

**MASTER**

**Complaint handling in a consumer products company**

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Eindhoven, July 2013

# **Complaint handling in a consumer products company**

by  
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in partial fulfillment of the requirements for the degree of

**Master of Science  
in Innovation Management**

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## SUMMARY

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Customers expect adequate and fast solutions when complaining to companies that sell premium products. Recent literature in the field of complaint handling concludes that the amount of complaining customers also predict how valuable the company is. Both circumstances increase the need for companies to take all complaints seriously and provide satisfactory solutions.

### COMPLAINT HANDLING RESEARCHED BY CONDUCTING A SURVEY

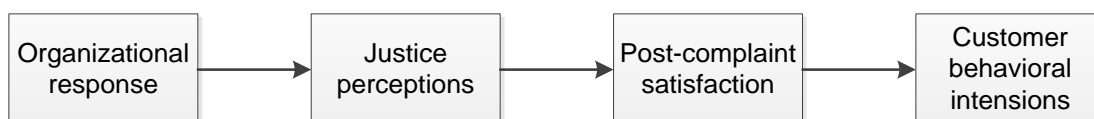
The impact of complaint handling on consumer satisfaction is researched by conducting a survey in a consumer products company. The consumer products company is the European market leader in their industry and sells premium quality products. The company is a SME (Small or Medium-sized Enterprise) and located in Eindhoven, the Netherlands. The SME wants to stay anonymous and will therefore be named the SME or the consumer products company throughout this thesis.

The consumer products company operates subsidiaries and distributors around the world. Subsidiaries are called National Sales Organizations, abbreviated as NSO from now on. The NSO's are operated in the Netherlands and three other European countries. The rest of world is supported by distributors called Business Partners, abbreviated as BP from now on. Individual BP's operate in more than 80 countries around the world. The NSO's and BP's are taking care of consumer questions and complaints and the complaint handling performance of the NSO's and BP's was unknown. The lack of insight in complaint handling by NSO's and BP's is seen as a problem by all managers of the SME because they want the consumer to perceive high service.

The current complaint handling performance of the NSO's and BP's is analyzed by surveying consumers that complained directly to the SME using the contact form on the SME's website during March '12 till June '12 and October '12 till January '13. The survey was send to 623 consumers, 308 consumers finished the survey, yielding a response rate of 49,4%.

### CURRENT STATE OF COMPLAINT HANDLING LITERATURE

Three articles (Davidow (2003), Orsingher et al. (2010) and Gelbrich and Roschk (2011)) have tried to identify a complaint handling path model. All three articles identify quite a similar model (see figure 1). The first construct in the complaint handling path model is organizational response, organizational response is the type of response that an organization gives to the customer. Justice perceptions are customer's perceived fairness of those organizational responses. Post-complaint satisfaction is the customer's level of satisfaction after the complaint handling and customer behavioural intentions include in most studies: word-of-mouth activity and use/repurchase intentions.

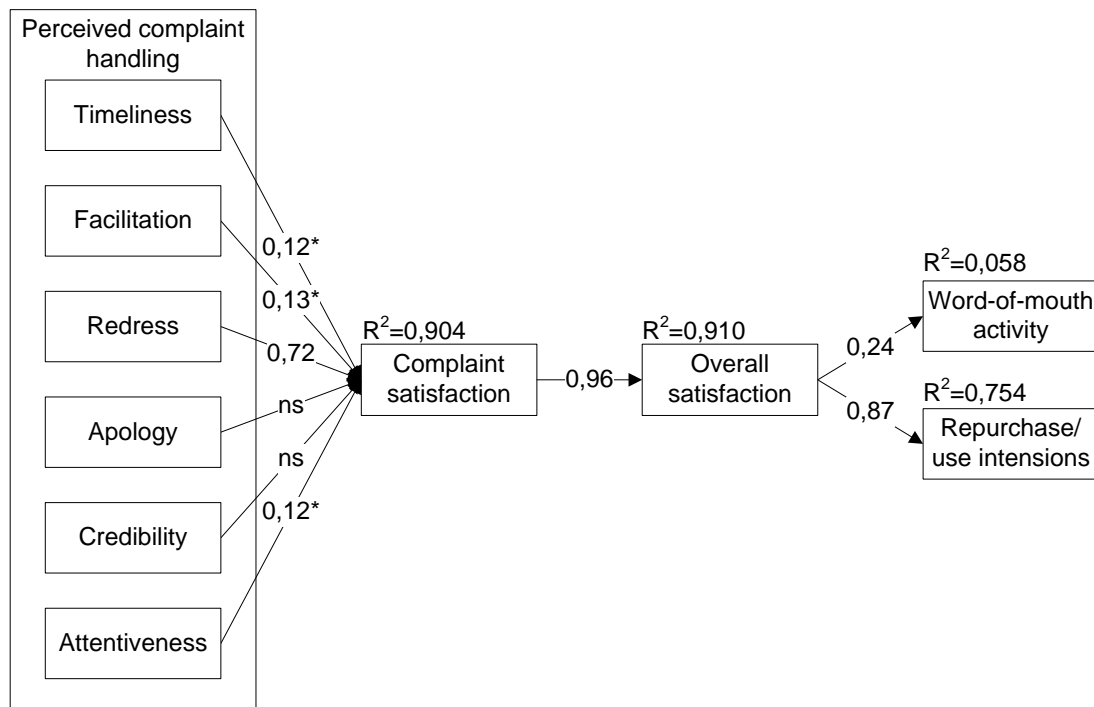


**Figure 1: Simplified path model used in recent complaint handling literature**

## REDRESS AND COMPLAINT SATISFACTION ARE VERY IMPORTANT

The complaint handling path model from figure 1 is used as a base in this thesis, this structural model shows how important complaint handling is and how important the different complaint handling dimensions are for the SME. The structural model in this thesis follows the model of Davidow (2003) and does not include justice perceptions. The justice types are not included because they seem to represent opinions and not experiences or perceptions of the actual complaint handling.

The structural model (figure 2) visualizes the impact the six complaint handling dimensions (timeliness, facilitation, redress, apology, credibility and attentiveness) have on complaint satisfaction, overall satisfaction, word-of-mouth activity and repurchase/use intentions. Path coefficients without an \* are significant at the  $p < 0,001$  level, path coefficients with an \* are significant at the  $p < 0,05$  level and path coefficients marked with ns are not significant.

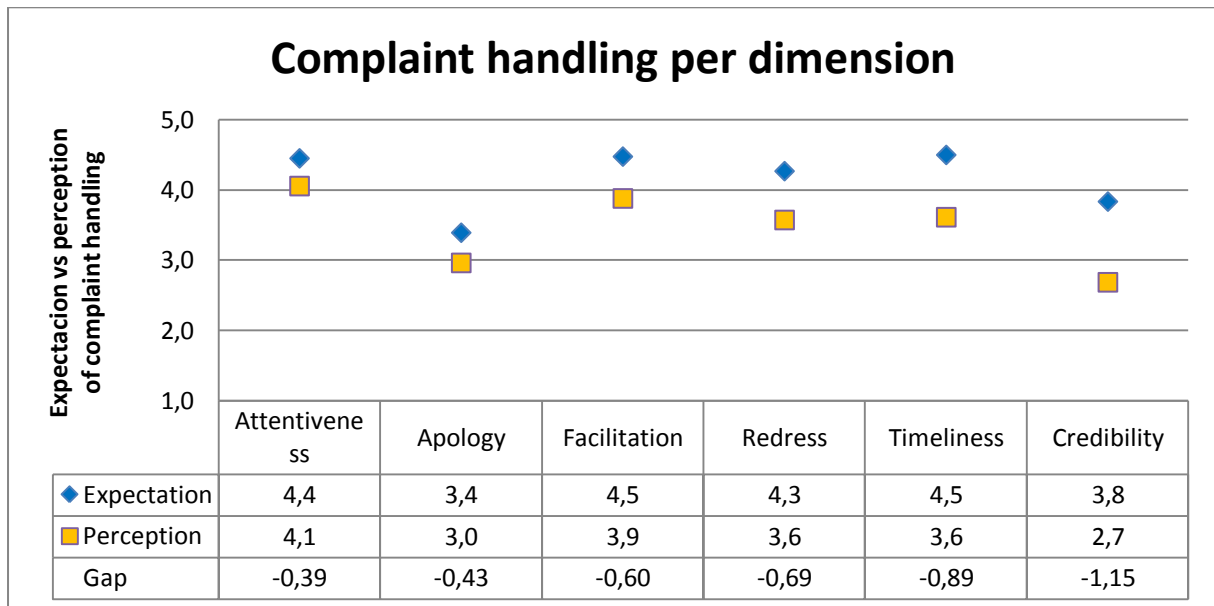


**Figure 2: Structural path model of complaint handling on satisfaction**

Redress has by far the most impact on complaint satisfaction. Timeliness, facilitation and attentiveness have low impact, apology and credibility have no significant impact on complaint satisfaction. Another important finding is that complaint satisfaction has very high impact on overall satisfaction. Overall satisfaction has positive impact on both word-of-mouth activity and repurchase/use intentions. The positive impact of overall satisfaction on word-of-mouth activity was not expected because in literature there is a consensus that dissatisfied consumers talk more about their experiences than satisfied consumers do.

## EXPECTATIONS ARE NOT PERCEIVED ON ALL COMPLAINT HANDLING DIMENSIONS

A gap analysis is conducted by surveying not only complaint handling perceptions but also complaint handling expectations. This shows what complaint handling dimensions should be improved, if any. The gap analysis (figure 3) visualizes the gap between expectations and perceptions on six complaint handling dimensions. Complainers expect on average a complaint handling level of 4,1, on a scale from 1 to 5, and perceive a 3,5 on the same scale. This negative gap (-0,6) shows that current expectations are not perceived. All dimensions are perceived worse than expected. The worst scoring dimension is credibility with a gap of -1,2.



**Figure 3: Gap visualization between expected and perceived complaint handling per dimension**

The structural model shows that both apology and credibility do not significantly impact complaint satisfaction, these dimensions should not get prioritized. Attentiveness, facilitation and timeliness do have low impact on complaint satisfaction and should therefore be improved. Redress did have by far the most impact on complaint satisfaction and should therefore be seen as the most important gap to close.

## SET UP A CONSUMER CARE STRATEGY AND LIVE UP TO IT

The lack of response on complaints and large negative gaps between expected and perceived complained handling show that the process is currently far from optimal and that the complaint handling can be improved drastically. The management of the SME should first decide what consumer care strategy they want to implement. Currently they state in their strategy that they are going “from product oriented to consumer oriented.” but they are currently using no to little consumer insight to improve their products or processes. The following three step plan is recommended to improve the current response towards consumer complaints so that consumer satisfaction will rise.

1. Respond and own the consumer’s problem
2. Assure that the problem is being fixed
3. Survey consumers that complained

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Jarno Valster  
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# 1. INTRODUCTION

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Many studies researched the impact of organizational complaint handling on customer satisfaction, word-of-mouth and repurchase intentions. However, a large number of studies have major limitations. Some studies (e.g. Homburg and Fürst, 2005) e.g. focus on three or less complaint handling dimensions, while there are many more. Other studies (e.g. Tax et al. 1998) only evaluate the overall complaint handling, without separating the impact of each response dimension.

Furthermore is not only the experienced complaint handling important but also the expected complaint handling. Companies often ask their customers how satisfied they are but fail to research customer expectations. Berry and Parasuraman (1997) therefore argue that these companies cannot measure how satisfied a customer really is, the gap between expectations and experiences gives much more insight in customer satisfaction.

This thesis has tried to overcome the limitations that are described above, by asking consumers expectations and perceptions of complaint handling. Consumer complaint handling insight is gained by conducting a survey. The current complaint handling of a SME (small and medium-sized enterprise) located in Eindhoven is described in this study. The SME wants to stay anonymous and shall therefore be called the SME or the consumer products manufacturing company in this thesis.

## 1.1 IMPORTANCE OF COMPLAINT HANDLING

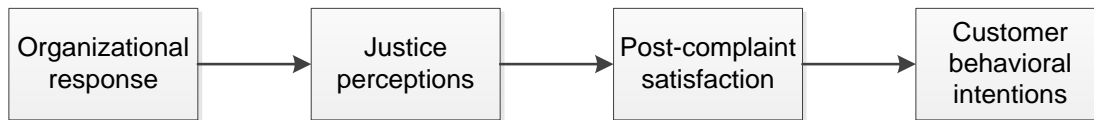
Now-a-days customers want to be heard. When companies don't answer their complaints, customers will voice their dissatisfaction to friends, family members, neighbours, and their online community. A negative service or product experience can have a large impact on the performance of a firm these days. This is only one of the reasons why companies have to listen to their customers and handle all complaints seriously. Customer complaints can also help companies survive today's difficult times, companies can distinguish themselves from their competitors and increase customer satisfaction and loyalty by excellent complaint handling. Research and development departments can benefit from complaints by learning and innovation with help of complaints and complaint handling mechanisms.

Multiple studies do also report a positive relationship between complaint satisfaction and customer loyalty. Homburg and Fürst (2005) conclude: "Effective complaint handling is important for companies because after a complaint, loyalty depends essentially on complaint satisfaction and not as much on satisfaction that has cumulated over time." Although solving complaints is important, companies tend to not successfully do so. Andreassen (2000): "Companies in general must improve their complaint resolution efforts dramatically." Some companies struggle with customer complaints and most of the time do not even know what the customer really wants with voicing their complaint.

Complaint handling analysis can furthermore give organizations insight in customers' expectations and perceptions of their products and services. This information can then be used to improve products, services and processes. Another important literature finding is that the amount of complaining customers predict how valuable the company is. Morgan et al. (2006): "The proportion of customers complaining has a predictive value on business performance." The negative relationship between the percentage of complainers and business performance shows that companies that have clear services and products that do perform as expected are the real winners in the future.

