,00	1,00	
Step 1	Goed_Slecht	,00	35	15	70,0
		1,00	17	34	66,7
	Overall Percentage				68,3
Step 2	Goed_Slecht	,00	37	13	74,0
		1,00	13	38	74,5
	Overall Percentage				74,3
Step 3	Goed_Slecht	,00	35	15	70,0
		1,00	14	37	72,5
	Overall Percentage				71,3

Correlation Matrix

		Constant	FFF2	FFF4	FFF1
Step 1	Constant	1,000	,080		
	FFF2	,080	1,000		
Step 2	Constant	1,000	-,010	,334	
	FFF2	-,010	1,000	,016	
	FFF4	,334	,016	1,000	
Step 3	Constant	1,000	-,139	,341	,263
	FFF1	,263	-,302	,244	1,000
	FFF2	-,139	1,000	-,042	-,302
	FFF4	,341	-,042	1,000	,244

Variables not in the Equation

			Score	df	Sig.
Step 1	Variables	FFF1	13,592	1	,000
		FFF3	4,870	1	,027
		FFF4	14,918	1	,000
		F5	11,931	1	,001
	Overall Statistics		23,550	4	,000
Step 2	Variables	FFF1	5,213	1	,022
		FFF3	,684	1	,408
		F5	5,123	1	,024
	Overall Statistics		8,626	3	,035
Step 3	Variables	FFF3	,043	1	,836
		F5	3,822	1	,051
	Overall Statistics		3,832	2	,147

Appendix F Adaptive Selling Framework

Weitz, Sujan & Sujan's (1986) 'Adaptive Selling Framework'