## 1.2 CURRENT STATE OF COMPLAINT HANDLING LITERATURE

Although there is written a lot about complaint handling there are currently only three articles that tried to summarize findings across different settings. Davidow (2003) wrote a review of more than 50 articles that did research complaint handling and both Orsingher et al. (2010) and Gelbrich and Roschk (2011) conducted a meta-analysis. Those three studies make use of quite an equivalent path model on which they base their findings, figure 4 shows a simplified version of this structural model.



**Figure 4: Simplified path model used in recent complaint handling literature**

After a customer voices a complaint the organization can respond in one way or another. Organizational response is the type of response that an organization gives to the customer. Justice perceptions are customer's perceived fairness of those organizational responses. Post-complaint satisfaction is the customer's level of satisfaction after the complaint handling and customer behavioural intentions include in most studies: word-of-mouth activity and use/ repurchase intentions.

The meta-analysis of Orsingher et al. (2010) did not include any organizational response dimensions and Davidow (2003) did not include justice perceptions. Gelbrich and Roschk (2011) studied the complete model as visualized in figure 4. Most researches nowadays conclude that the path model should be researched as complete as possible (Tax et al. 1998, Davidow 2003, Orsingher et al. 2010 and Gelbrich and Roschk 2011). This study has therefore aimed to fully research the structural model from organizational response to consumer behaviour intentions.

Davidow (2003) concluded in his review that there are numerous methods to measure complaint handling and summarized the findings of more than 60 articles. Earlier research does focus only on overall complaint handling, while there are many different organizational response dimensions. Some authors (Davidow 2003 and Liao 2007) argue to not take justice perceptions into account because there are high correlations between the different justice perceptions, causing poor discriminant validity. The reason for this can be that consumers are unable to distinguish between the different justice perceptions. Another reason for exclusion of the justice types is that they seem to represent opinions and not experiences or perceptions of the actual complaint handling. Post complaint satisfaction is often referred to as complaint satisfaction or transactional satisfaction. Overall satisfaction or cumulative satisfaction is in about all studies included. Customer behaviour intentions vary somewhat, Davidow (2003) does not only measure word-of-mouth activity but also word-of-mouth valence for example.

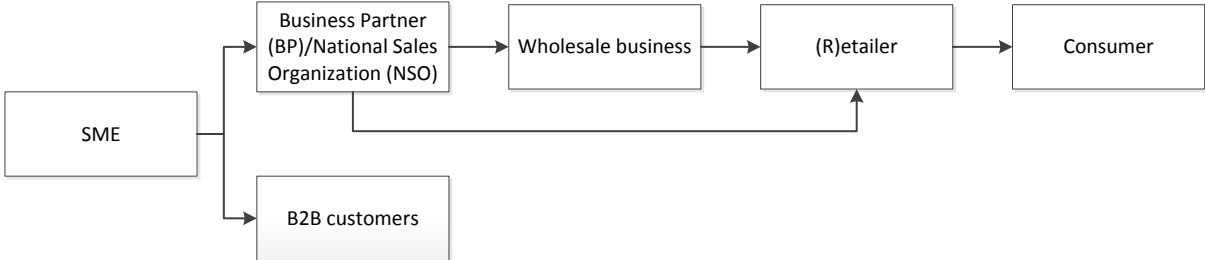
Coviello et al. (2002), Davidow (2003), Homburg and Fürst (2005) and Evanschitzky et al. (2011) stated that there is lack of studies on customer complaint management across different business settings and therefore more empirical research should be conducted to gain further inside. Davidow (2003): "Given that how an organization responds to a complaint will affect a customer's postcomplaint customer behaviour, it is perhaps surprising that so little theoretical research or managerial attention has focused on this aspect of defensive marketing." Another limitation of

conducted studies is that some studies measure complaint satisfaction and overall satisfaction as the same variable. Therefore it is interesting to research the difference between overall satisfaction, complaint satisfaction and even product/service satisfaction (Gelbrich and Roschk, 2011). This master thesis presents an empirical study of how a SME deals with their complaint handling thus providing more insight in complaint handling processes in a specific business setting.

### 1.3 COMPLAINT HANDLING AT THE SME

The SME at which the study is conducted is a market leader in a type of B2C products. The consumer products manufacturing company operates subsidiaries and distributors around the world. Subsidiaries are called National Sales Organizations, abbreviated as NSO in the rest of the document. The NSO’s are operated in the Netherlands and three other European countries. The rest of world is supported by distributors called Business Partners, abbreviated as BP in the rest of the document. Individual BP’s operate in more than 50 countries around the world.

Figure 5 shows the supply chain of the SME. The complaint handling “chain” is for most complaints the other way around. A number of consumers do however complain directly to the SME by using the contact form on the SME’s website. These complaints are forwarded to BP’s/NSO’s, who handle the complaints.



**Figure 5: The supply chain of the SME**

Internal interviews with 13 employees of the SME and 5 employees of the Dutch NSO revealed that the SME has limited insight in the B2C complaint handling process and consumer satisfaction following the complaint handling. See appendix II for the interview questions. The large amount of chains between the SME and the consumer (figure 5) make it difficult for the SME to get information about consumers in general. There is more insight in the B2B supply chain, because this chain is much shorter than the B2C supply chain. Other bottlenecks in the B2C complaint handling process are the lack of insight and formalization. Until now there is no basic focus on customer service, however there are some tools in place where customers can directly contact the SME with questions and complaints.

The NSO’s and BP’s are taking care of customer questions and complaints, but this process isn’t formalized. Customer service is never really investigated and the SME has therefore limited insights in customer complaints, mainly if problems are solved adequately and in time. The lack of insight in complaint handling by NSO’s and BP’s is seen as a problem by all managers of the SME because they want the consumer to perceive high service.

### 1.4 THE SME'S STRATEGY

The long term company strategy of the SME is: creating customer value. Building a strong brand, leading the market and innovating & anticipating are the three fundamental pillars in the creating customer value strategy. Customer care is one of aspects of the building a strong brand pillar. The brand strategy of the SME focuses on clear communicating of key brand values to customers and consumers.

The SME is shifting from a product brand that sells a piece of hardware to a customer brand that creates an emotional connection and engages with the consumer. The SME wants to become a consumer brand by communicating in an authentic way, by differentiating themselves, and by offering meaningful and top quality products and services. In the last years there have been multiple market researches. Although the customer and consumer market is researched a lot, there is still a lot unknown about these markets, especially how the complaint handling process works.

### 1.5 CATEGORIZING THE COMPLAINTS

All direct complaints that consumers voiced by using the contact form of the SME from March 2012 until June 2012 and October 2012 until January 2013 were categorized to get more insight in the types of complaints. More than 2900 contact forms were received by the SME during those eight months. 24% of those contact forms are categorized as a complaint. As definition of complaint is used: "An expression of dissatisfaction or a cause or reason for complaining, a grievance." This definition is shared in many dictionaries, for example the Business Dictionary by WebFinance.

The 697 complaints were categorized into the sub-categories: product failures (56%), installing problems (31%) and service failures (13%). The most voiced product failures are: Part(s) broke(n), part not working (properly), product doesn't level horizontal and product doesn't work (properly). The most voiced installing problems are: Bolts are the wrong size, part(s) missing (other than bolts etc.) and product is not compatible. The most voiced service failures are: No response to complaints and internet application doesn't work/ isn't correct/ not up-to-date.

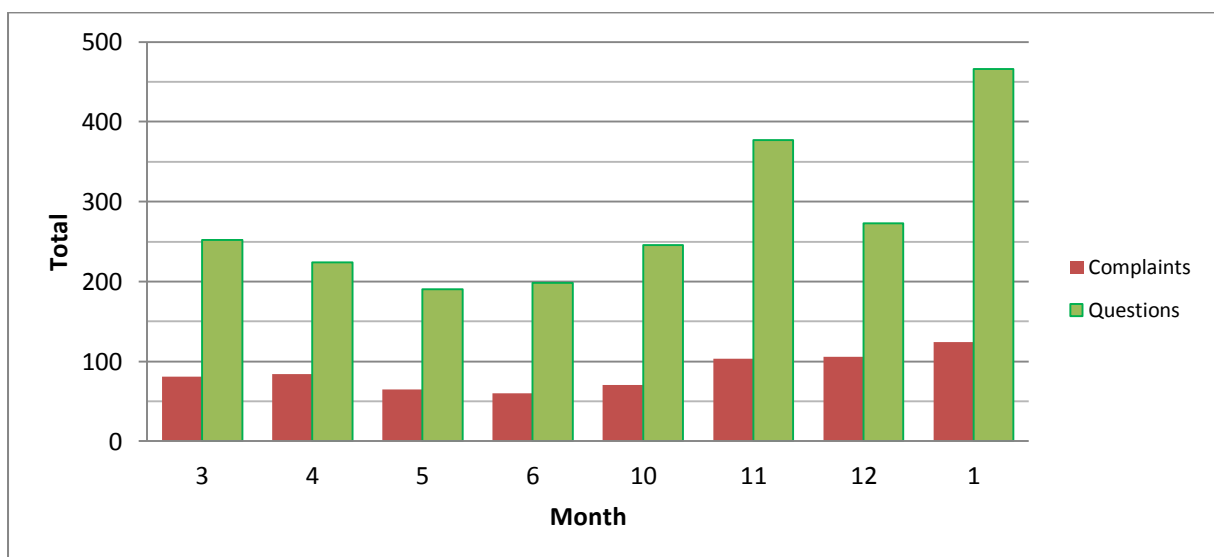


Figure 6: The amount of complaints and questions per month

The amount of received contact forms are steadily rising. Figure 6 shows the amount of complaint contact forms and question contact forms per month, from March 2012 until June 2012 and from October 2013 until January 2013. Understanding the responses by the NSO's/BP's is becoming more important because the amount of complaining consumers is rising. This makes consumer complaint satisfaction also more important because more consumers are experiencing the complaint handling of the SME partners, the NSO's and BP's.

## **1.6 PROBLEM STATEMENT AND SUB QUESTIONS**

The limited insight in the B2C complaint handling process is the bottleneck that is mentioned most by managers at the SME regarding the customer service trajectory. It is unknown what level of service customers experience and how responses to customer complaints can be optimized. The uncertainty about the consumer complaint handling situation is a problem because the SME wants their consumers to be experiencing a good service level. This problem and the acknowledgement by management that the consumer becomes more and more important make it important to conduct a research. The problem statement is therefore defined as follows: *How can the SME optimize responses to customer complaints with the goal to maximize customer satisfaction?*

The goal of the problem statement is to get insight in current responses by NSO's and BP's and research how responses can be optimized. The sub questions are diving deeper into the complaint handling performance of NSO's and BP's.

The four sub questions are defined as follows:

1. *Are there differences between NSO's and BP's in their complaint handling performance?*

The service blueprint (appendix V) visualizes the current B2C complaint handling process at the SME, NSO's and BP's. There is the feeling that NSO's and BP's do not handle complaints in the same way. NSO's and BP's that have a lower numerical distribution of the SME's products are assumed to deliver less service to customers because these NSO's and BP's are experiencing difficulties with selling the products to retailers.

2. *Are customers satisfied with the current complaint handling procedure?*

It is unknown what level of service customers perceive and further more are expectations of customers also unknown. Customer service is never really investigated and the SME has therefore limited insights in customer complaints, mainly if problems are solved adequately and in time.

3. *How can the complaint handling procedure be optimized, according to literature insights?*

The B2C complaint handling at the SME, NSO's and BP's is characterized as complex and ambiguous. Literature insights will be used to see if the complaint handling procedure can be optimized. The optimal complaint handling procedures will be researched in literature and an advice will be given to the SME if improvements can be made.

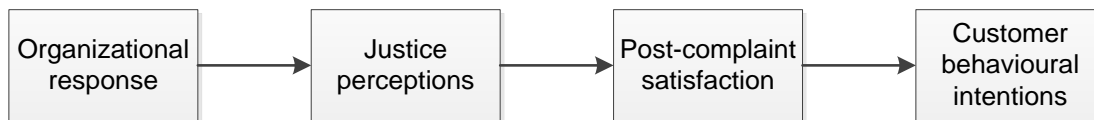
4. *If the SME would structure the complaint handling procedure in line with literature insights, would there be any effect on consumer satisfaction?*

The SME can structure the B2C complaint handling to help NSO's and BP's handle complaints according to literature insight. Customer expectations will be matched with literature insight to see if there is a match between the practical and theoretical situation.

## 2. CONCEPTUAL FRAMEWORKS

Before there can be researched how the SME can improve responses to customer complaints the current state of the SME's complaint handling is researched. This current state is researched with the help of two frameworks that are designed based on the work of Davidow (2003) and Berry and Parasuraman (1997). The two frameworks are used to get insight in the importance of the different complaint handling dimensions, how much complaint satisfaction influences overall satisfaction and to get insight in the gap between expected and perceived complaint handling.

The simplified path model from chapter 1 (see figure 7) is used as a base for the structural model analysis. Paragraph 2.1 discusses the categorization of the organizational response types also called complaint handling dimensions. Paragraph 2.2 discusses justice perceptions. Paragraph 2.3 shows the structural model and tells more about the choices of the post-complaint satisfaction variables and the customer behaviour intention variables that are chosen for this study.



**Figure 7: Simplified path model used in recent complaint handling literature**

### 2.1 ORGANIZATIONAL RESPONSES

Organizational responses should be categorized in different categories to get insight in what categories are important in this thesis. There are many different approaches in how to categorize organizational responses. Estelami (2000) was one of the first researchers that defined different organizational response categories, namely: compensation, employee behavior and promptness. Davidow (2003) argues for a broader view and uses six different types of organizational responses that he labels as complaint handling dimensions: timeliness, facilitation, redress, apology, credibility and attentiveness.

Gelbrich and Roschk (2011) based their work on both Estelami (2000) and Davidow (2003) and described three different categories: compensation, favourable employee behaviour and organizational procedures. Table 1 shows how the different organizational responses dimensions relate in between studies. An example of this is that Gelbrich and Roschk (2011) measure with compensation the same as Davidow (2003) does with redress and apology.

**Table 1: Complaint handling dimensions per study**

Estelami (2000)	Davidow (2003)	Gelbrich and Roschk (2011)
Compensation	Redress Apology	Compensation
Employee behaviour	Attentiveness Credibility	Favourable employee behaviour
Promptness	Facilitation Timeliness	Organizational procedures



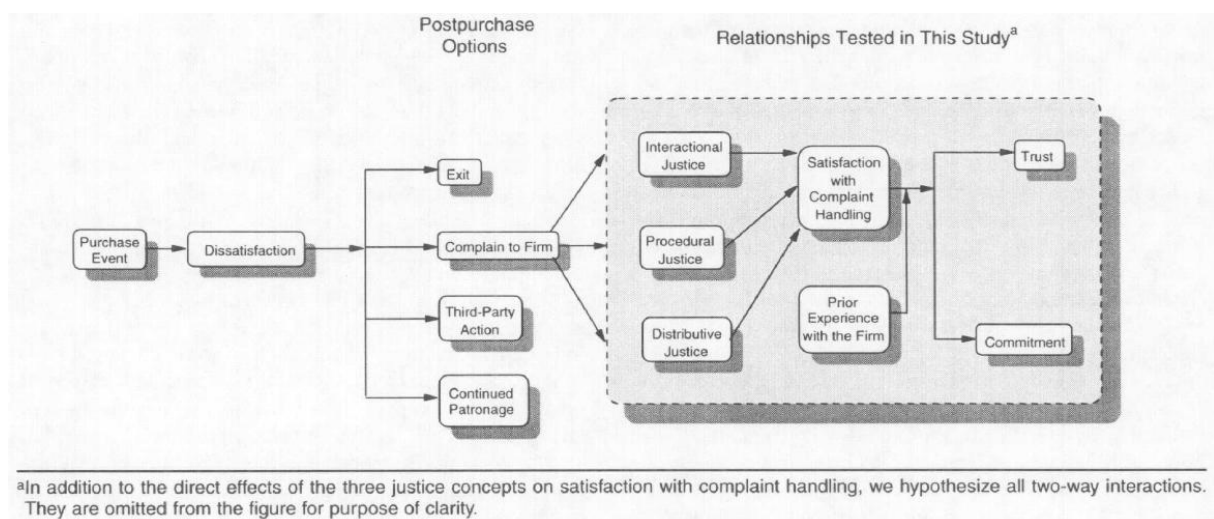
Most studies use three complaint types of organizational response categories, mainly for reliability reasons. Gelbrich and Roschk argue: “Three dimensions represent higher order factors of varied organizational responses.” Davidow (2003) based his choice on the six dimensions on previous work by himself: “According to Davidow (2000), there are six different dimensions ... that affect postcomplaint customer behaviour”.

The categories in organizational response or complaint handling dimensions should be defined with care. Davidow (2003) argues that studies use different criteria to measure the same category. The category procedure is measured in one study as voice (Goodwin and Ross, 1992) and in another study as timeliness (Smith et al. 1997). This shows that studies that limit themselves to only a few categories are sometimes measures different variables while using the same names. The second argument for using more dimensions in the framework is that there can also be argued that more dimensions show a broader spectrum. This study is therefore going with the Davidow (2003) approach regarding complaint handling dimensions:

- *Timeliness*: The perceived speed with which an organization responds to or handles a complaint.
- *Facilitation*: The policies, procedures, and structure that a company has in place to support customers engaging in complaints and communications.
- *Redress*: The benefits or response outcome that a customer receives from the organization in response to the complaint.
- *Apology*: An acknowledgement by the organization of the complainant’s distress.
- *Credibility*: The organization’s willingness to present an explanation or account for the problem.
- *Attentiveness*: The interpersonal communication and interaction between the organizational representative and the customer.

## 2.2 JUSTICE PERCEPTIONS

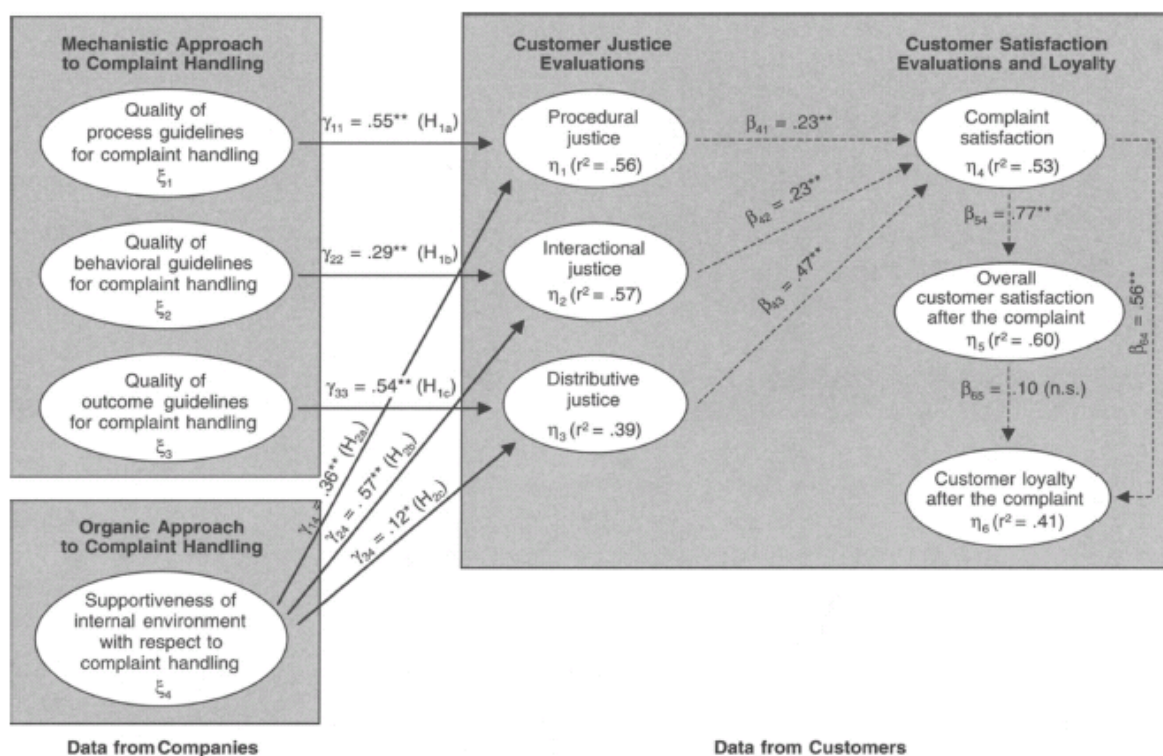
Tax et al. (1998) distinguishes three different justice evaluations, namely: procedural, interactional and distributive justice (see figure 8 for the full model that Tax (1998) researched). The justice types refer to opinions of customers about organizational complaint handling.



**Figure 8: A Framework for Examining Complaint Handling Relationships (Tax et al. 1998)**

Procedural justice explains the perceived fairness of the complaint handling, interactional justice explains the perceived fairness of the behavior of employees that handle complaints and distributive justice explains the perceived fairness of the complaint outcome. Justice is important according to Tax et al. (1998), because it is a valuable predictor in explaining people's reaction to conflict situations.

Homburg and Fürst (2005) extended the model of Tax et al. (1998) by including two organizational approaches to complaint handling in the model (see figure 9). The two approaches are: mechanistic and organic. Mechanistic approach refers to the "organization as machine" paradigm and organic approach to the "organization as organism" paradigm. The mechanistic approach reflects the way how companies develop guidelines and this should lead to more rational thinking. Guidelines are important in the mechanistic approach. The organic approach reflects the way how companies motivate and train their employees to handle complaints. Values and norms are the key words in the organic approach.



**Figure 9: Homburg and Fürst (2005) extend the model of Tax et al. (1998)**

Figure 9 illustrates that there is a relation between the organizational approach and the customer justice evaluations and that these evaluations in their turn have an effect on complaint satisfaction. Furthermore is concluded by Homburg and Fürst (2005) that outcome guidelines have the strongest total effect on complaint satisfaction, followed by process guidelines and then behavioural guidelines. The justice types of Tax et al. (1998) are not used in this study because of two reasons. The justice types seem to represent opinions and not experiences or perceptions of the actual complaint handling. Furthermore is reported that the differences between those justice evaluations are questionable, Davidow (2003) and Liao (2007) reported high correlations between the justice dimensions, resulting in poor discriminant validity. The path model of Davidow (2000) does also not include the justice dimensions and is therefore the most applicable model for this thesis.

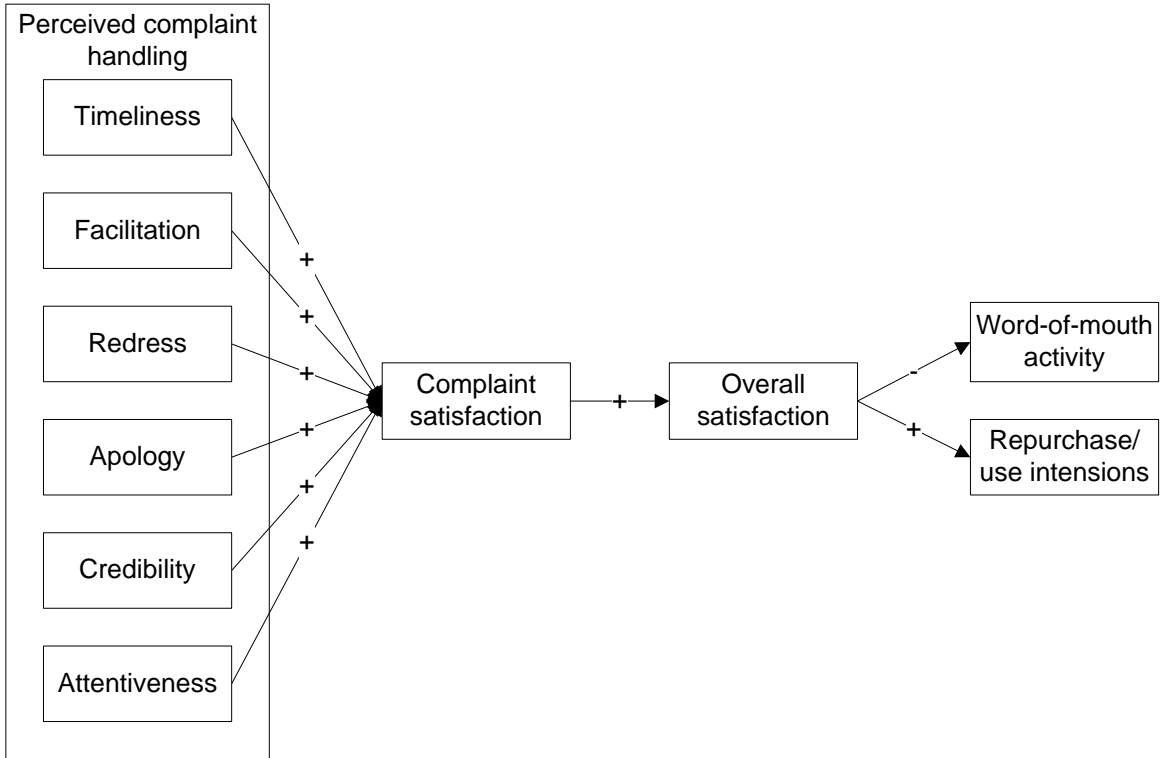
**2.3 POSTCOMPLAINT SATISFACTION AND CUSTOMER BEHAVIOURAL INTENTIONS**

In line with other studies is not only complaint satisfaction measured but also overall satisfaction. Overall satisfaction is assumed to have positive influence on repurchase intentions. The relationship between overall satisfaction and word-of-mouth activity is assumed to be negative because in general is assumed that consumers who are less satisfied are more likely to talk about the company. Other variables as word-of-mouth valence are not taken into account because of the complexity of the path model. The more complex the path model the more reliable response is needed to get an adequate model fit.

**2.4 THE STRUCTURAL PATH MODEL**

The impact of perceived complaint handling on customer satisfaction (figure 10) is analyzed to find out how important the different dimensions for the SME are and if complaint satisfaction has influence on overall satisfaction. All perceived complaint handling dimensions are assumed to have a positive relation with complaint satisfaction as is consistent with previous articles by Davidow (2003) or Gelbrich and Roschk (2011).

The structural model helps analyzing the importance of complaint handling for the SME. The higher the impact of complaint satisfaction on overall satisfaction, the more important it is for the SME. Moreover does the model also visualize how important each dimension is, thus that this case can be analyzed more thoroughly by comparing it with companies in other industries. The second sub-question can also be answered partly by the structural path model analysis, because this analysis shows what the impact of each dimension is on complaint satisfaction.



**Figure 10: Structural path model to visualize the impact of perceived complaint handling**

## **2.4 HYPOTHESIZED RELATIONSHIPS BETWEEN CONSTRUCTS**

As the previous paragraphs already discussed all relationships except one are assumed to be positive. The six complaint handling dimensions are assumed to have a positive relationship with complaint satisfaction as Davidow (2000) argues. This means the more positive a complaint handling dimension is rated the more positive the respondent rates complaint satisfaction.

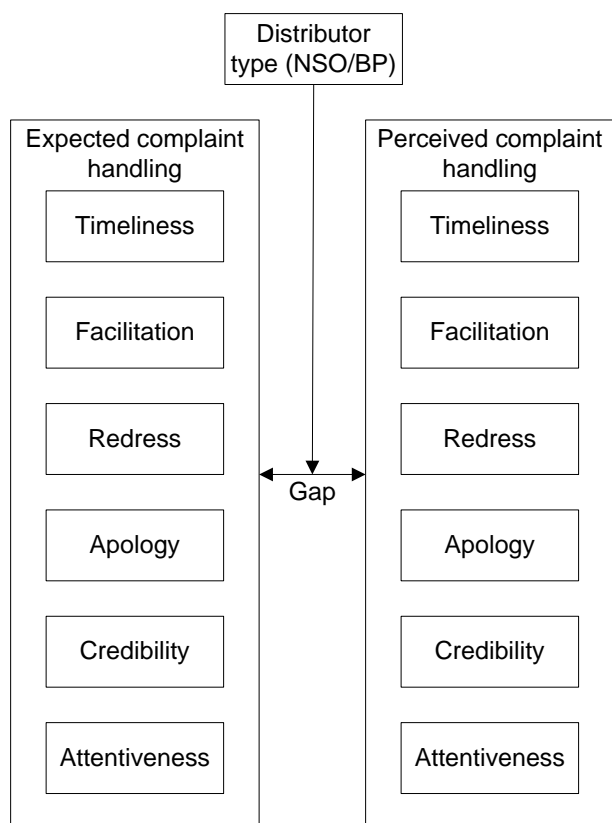
Complaint satisfaction in turn impacts overall satisfaction positive. The more positive consumers are regarding the overall complaint handling the more positive consumers are thinking of the company. This positive relationship is stated in many articles like Davidow (2003) and Homburg and Fürst (2005). The impact of overall satisfaction on word-of-mouth activity is assumed to be negative, consumers that are more satisfied talk less about the company than consumers that are dissatisfied. Kau et al. (2006) confirm that dissatisfied consumers talk more about their experiences with the company than satisfied consumers do. Effect overall satisfaction on rep-use intentions.

## **2.5 THE GAP ANALYSIS**

While measuring perceptions can give a clear overview of the current complaint handling by a company there are still limitations with measuring only perceptions. Perceptions give managers insight in the current complaint handling performance but without measuring consumer expectations it is difficult to know what the consumer really wants. It is difficult to know if a company is performing according to customer needs if only experiences (perceptions) are measured. Expectations can give a lot more insight in the current complaint handling situation, Berry and Parasuraman (1997) argue that it is critical to measure customer expectations: "Managers learn more about improving service when customer expectations provide a frame of reference for interpreting perception ratings."

The gap analysis (figure 11) visualizes the gap between perceptions and expectations of complaint handling. Type of business (NSO or BP) is assumed to be a moderator on gap size. NSO's are assumed to have a smaller gap between expected complaint handling and perceived complaint handling than BP's because NSO's are subsidiaries and therefore are closer to the SME and know better how to handle complaints. This moderator analysis helps answering the first sub-question about the differences between NSO's and BP's.

The gap analysis also helps answering the problem statement, the gap size shows how expectations differ from experiences and what dimensions should be improved first or are good enough already. The second-sub question can also be partly answered with use of the gap analysis, the gap analysis gives to a large extent insight in the current complaint handling situation because it shows how large the gaps are between expectations and perceptions of the consumer on the current complaint handling of the NSO's and BP's.



**Figure 11: Gap analysis of expected and perceived complaint handling**

## 2.6 THE SURVEY

The survey of Davidow (2000) fits both conceptual frameworks (the structural path model and the gap analysis) quite nicely. Therefore this survey is used as a base for this study. The survey of Davidow (2000) uses a Likert scale to measure perceived complaint handling. The results of the Davidow (2000) survey were analyzed using content analyses, which shows that the 18 complaint handling statements loaded onto 6 complaint handling factors, each item loading was greater than 0.5, and no item had a cross-loading greater than 0.3. The high factor loadings in Davidow (2000) represent convergent validity. The average variance extracted (summation of squared factor loadings/(summation of squared factor loadings\*summation of error variances)) is higher than 0.5 for all constructs. The average variance per construct and the reliability (Cronbach Alpha) are listed in table 2. The Davidow (2000) statements are also shown in table 2.

**Table 2: The survey of Davidow (2000)**

<b>Organizational response dimensions</b>	<b>Cronbach Alpha</b>	<b>Average variance extracted</b>	<b>SMC</b>
<b>Satisfaction</b>	<b>0.974</b>	<b>0.926</b>	
My satisfaction with the company has increased.			0.91
My impression of this company has improved.			0.94
I now have a more positive attitude toward this company.			0.93
<b>Word-of-mouth valence</b>	<b>0.888</b>	<b>0.727</b>	
While talking about my complaint, I emphasize how well the company took care of it.			0.69
Whenever I talk about my complaint, I stress the positive way that the company reacted.			0.80

When I talk about my complaint experience, I let people know how poorly it was handled by the company. (R)	0.70
<b>Word-of-mouth likelihood</b>	<b>0.869 0.691</b>
I am likely to tell as many people as possible about my complaint experience.	0.60
I am likely to talk about my complaint experience with anyone who will listen.	0.83
I am likely to mention my complaint experience at every chance.	0.63
<b>Repurchase intentions</b>	<b>0.907 0.765</b>
I will probably not purchase this brand again. (R)	0.68
I will use this brand much less in the future. (R)	0.82
I will probably switch to another brand in the future. (R)	0.80
<b>Facilitation</b>	<b>0.737 0.500</b>
It was easy to determine where to lodge my complaint.	0.47
Company policies made it clear how to complain.	0.23
It was hard to figure out where to complaint in this company.	0.80
<b>Timeliness</b>	<b>0.923 0.801</b>
It took longer than necessary to react to my complaint. (R)	0.78
They were very slow in responding to the problem. (R)	0.83
The complaint was not taken care of as quickly as it could have been. (R)	0.79
<b>Apology</b>	<b>0.896 0.742</b>
I received a sincere "I'm sorry" from the company.	0.75
The company gave me a genuine apology.	0.89
I did not receive any form of apology from the company. (R)	0.61
<b>Redress</b>	<b>0.810 0.894</b>
After receiving the company response, I am in the same shape or better than I was before the complaint.	0.61
The company response left me in a similar or improved position to where I was before the problem.	0.79
The outcome that I received from the company returned me to a situation equal to or greater than before the complaint.	0.36
<b>Credibility</b>	<b>0.755 0.514</b>
The company did not give me any explanation at all. (R)	0.26
I did not believe the company explanation of why the problem occurred. (R)	0.67
The company explanation of the problem was not very convincing. (R)	0.66
<b>Attentiveness</b>	<b>0.917 0.787</b>
The representative treated me with respect.	0.67
The representative paid attention to my concerns.	0.86
The representative was quite pleasant to deal with.	0.83

The survey of Davidow (2000) (table 2) is modified into the survey that is used in this research. See appendix I for the survey used in this study. One of the major modifications is the extension with expectation statements (see paragraph 2.5). The company statements are changed into expectation statements so that the gap analysis could be conducted.

An example of such an expectation statement:

Original statement to measure perception: *The company explained why the problem occurred.*

New statement to measure expectation: *The company should explain why the problem occurred.*

Both the perception and expectation statements are rated by the respondents on a 5-point Likert scale. The gap between perceptions and expectations is calculated in the gap analysis by deducting the expectation answer of the perception answer. A negative gap shows that expectations are not met and a positive gap shows that expectations are exceeded.

Another modification is the inclusion of the Net Promoter Score (NPS). The Net Promoter Score (NPS) is a popular management tool (a simple one statement question) that can be used to measure in what extent customers recommend a certain brand. The NPS statement: *“To what extent would you recommend the SME to friends, family and colleagues?”*. Promoters are the consumers who rate the statement with a 9 or 10, passives rate a 7 or 8 and detractors rate a 0 till 6. The NPS can be calculated by subtracting the percentage of detractors of the percentage of promoters.

### 3. METHOD

A cross-sectional survey sample of 308 consumers that complained (using the website contact form on the home page of the SME) is used to study the relationship between complaint handling, satisfaction following the complained handling and post complaint behaviour. The invitation for the digital survey (appendix I) was emailed in February 2013 to 623 consumers that complained during the months March 2012 to June 2012 and October 2012 to January 2013. 308 responders finished the survey, yielding a response rate of 49,4%. The average responder needed 9 minutes and 47 sec. to complete the survey (not including the 18 responders who needed longer than 30 minutes). Responders that completed the survey could choose a € 15 gift card of the Mediamarkt, Amazon or iTunes depending on their country. The survey consisted of multiple parts. Table 3 shows the parts and how they relate to the conceptual frameworks. See appendix I for the complete survey. The survey questions and statements were used for the structural path analysis, gap analysis or to get insight in the current state of complaint handling.

**Table 3: Survey information (items taken from Davidow (2000))**

Survey item	Nr. of items	Answer category	Survey item use
Expected complaint handling	12	5 point Likert (from strongly disagree to strongly agree)	Gap analysis
Seriousness and consequences of the problem	2	5 point Likert (from no problem/consequences to major problem/consequences)	Insight and representation of population of interest
Perceived complaint handling	12	5 point Likert (from strongly disagree to strongly agree)	Gap analysis and structural analysis
Complaint handling satisfaction	2	5 point Likert (from strongly disagree to strongly agree)	Structural analysis
Overall satisfaction	3	5 point Likert (from strongly disagree to strongly agree)	Structural analysis
Word-of-mouth activity	3	5 point Likert (from strongly disagree to strongly agree)	Structural analysis
Repurchase intentions	3	5 point Likert (from strongly disagree to strongly agree)	Structural analysis
NPS	1	11 point scale	Insight
Complained to local retailer	1	Yes, no	Insight
How would you like to contact the SME	1	8 options and other	Insight
When should the SME be available	1	6 options and other	Insight
Demographic questions	3	Varies	Insight and representation of population of interest
Which company handled complaint	1	the SME, NSO/distributor, other	Insight
Type of gift	1	Mediamarkt, iTunes, Amazon	Incentive
Address information	1	Open	Sending gift
Future surveys	1	Yes/No	For future surveys
Comments	1	Open	Insight



Twenty-seven cases (8,6%) were deleted from the main dataset. Thirteen cases were deleted because respondents filled in “not applicable” in 50% or more of the perceived complaint handling survey items. Eight cases were deleted because respondents filled in that they didn’t have a problem and therefore didn’t complain, five cases were deleted because the respondent didn’t fill in the survey completely and one case was deleted because the respondent filled in the survey under 4 minutes and constantly choose the answer category most right on the screen. No other outliers were found.

Structural equation modelling (SEM) is used to find evidence for the existence and strengths of relationships in the structural path model (see figure 10). SEM can examine a series of dependence relationships simultaneously. Therefore this method has advantages over MANOVA or other methods that cannot handle variables that are both dependent and independent. Furthermore is confirmatory factor analysis (CFA) used to see if the expectation and questions load onto the theoretically described factors. These results are then used to conduct the gap analysis.

### 3.1 MISSING DATA

The survey data did not have any missing data because participants were required to fill in all questions. However, the questions regarding the variables perceived facilitation, apology, redress, timeliness, credibility, and attentiveness could be answered with “not applicable”. Table 4 shows the percentage of “not applicable” response per variable. The “not applicable” response can’t be used as a category in the ordinal LIKERT scale, consequently are the “not applicable” responses treated as missing values, as is the usual way in this kind of analysis (Jöreskog, 2005).

**Table 4: Number of not applicable answers for the perceived complaint handling questions**

Survey item	Dimension	N	Number of answers: Not applicable	Percentage: Not applicable
FAC1	Facilitation	286	2	0,7%
FAC2	Facilitation	286	1	0,3%
APO1	Apology	286	35	12,2%
APO2	Apology	286	43	15,0%
RED1	Redress	286	11	3,8%
RED2	Redress	286	13	4,5%
TIM1	Timeliness	286	2	0,7%
TIM2	Timeliness	286	4	1,4%
CRE1	Credibility	286	32	11,2%
CRE2	Credibility	286	52	18,2%
ATT1	Attentiveness	286	14	4,9%
ATT2	Attentiveness	286	18	6,3%

Little MCAR test showed that the “not applicable” response is filled in completely at random ( $\chi^2=788$ ,  $df=850$ ,  $p=0,935$ ). This means that the pattern of missing data (in this case the “not applicable” response) for the variables does not depend on any other variables in the data set (for the structural analysis) or on the values of the variable itself. 190 respondents have not answered “not applicable” for any survey item, 29 respondents have answered one survey item with “not applicable”, 30 respondents have answered two survey items with “not applicable” and 37 respondents have

answered three to five survey items with “not applicable”. Responses with more than 50% “not applicable” (13 respondents) were already deleted before depicting table 4, in line with what literature suggest (Hair, 2010).

Variables with more than 10% missing values can cause problems in SEM. Therefore is the structural path model analysis at first conducted by using the standard model, if this model yields a bad fit than variables can be excluded that make the model fit worse. Pairwise deletion of cases (use of all-available data) is recommended when sample sizes exceed 250 and the total amount of missing data involved among the measured variables is below 10 percent (Hair, 2010). This is not the case in the structural model that is analyzed, with a number of 190 cases. Pairwise deletion will nevertheless be used models because the number of cases is not much lower and listwise deletion can cause problems in SEM.

### **3.2 SAMPLE SIZE WITH REGARD TO MODEL ISSUES**

In the structural path analysis are 59 parameters (24 variances and 35 regressions) estimated in model 1 and 49 parameters (20 variances and 29 regressions) in model 2. There is no exact rule for the number of respondents per estimated parameter needed in a study but ten respondents per estimated parameter is generally viewed as a good number (Hair, 2010). The sample used in the structural path analysis has a ratio of 4,8 respondent per parameter in model 1 and 5,8 respondent per parameter for model 2, both can be considered low, unfortunately can the sample size not be increased (the whole population has been invited for the survey). Although the ratio of 4,8 or 5,8 respondent per parameter is lower than recommended and thus not optimal, the conceptual framework of the structural analysis (figure 10) will not be changed because all parameters are viewed as important for the analysis.

### **3.3 ESTIMATION TECHNIQUE**

There are several estimation techniques available when conducting SEM. Maximum likelihood estimation is the most common method, however this method relies heavily on the rather strong assumption of multivariate normality. Histograms of the perceived complaint handling dimensions (facilitation, apology, redress, timeliness, credibility and attentiveness) and the dependent variables (complaint satisfaction, satisfaction, word of mouth and repurchase intentions) showed that the data for the variables is not normal distributed. This conclusion is strengthened by the Kolmogorov-Smirnov test that shows that the percentage on all variables are significantly non-normal ( $0,09 < D(225) < 0,24$ ,  $p < 0,05$ ).

The best fitting estimation technique for ordinal data (like the LIKERT scale) that is not normal distributed is the diagonally weighted least squares technique. Maximum likelihood will nevertheless be used because it is much easier to use and often yields the same results as diagonally weighted least squares (Muthen, 1984, Jöreskog, 1990 and Hair 2010). LISREL 9.10 will be used to perform the SEM.

## 4. RESULTS

This chapter is divided into four main parts. Paragraph 4.1 shows the descriptive statistics of the questions used to get insight in the situation. The second part (paragraph 4.2) visualizes the reliability and validity of the variables used in the structural path and gap analysis. The third part (paragraph 4.3) shows the structural equation modelling that is used to examine the relationship between the variables in the structural path analysis. Paragraph 4.4 consists of the confirmatory factor analysis conducted for the gap analysis to show the factor loadings for expected complained handling and this paragraph also deals with the gap analysis itself of course.

### 4.1 DESCRIPTIVE ANALYSIS

Descriptive statistical analysis was executed on the 286 cases that remained. The most common respondent is male, between 40 and 65 years old and from the Netherlands. See table 5 for the demographic results, the results on the left are the sample size statistics and the statistics on the right are from the population. A Pearson's chi-square test showed that the sample size and population do not statistically differ from each other for gender and country. The age of the receivers was unknown and can therefore not be compared.

**Table 5: Sample size (responders to the survey)**

Gender	Frequency	%
Male	252	88,1
Female	34	11,9
Age	Frequency	%
<25	13	4,5
25-39	99	34,6
40-64	144	50,3
>65	30	10,5
Country	Frequency	%
Netherlands	110	38,5
Germany	62	21,7
United Kingdom	44	15,4
France	22	7,7
Belgium	14	4,9
Italy	9	3,1
Spain	8	2,8
Denmark	7	2,4
Austria	5	1,7
Switzerland	5	1,7

**Population statistics (receivers of the survey)**

Gender	Frequency	%
Male	552	88,6
Female	71	11,4
Age	Frequency	%
<25	Unknown	
25-39	Unknown	
40-64	Unknown	
>65	Unknown	
Country	Frequency	%
Netherlands	217	34,8
Germany	157	25,2
United Kingdom	73	11,7
France	59	9,5
Belgium	29	4,7
Italy	21	3,4
Spain	20	2,7
Denmark	17	2,7
Austria	17	2,7
Switzerland	13	2,1

#### 4.1.1 SERIOUSNESS AND CONSEQUENCES REGARDING THE PROBLEM

Two statements were included in the survey to get insight in the seriousness of the problem and consequences following the problem. Respondents with no problem were already deleted from the sample (see chapter 3) because they do not represent the population that was intended in the survey. The results (table 6) show that most consumers experienced a moderate or major problem and that consumers mostly experienced moderate or major consequences following the problem.

Correlation analysis (Spearman's rho) between the seriousness of the problem and consequences following the problem show that there is a large positive significant effect,  $r.=0,60$ ,  $p<0.01$  (2-tailed).

**Table 6: Seriousness and consequences of the problem**

How serious was the problem?	Frequency	%
No problem	0*	0
Minor problem	67	23,4
Moderate problem	115	40,2
Major problem	103	36,0
Do not know	1	0,3

\* 8 cases deleted before analysis

How serious were the consequences of this problem?	Frequency	%
No consequences	14	4,9
Minor consequences	64	22,4
Moderate consequences	106	37,1
Major consequences	96	33,6
Do not know	6	2,1

#### 4.1.2 THE NET PROMOTER SCORE (NPS)

The Net Promoter Score (NPS) is a popular management tool (a simple one statement question) that can be used to measure in what extent customers recommend a certain brand. The statement: *“To what extent would you recommend the SME to friends, family and colleagues?”* was answered by all 286 responders on an 11 points scale from 0 (very unlikely) to 10 (very likely). Promoters are the consumers who rate the statement with a 9 or 10, passives rate a 7 or 8 and detractors rate a 0 till 6. The NPS can be calculated by subtracting the percentage of detractors of the percentage of promoters. Table 7 shows the NPS per country.

**Table 7: NPS score per country**

Country	Detractors	Passives	Promoters	NPS
Netherlands	24,5%	44,5%	30,9%	6,4
Germany	46,8%	19,4%	33,9%	-12,9
United Kingdom	40,9%	27,3%	31,8%	-9,1
France	36,4%	22,7%	40,9%	4,5
Belgium*	21,4%	42,9%	35,7%	14,3
Italy*	33,3%	22,2%	44,4%	11,1
Spain*	12,5%	50,0%	37,5%	25,0
Denmark*	71,4%	28,6%	0%	-71,4
Austria*	60,0%	0,0%	40,0%	-20,0
Switzerland*	60,0%	20,0%	20,0%	-40,0
<b>Total</b>	<b>35,0%</b>	<b>32,5%</b>	<b>32,5%</b>	<b>-2,5</b>

\* Expected count lower than 5 in crosstabulation, chi-square not accurate for these countries.

A Pearson's chi-square test was performed to see if the number of detractors, passives and promoters between the Netherlands, Germany, United Kingdom and France are significant different from each other. The Pearson's chi-square test reported that there is a significant association between the type of country and if a consumer is more likely to be a detractor, passive or promoter,  $\chi^2(6)=16,16$ ,  $p<0,05$ . Cramer's statistic of 0,18 ( $p<0,05$ ) shows that there is a small effect between

type of country and NPS. The gap analysis (paragraph 4.4) examines the difference between the four countries with the most response, because there can be concluded that they show statistical difference from each other with regard to detractors, passives and promoters.

**4.1.3 DID YOU FIRST COMPLAIN TO YOUR LOCAL RETAILER/WEBSHOP?**

Further insight in the consumer situation was gained by asking: “Did you first complain to your local retailer or webshop, before contacting the SME?” Consumers could answer with no or yes and could explain their answer further. The minority of the consumers (28%) did complain to the retailer before contacting the SME. More than half of the consumers (153) did comment in the optional explanation field. Not all comments are related to the direct contact question because consumers used the comment field also to voice frustration and to give other feedback.

The explanation field was filled in with a wide range of comments although five types of comments were voiced more than the others. The type of comment that is voiced most is in the line of: “I never got a reply from the SME or any other organization” (14% of the comments). When summing up all other comment fields, 19% of all consumers did point out that they never received any sort of reply. Furthermore did consumers comment about: retailers telling them to contact the SME directly (8%), retailer did not or could not help the consumer (8%), consumers found direct the SME contact information (6%), consumers telling that a part was broken/ needed (5%). There were more than 50 types of comments with only 1 or 2 cases, showing the wide variety of comments.

**4.1.4 COMPLAINT FACILITIES AND THE SME’S AVAILABILITY**

Another two questions were asked to get more insight about how consumers would like to complain and when the SME should be available to answer complaints. Table 8 shows the results of those two questions. Multiple answers per respondent could be given in the question: “In general, how would you like to contact the SME regarding complaints?” 89,5% of the consumers want to complaint via website or email and 40,6% via telephone. All other categories are checked much less. Most consumers would like the SME to be available on Monday to Friday from 9:00 till 17:00 (34,6%).

**Table 8: Complaint facilities and availability of the SME**

<b>In general, how would you like to contact the SME regarding complaints?</b>	<b>Frequency</b>	<b>%</b>
The SME’s website or email	256	89,5
The SME’s Twitter	4	1,4
The SME’s Facebook	5	1,7
The SME’s internet forum or message board	9	3,1
Online chat with a SME employee	56	19,6
Telephone	116	40,6
Via local retailer or webshop	30	10,5
Via the SME’s distributor	27	9,4
By other means (please specify)	4	1,4

<b>Question: When should the SME be available to answer your complaint?</b>	<b>Frequency</b>	<b>%</b>
No direct contact needed	46	16,1
Monday to Friday from 9:00 to 17:00	99	34,6
Monday to Friday from 9:00 to 20:00	82	28,7
Every day from 9:00 to 17:00	11	3,8
Every day from 9:00 to 20:00	28	9,8

Always, 24 hours a day	7	2,4
Other (please specify)	13	4,5

#### 4.1.5 COMPANY THAT HANDLED YOUR QUESTION

The following question that is discussed is important because it gives insight in who handled the complained according to the consumer. It is known that the distributors and NSO's handle all complaints but consumers do not experience it that way. 50% of all consumers that did not get support from the SME still think that the SME handled their complained. 70% of the consumers that did get support from the SME also did experience that feeling. Table 9 shows the complete crosstable.

**Table 9: Crosstable of actual complaint handling vs consumer perceived complaint handling**

	Consumer thinks the SME did not do the complaint handling	Consumer thinks the SME did the complaint handling
Actual complaint handling by distributor	58 (50,4%)	57 (49,6%)
Actual complaint handling by NSO	51 (29,8%)	120 (70,2%)

#### 4.1.6 COMMENTS FROM CONSUMERS

35% of all the consumers did comment on the last question: *"If you have any comments, please share them with us below."* 60 comments were regarding negative experiences in the complaint handling process and 40 comments were neutral or positive. 30 of the 60 negative comments were regarding never getting a reply on the complaint. Some comments are quoted below to give more insight in the thoughts of the consumers.

##### Quotes:

- "I really like the quality of the SME product. However the SME support in the UK was absolutely appalling. I had to beg to get the spare part required."
- "It would be better, if the SME employees used the time, which I consumed with your survey, would have used to find a solution for my problem."
- "The complaint I made was reacted too and was not too bad with regards to response time. The response I did get though did not help much and I subsequently pursued to try and resolve the problem myself. There was no follow-up. I bought one of the most expensive <Product Category> at around £250, but there is a question over the quality of the <Product Name>. I do not admire your company for looking at how it deals with complaints."
- "If you promise lifetime warranty you must also live up to that. The <Product Name> I have is worthless now this part is no longer working. At the very least should have been offered to check the part - it can be easily disassembled and sent to you - to check and if necessary repair. With clinical observations as: "This <Product Name> is no longer made" and "we don't have any spares" you do not make any friends. Sending a new <Product Name> might be a good solution. You have left me alone with my problem and that I regret that I ever bought your product. The <Product Name> are still offered on the Internet. Your company could still offer a solution."
- "I e-mailed twice and never received a response to either."
- "I contacted you after finding your website after several days and never received a reply for my complaint and problem. Hence I cannot use the product and have given up I have wasted £80.00

for nothing on your <Product Name>. It was a nice product but with missing parts it was useless. Now I have to purchase a new <Product Category>. Many Thanks for your help.”

- “Dear Sir, You were fairly quick to acknowledge my complaint. You requested that I send pictures of the mechanical failure. Despite chasing you, I have yet to receive a satisfactory response with a solution or repair. This is very frustrating.”
- “The initial contact with <Employee of the NSO> was OK, second attempt was good and he did what he said he would do. However, once <Employee of the SME> became involved his customer service was outstanding - grasped the issue instantly and provide the best customer service possible and solved the problem. I could not sing his praises more - excellent.”

Some of the quotes written above are translated into English because they were original in Dutch, German or French. The message from the quotes is however not changed at all. The quotes show that a lot of consumers do not get any response (19% mentioned this) towards their complaint. Additionally are some consumers experiences problems with the lifetime warranty, saying that they should get a replacement part. There are also quite a number neutral or positive comments (40%), showing that there are also a number of satisfied consumers.

#### 4.1.7 COMPLAINT SATISFACTION

Figure 12 shows the average consumer satisfaction. Consumers were asked how satisfied they are about the complaint handling and could answer the statements (see appendix I) on a Likert scale from strongly disagree to strongly agree. Almost half of the consumers are very satisfied, but there is also a group that is very dissatisfied. Consumers that did not receive any response on their complaint are almost all very dissatisfied. The consumers that did receive a response are satisfied overall.

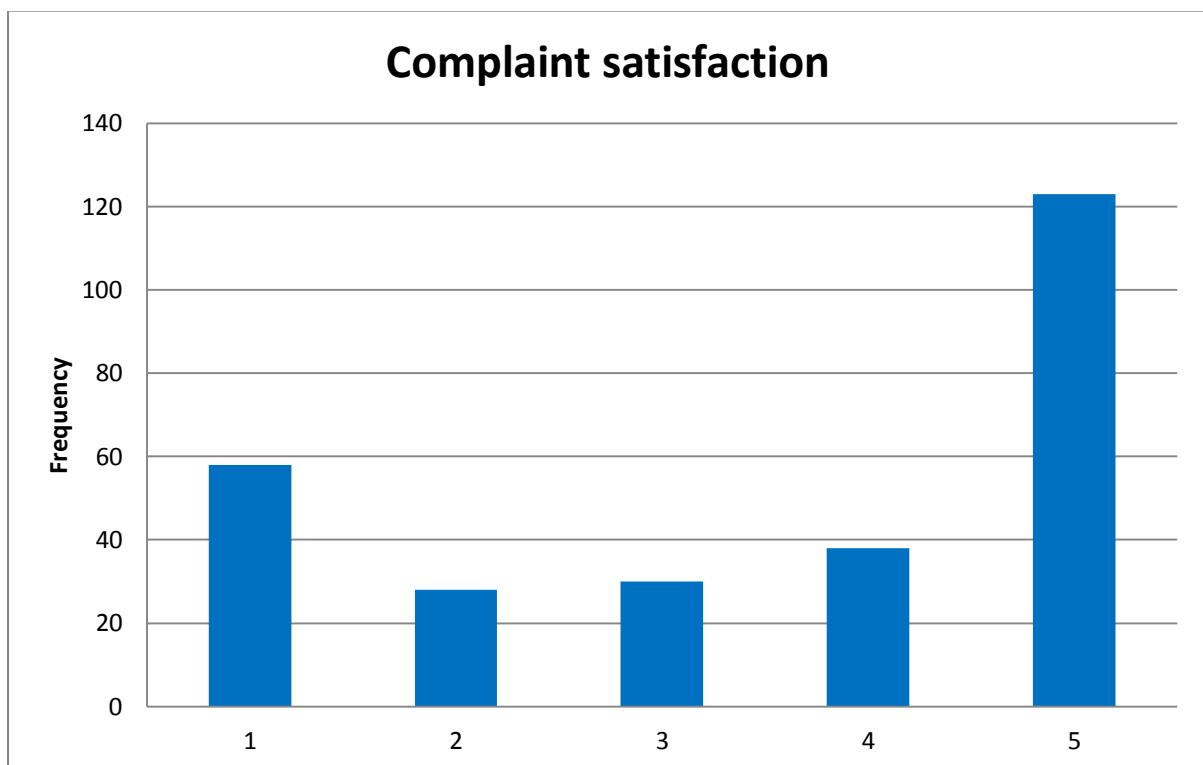


Figure 12: Complaint satisfaction (ranging from very dissatisfied to very satisfied)

## **4.2 CONSTRUCT VALIDITY AND RELIABILITY FOR THE STRUCTURAL PATH ANALYSIS**

Construct validity relates to the way variables correlate with each other in practice and theory. Correlations between theoretically similar measures should be "high" (convergent validity) while correlations between theoretically dissimilar measures should be "low" (discriminant validity). Correlations between the items in the structural path analysis are visible in table 10. Large correlations (> 0,5) have a yellow background and very large correlations (> 0,7) have a green background.

Construct reliability involves the quality of a measurement. Reliability is the "consistency" of measures and can be indicated with use of the Cronbach Alpha parameter. Table 11 shows the correlations between variables and constructs used for the structural path model. Only 190 responses could be used for this analysis because the structural analysis is conducted with use of pairwise deletion. The individual Confirmatory Factor Analysis (CFA) loadings and factor loadings are visible in figure 13. See appendix III for the full output of the CFA.

### **4.2.1 CONVERGENT VALIDITY**

Convergent validity of the measurement model is feasible, most variables that should correlate with each other do actually show high correlations. The independent variables (perceived facilitation, apology, redress, timeliness, credibility and attentiveness) correlate good within the variable, ranging from 0,72 (for facilitation) to 0,93 (for redress) with each other. The dependent variables (complaint satisfaction, satisfaction, word of mouth and repurchase intentions) correlate good within the variables complaint satisfaction and satisfaction, ranging from 0,84 (for sat1 on sat3) to 0,95 (for complaint satisfaction). The correlations within the dependent variables word of mouth (WOM) and repurchase intentions (RI) are somewhat lower, ranging from 0,46 (for RI1 on RI2) to 0,76 (WOM1 on WOM2). These correlations are still adequate enough to include them in the analysis.

### **4.2.2 DISCRIMINANT VALIDITY**

Most correlations between independent variables that measure different factors are high, ranging from 0,35 (for fac2 on cre1) to 0,71 (for tim2 on both redress variables). Davidow (2000, 2003) and Gelbrich and Roschk (2011) did also report high correlations between the complaint handling dimension items. Furthermore are there high correlations between complaint satisfaction and satisfaction (ranging from 0,76 to 0,86). Gelbrich and Roschk (2011) reported a high correlation (0,51) between transaction specific satisfaction (relating to a one-time complaint experience with a company) and overall satisfaction. Transaction specific satisfaction has a very similar definition as complaint satisfaction, but this finding indicates that other studies did also find correlations between different types of satisfaction.

Discriminant validity is however not an issue in this study because the Maximum Shared Squared Variance (MSV) and Average Shared Squared Variance (ASV) are for every variable lower than the Average Variance Extracted (AVE) as Hair (2010) discusses. This shows that the variables correlate less highly with variables outside their parent factor than with the variables within their parent factor. The latent factor is therefore better explained by its own observed variables than by some other variables (from a different factor). See table 10 for the MSV, ASV and AVE per variable.



#### 4.2.3 CONSTRUCT RELIABILITY

Construct reliability (CR) is supported because all Cronbach alpha constructs measures are higher than 0,8. The Cronbach alpha construct reliabilities are depicted in table 10 and 12. Furthermore shows table 11 the correlations between variables and constructs, 95% confidence intervals of the correlations and the total sample size between the variables and constructs that are used in the structural path analysis. All correlations are significant at  $p < 0,01$ . The average correlation is 0,53, ranging from 0,16 for “facilitation on word of mouth” to 0,87 “redress on complaint satisfaction”.

**Table 10: Construct reliability and validity (MSV, ASV and AVE) per variable**

	<b>CA Construct Reliability (CR)</b>	<b>Average Variance Extracted (AVE)</b>	<b>Maximum Shared Squared Variance (MSV)</b>	<b>Average Shared Squared Variance (ASV)</b>
<b>Perceived Facilitation</b>	0,827	0,706	0,339	0,255
<b>Perceived Timeliness</b>	0,954	0,912	0,555	0,365
<b>Perceived Apology</b>	0,917	0,847	0,325	0,263
<b>Perceived Redress</b>	0,964	0,931	0,757	0,414
<b>Perceived Credibility</b>	0,923	0,856	0,365	0,261
<b>Perceived Attentiveness</b>	0,954	0,912	0,402	0,305
<b>Complaint Satisfaction</b>	0,985	0,970	0,757	0,428
<b>Satisfaction</b>	0,963	0,897	0,721	0,425
<b>Word of Mouth</b>	0,868	0,690	0,132	0,062
<b>Repurchase Intentions</b>	0,845	0,652	0,540	0,304

**Table 11: Correlation coefficients (Spearman's rho) for survey items related to the structural path analysis**

	Fac1	Fac2	Apo1	Apo2	Red1	Red2	Tim1	Tim2	Cre1	Cre2	Att1	Att2	C_Sat1	C_Sat2	Sat1	Sat2	Sat3	WOM1	WOM2	WOM3	RI1	RI2	RI3
Fac1	1,00																						
Fac2	0,72	1,00																					
Apo1	0,47	0,48	1,00																				
Apo2	0,59	0,53	0,85	1,00																			
Red1	0,52	0,46	0,54	0,57	1,00																		
Red2	0,49	0,46	0,51	0,54	0,93	1,00																	
Tim1	0,58	0,52	0,55	0,59	0,68	0,68	1,00																
Tim2	0,54	0,50	0,53	0,57	0,71	0,71	0,90	1,00															
Cre1	0,40	0,35	0,45	0,57	0,56	0,57	0,52	0,56	1,00														
Cre2	0,37	0,39	0,48	0,58	0,62	0,64	0,55	0,60	0,86	1,00													
Att1	0,53	0,52	0,53	0,55	0,63	0,62	0,59	0,61	0,47	0,51	1,00												
Att2	0,52	0,53	0,54	0,57	0,61	0,58	0,59	0,61	0,44	0,52	0,92	1,00											
C_Sat1	0,52	0,49	0,53	0,58	0,86	0,86	0,70	0,74	0,55	0,60	0,60	0,56	1,00										
C_Sat2	0,55	0,50	0,53	0,58	0,84	0,85	0,68	0,74	0,53	0,58	0,62	0,58	0,95	1,00									
Sat1	0,54	0,48	0,52	0,58	0,78	0,77	0,63	0,68	0,56	0,63	0,62	0,57	0,85	0,86	1,00								
Sat2	0,53	0,46	0,50	0,56	0,76	0,76	0,64	0,68	0,56	0,61	0,58	0,55	0,82	0,82	0,90	1,00							
Sat3	0,51	0,48	0,54	0,55	0,74	0,73	0,62	0,65	0,54	0,59	0,58	0,54	0,76	0,76	0,84	0,88	1,00						
WOM1	0,17	0,19	ns	ns	0,14*	0,14*	0,14*	0,16	0,14*	0,15*	0,17	0,17	0,17	0,18	0,22	0,23	0,22	1,00					
WOM2	0,19	0,14*	ns	0,15*	0,15*	0,15*	0,15*	0,18	0,13*	0,15*	0,16	0,17	0,20	0,22	0,25	0,22	0,20	0,76	1,00				
WOM3	0,23	0,16	0,15*	0,24	0,25	0,24	0,17	0,20	0,22	0,23	0,19	0,18	0,30	0,31	0,35	0,34	0,29	0,51	0,66	1,00			
RI1	0,53	0,42	0,46	0,53	0,71	0,70	0,54	0,56	0,46	0,53	0,56	0,53	0,75	0,77	0,78	0,75	0,68	0,20	0,23	0,33	1,00		
RI2	0,27	0,20	0,26	0,25	0,44	0,42	0,30	0,33	0,34	0,44	0,35	0,33	0,38	0,38	0,48	0,49	0,49	0,15*	ns	0,27	0,46	1,00	
RI3	0,42	0,35	0,34	0,37	0,55	0,53	0,42	0,46	0,37	0,47	0,46	0,42	0,57	0,57	0,62	0,61	0,57	0,30	0,26	0,37	0,71	0,57	1,00

Fac1&2 measure perceived facilitation, Apo1&2 perceived apology, Red1&2 perceived redress, Tim1&2 perceived timeliness, Cre1&2 perceived credibility, Att1&2 perceived attentiveness, C\_Sat1&2 complaint satisfaction, Sat1,2&3 satisfaction , WOM1,2&3 word of mouth and RI1,2&3 measure repurchase intentions. Relations without marking are significant at p = 0,01 (2-tailed), relations marked with an \* are significant at p = 0,05 (2-tailed) and relations marked with ns are not significant.

**Table 12: Correlation coefficients (Spearman's rho) for variables in the structural path model**

		FAC_P	TIM_P	APO_P	RED_P	CRE_P	ATT_P	COM_SAT	SAT	WOM	RI
FAC_P	Correlation Coefficient	,83									
	CI (95%)										
	N	190									
TIM_P	Correlation Coefficient	,678	,95								
	CI (95%)	0,59-0,75									
	N	190	190								
APO_P	Correlation Coefficient	,713	,682	,92							
	CI (95%)	0,64-0,78	0,60-0,75								
	N	190	190	190							
RED_P	Correlation Coefficient	,581	,740	,651	,96						
	CI (95%)	0,48-0,67	0,67-0,80	0,56-0,73							
	N	190	190	190	190						
CRE_P	Correlation Coefficient	,550	,707	,650	,703	,92					
	CI (95%)	0,44-0,64	0,63-0,77	0,56-0,73	0,62-0,77						
	N	190	190	190	190	190					
ATT_P	Correlation Coefficient	,712	,761	,691	,686	,628	,95				
	CI (95%)	0,63-0,78	0,69-0,82	0,61-0,76	0,60-0,75	0,53-0,71					
	N	190	190	190	190	190	190				
COM_SAT	Correlation Coefficient	,670	,793	,664	,930	,708	,757	,99			
	CI (95%)	0,58-0,74	0,73-0,84	0,58-0,74	0,91-0,95	0,63-0,77	0,69-0,81				
	N	190	190	190	190	190	190	190			
SAT	Correlation Coefficient	,638	,756	,633	,886	,675	,721	,954	,96		
	CI (95%)	0,55-0,72	0,69-0,81	0,54-0,71	0,85-0,91	0,59-0,75	0,65-0,78	0,94-0,97			
	N	190	190	190	190	190	190	190	190		
WOM	Correlation Coefficient	,154	,182	,153	,214	,163	,174	,230	,241	,87	
	CI (95%)	0,01-0,29	0,04-0,32	0,01-0,29	0,07-0,35	0,02-0,30	0,03-0,31	0,09-0,36	0,10-0,37		
	N	190	190	190	190	190	190	190	190	190	
RI	Correlation Coefficient	,555	,658	,551	,771	,587	,627	,830	,869	,210	,85
	CI (95%)	0,45-0,65	0,57-0,73	0,44-0,64	0,71-0,82	0,49-0,67	0,53-0,73	0,78-0,87	0,83-0,91	0,07-0,34	
	N	190	190	190	190	190	190	190	190	190	190

FAC\_P is perceived facilitation, TIM\_P is perceived timeliness, APO\_P is perceived apology, RED\_P is perceived redress, CRE\_P perceived credibility, ATT\_P is perceived attentiveness, COM\_SAT is complaint satisfaction, SAT is satisfaction, WOM is word of mouth and RI is repurchase intentions. All relations are significant at  $p = 0.01$  (2-tailed). Average Cronbach alpha construct reliabilities are depicted on the diagonal.

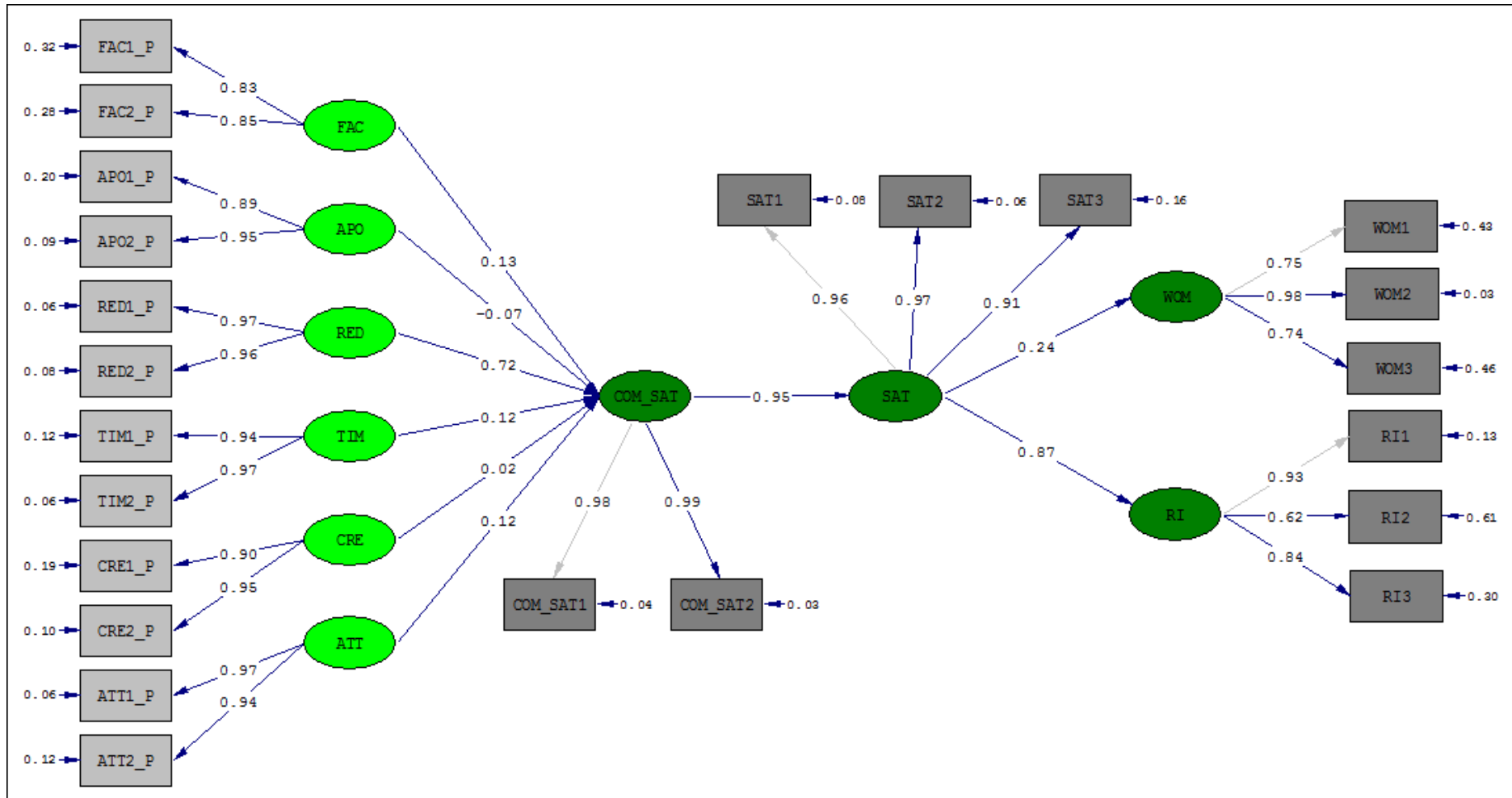


Figure 13: Item loadings in LISREL (standardized solution) for each variable

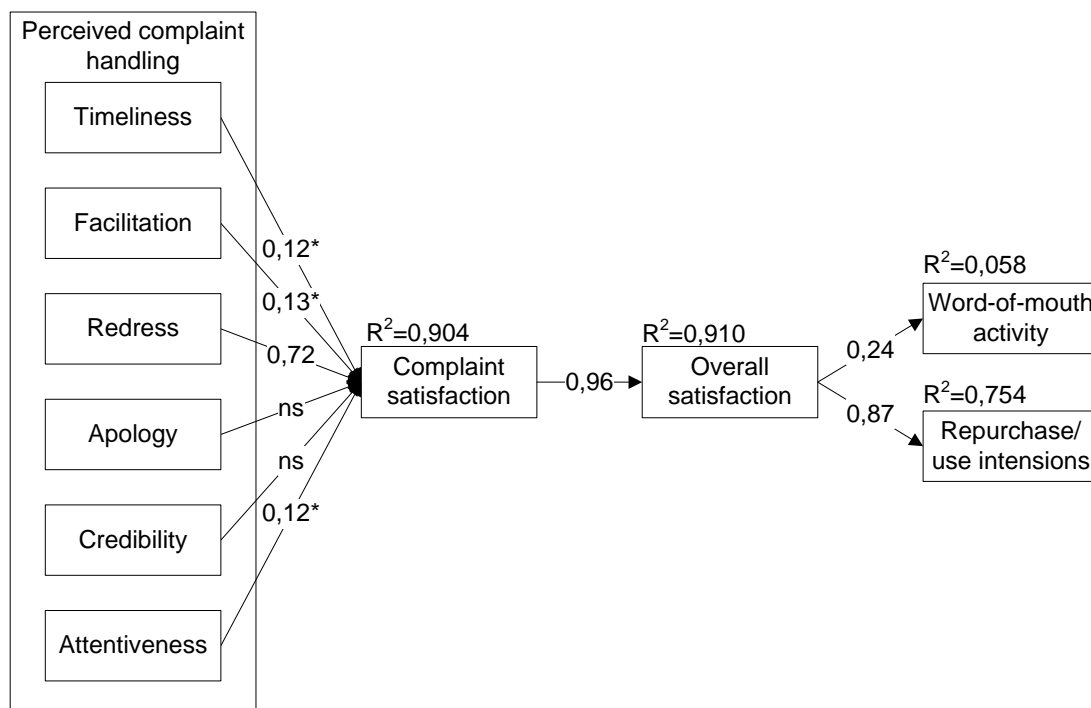
### 4.3 STRUCTURAL PATH ANALYSIS

The structural path analysis is conducted using the maximum likelihood method in LISREL. Three of the seven goodness-of-fit (GOF) indicators show a good model fit, two indicators show a moderate fit and two indicators show a bad fit. See table 13 for all the GOF indicators. The p-value is highly significant indicating problems with the model fit, however the p-value can be highly sensitive even with good fit when there are large numbers of variables (>12) (Hair, 2010). The other bad fit indicator is the GFI (Goodness-of-Fit Index) which should be above 0,95 but is 0,846 in this study. The low score can be explained by the nature of the index, the number of parameters are not taken into account in this index, while they are taken into context in the AGFI (Adjusted Goodness-of-Fit Index), that scores a moderate fit. Overall can be concluded that the model has a moderate to good fit based on using the most appropriate indexes (CFI,  $\chi^2/df$ , SRMR and RMSEA).

**Table 13: Goodness of fit for the conceptual structural path analysis**

Model	N	$\chi^2$	P-value	df	$\chi^2/df$	CFI	GFI	AGFI	SRMR	RMSEA
<i>Good model fit:</i>	-	-	> 0,05	-	< 3	> 0,95	> 0,95	> 0,80	< 0,08	< 0,05
Structural path analysis:	190	423.16	0,00	206	2,05	0,985	0,846	0,794	0,0763	0,0745

The impact of perceived complaint handling on customer satisfaction shows the importance of the perception dimensions for the SME. The maximum likelihood method (figure 14) shows that 5 of the 9 path coefficients are significant at the  $p < 0,001$  level. Two path coefficients are significant at the  $p < 0,05$  level (marked with an \*) and 2 path coefficients are not significant (marked with ns).



**Figure 14: Structural path model of complaint handling on satisfaction with use of SEM**

Two of the six perceived complaint handling dimensions (apology and credibility) do not impact complaint satisfaction in the case of the SME that is being studied in this thesis. Three dimensions (timeliness, facilitation and attentiveness) have a low impact on complaint satisfaction. Redress has by far the most impact on complaint satisfaction. The influence of complaint satisfaction on overall satisfaction is very high, complaint satisfaction almost explains all the variance in overall satisfaction. Overall satisfaction has both positive impact on word-of-mouth activity and repurchase intentions. The impact on word-of-mouth activity is moderate while the impact on repurchase intentions is high.

#### 4.4 GAP ANALYSIS

In the gap analysis is the gap between consumer’s expectations and perceptions of the complaint handling of the SME depicted. Before the gap analysis is conducted, a confirmatory factor analysis (paragraph 4.4.1) is executed to see if the items regarding the expected complaint handling dimensions load onto the theoretically constructed dimensions. Paragraph 4.4.2 shows the results from the gap analysis for all complaint dimensions, some dimensions should be valued more than others following the results of the structural path analysis. Apology and credibility did not impact complaint satisfaction, timeliness, facilitation and attentiveness did have a low impact on complaint satisfaction and redress did have high impact on complaint satisfaction.

##### 4.4.1 CONFIRMATORY FACTOR ANALYSIS FOR EXPECTED COMPLAINT HANDLING

The prescribed complaint handling model is tested to see if the expectation and perception questions load onto the theoretically described factors. Confirmatory Factor Analysis (CFA) was conducted on the six-factor model of the 12 expectation and perception questions using diagonally weighted least squares procedure (because the data is categorical) in LISREL 8.8. Table 14 shows the goodness-of-fit indicators of the models. The goodness-of-fit indicators show how good the data fits within the model that is defined on beforehand.

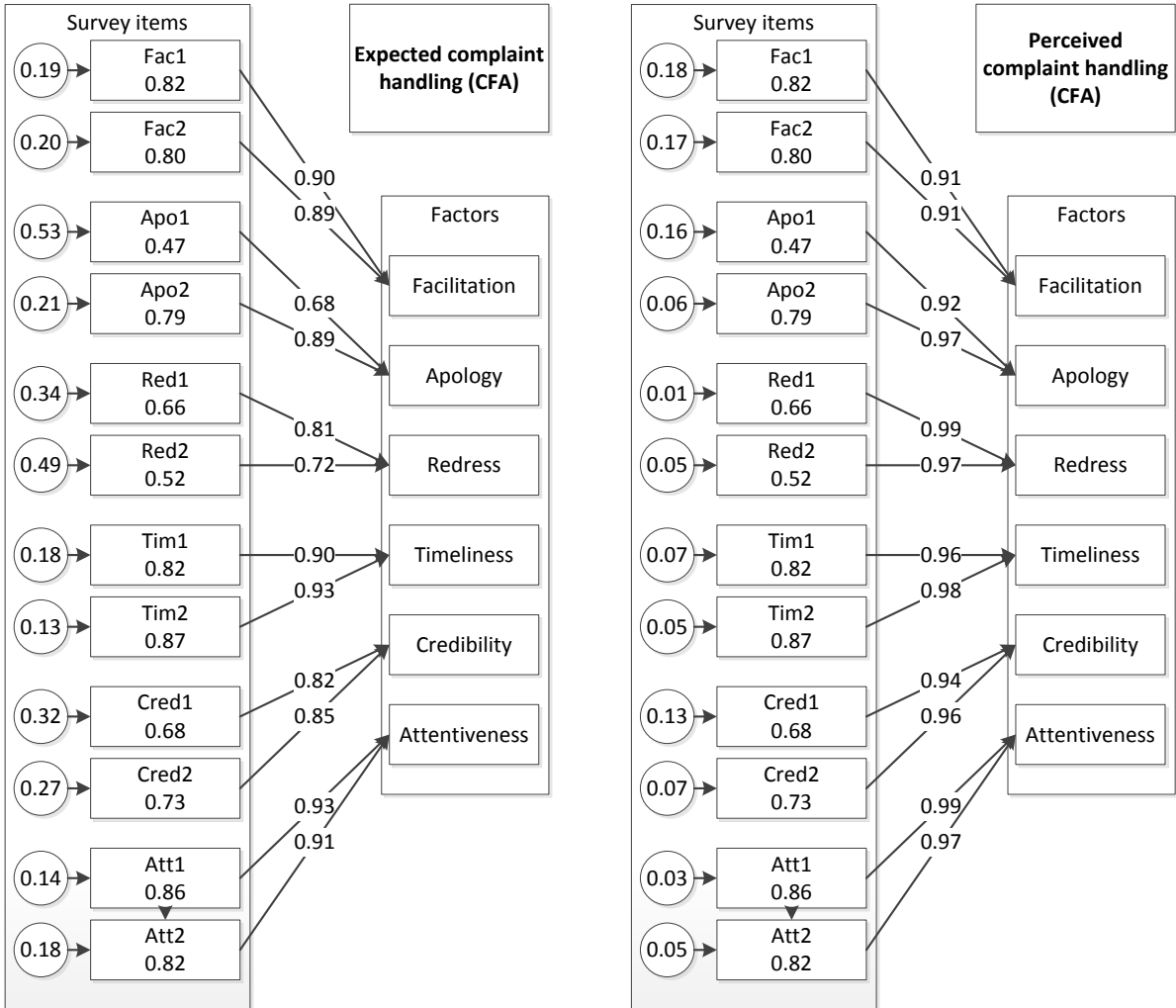
**Table 14: Goodness-of-fit indicators of the complaint handling model**

Model	N	$\chi^2$	P-value	df	$\chi^2/df$	CFI	GFI	AGFI	SRMR	RMSEA
<i>Good model fit:</i>	-	-	> .05	-	< 3	> .95	> .95	> .80	< .09	< .05
Expected complaint handling CFA	286	42,97	0,31	39	1,10	0,999	0,998	0,995	0,029	0,018
Perceived complaint handling CFA	190	35,31	0,64	39	0,91	1,000	1,000	0,999	0,015	0,000

Seven goodness-of-fit indicators are used to see if the data fit the theoretical model. All seven goodness-of-fit indicators confirm a good to very good fit (Hair, 2010) between both the expectation and perception complaint handling model and the observed data. Standardized parameters are provided on the arrows from the survey items to the factors in figure 15.

All standardized parameters in figure 15 are significant at the  $p < 0.001$  level. The squared multiple correlation (SMC) values are provided under the survey items in figure 15, survey item Fac1 has a SMC of 0.82 (in the expected complaint handling CFA) for example. The six factors account for a large

percentage of variance of the survey items, ranging from 68% for Apo1 (expected) to 99% for Att1 (perceived) and Red1 (perceived). No post-hoc modifications were indicated from the analyses because of the good-fit indexes, and both residual analyses did not indicate any problems.



**Figure 15: Standardized loadings for expected and perceived complaint handling**

Parallel analysis (conducted in SPSS with the syntax of O'Connor, B. P. (2000)) confirmed the choice of the six factors in both expected and perceived complaint handling models. Parallel analysis is often viewed as the one of best simple ways to determine how many factors to retain. “Of parallel analysis, the scree plot and Kaiser’s criterion, Kaiser’s criterion is, in general, worst and parallel analysis best.” (Zwick and Velicer, 1986). Figure 16 shows the results of the parallel analysis.

Parallel analysis is based on the Monte Carlo simulation. A raw data set is created that contains the same sample size and number of variables as the data set that is researched. The raw data set contains of random numbers is analyzed and the eigenvalues obtained are recorded. The eigenvalues of the raw data generated data sets (1000 times per analysis) are represented by the green lines, the eigenvalues of the expected and perceived are represented by the blue and red line respectively.

In parallel analysis each eigenvalue (the size of the factor) is compared against the eigenvalue for the corresponding factor in many random generated data sets (raw data) that have the same

characteristics as the data being analyzed. When the eigenvalue of the observed data (expected/perceived) drops below the raw data line the observed data doesn't explain more than the random raw data. Therefore the number of factors to retain before the drop is considered to be the critical point, this amount of factors should be retained, six factors in both cases. Both confirmatory factor analysis and parallel analysis confirm the theoretical model of six factors as underlying structure for the analysis of the impact of complaint handling.

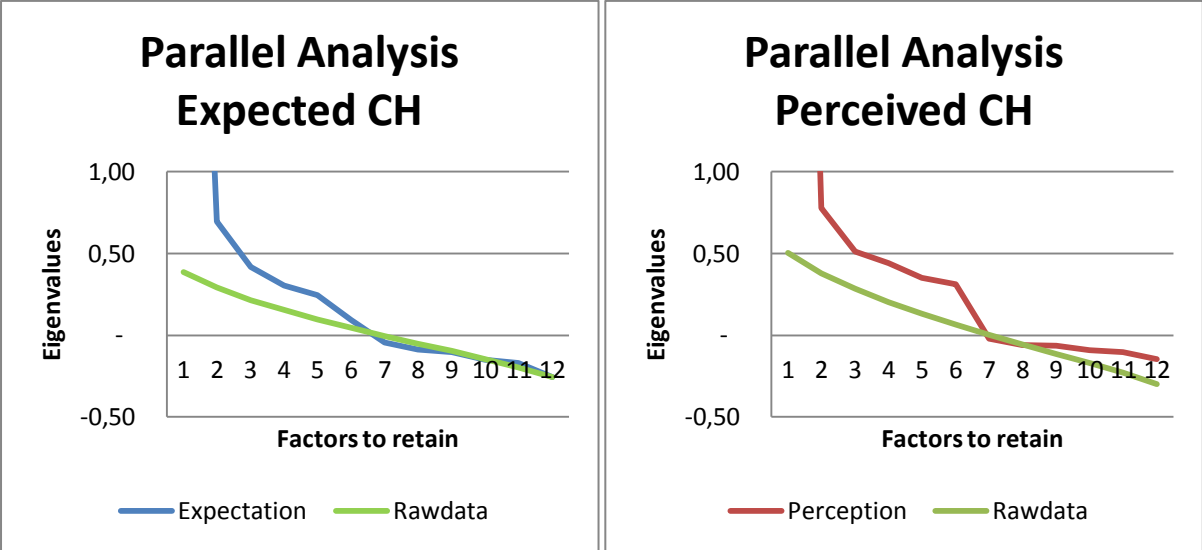


Figure 16: Parallel analysis of expected and perceived complaint handling

4.4.2 GAP ANALYSIS RESULTS

The gap analysis shows the gap between perceived and expected complaint handling (see figure 17) on six dimensions (timeliness, facilitation, redress, apology, credibility and attentiveness). Complainers expect on average a 4,15 (on a scale from 1 to 5) and perceive a 3,53 on the same scale. There is a gap of -0,62 between perceived and expected complaint handling. All dimensions are perceived worse than expected. The worst scoring dimension is credibility with a gap of -1,15.

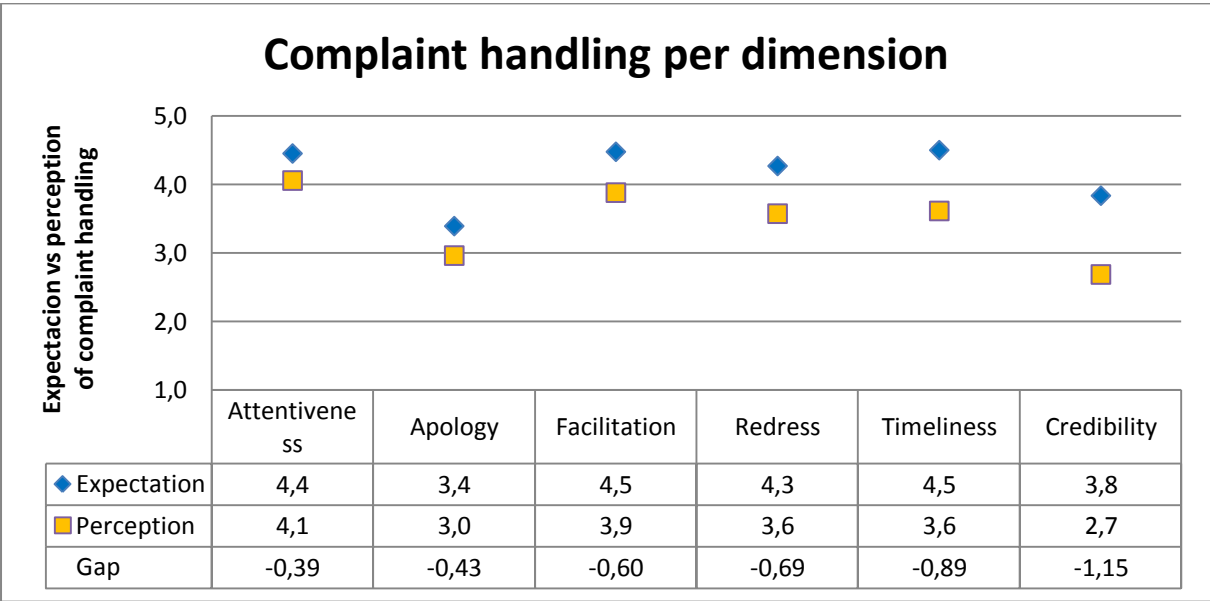
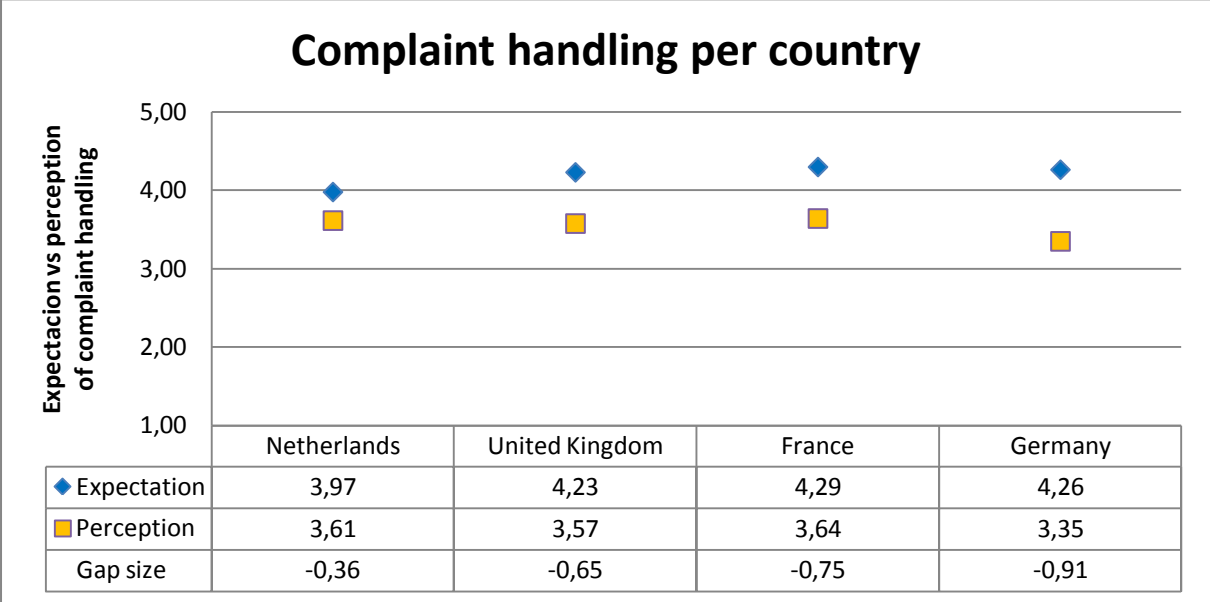


Figure 17: Gap visualization between expected and perceived complaint handling per dimension



The gap size between complaint handling expectations and perceptions is negative for all countries (see figure 18), this means that expectations are not met in reality. The respondents from the Netherlands experienced the smallest gap (-0,36) but are not perceived to be the best in complaint handling. France has the highest score for perceived complaint handling but due to high expectation still have quite a gap between expectations and perceptions.



**Figure 18: Gap visualization between expected and perceived complaint handling per country**

One-Way ANOVA visualized that there is a significant difference in gap size between the Netherlands, Germany, United Kingdom and France ( $F(3, 249)=2,80, p<0,05$ ). Levene’s test shows that the variance in gap size between the four countries is equal. Planned contrasts revealed that respondents from the Netherlands significantly experience a smaller gap than respondents from the 3 other groups (Germany, United Kingdom and France). Respondents from Germany significantly experience a larger gap than respondents from the 3 other groups (Netherlands, United Kingdom and France). The United Kingdom and France show in the planned contrast tests no significant gap size with the other three groups.

Furthermore was visualized in One-Way ANOVA analysis that average expectations significantly differ between the Netherlands, Germany, United Kingdom and France ( $F(3, 249)=5,24, p<0,05$ ). Average perceptions are not significantly different between the four countries. Levene’s test shows that the variance in average expectations between the four countries is equal. Planned contrasts revealed that respondents from the Netherlands significantly expect a lower level of complaint handling than respondents from the 3 other groups (Germany, United Kingdom and France). Germany, United Kingdom and France show in the planned contrast tests no significant gap size with the other three groups. The gap size, average perceptions and expectations between groups wasn’t significantly different anymore when the other countries: Belgium, Italy, Spain, Denmark, Austria and Switzerland were taken into consideration in One-Way ANOVA. Consequently are these six countries not included in figure 18.

Another interesting finding is that there is statistical difference found between how the NSO and distributor complaint handling is expected (figure 19). The perception score is not significant due to the large variance, but the gap size is significantly different. Expectations are lower for countries with a NSO ( $F(1, 298)=2,07, p<0,05$ ) and average gap size is significant smaller ( $F(1, 298)=7,50, p<0,05$ ).

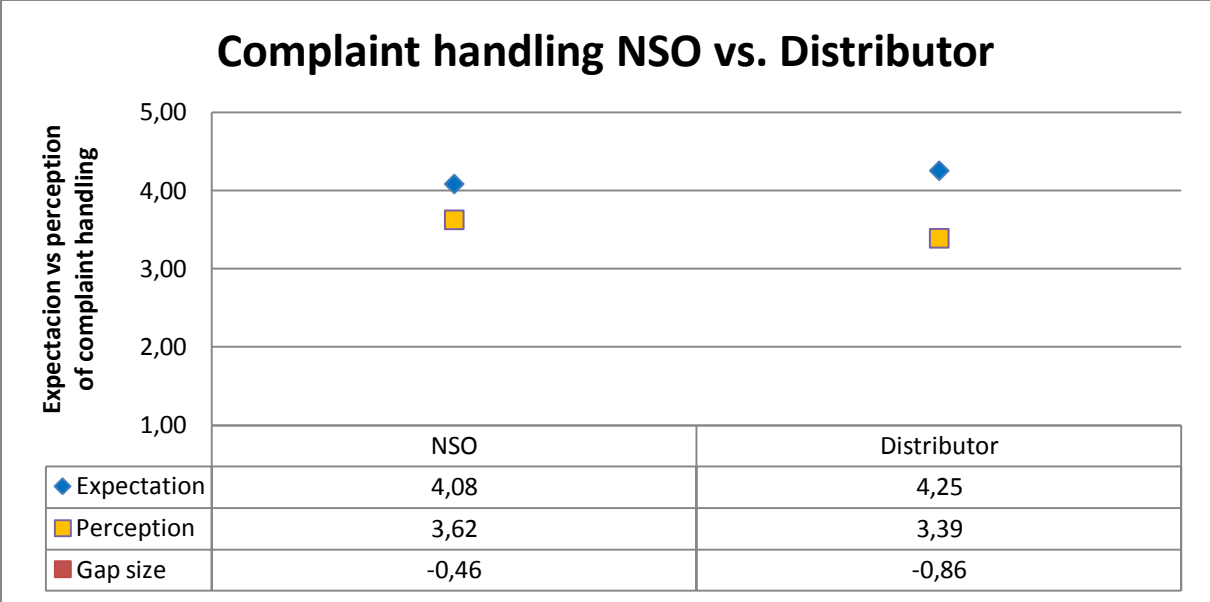


Figure 19: Gap visualization between expected and perceived complaint handling: NSO/Distributor

## 5. CONCLUSIONS

The gap analysis and structural path model analysis visualize the main findings of this thesis. The gap analysis shows that there are gaps on each complaint handling dimension, customer expectations are currently not met. The structural path model analysis shows that complaint handling satisfaction has a very high impact on overall satisfaction ( $r.=0,96$ ) and that redress is the most important complaint handling dimension ( $r.=0,72$ ). Last but certainly not least is of important note that 19% of all consumers did give feedback about not getting any response on their complaint.

Other studies support most findings of this thesis, Gelbrich and Roschk (2011) show that distributive justice (redress and apology in this study) is the most important determinant of post-complaint satisfaction. Davidow (2003) discussed in his review that 21 of 23 studies showed a relationship between redress and customer satisfaction. Most studies like Maxham et al. (2002) and Wirtz et al. (2004), find significant impact of complaint satisfaction on overall satisfaction, however Gelbrich and Roschk (2011) do not report a significant relationship between complaint satisfaction and overall satisfaction.

### 5.1 LARGE SPREAD IN COMPLAINT SATISFACTION

There seems to be no such thing as the average SME consumer, at least when viewing the average complaint satisfaction results. Around 28% of all consumers are dissatisfied (score of 1 or 2), 10% are neutral (score of 3) and 52% are satisfied (score of 4 or 5). Most consumers that did end up getting into contact with the consumer support at the NSO or BP are satisfied and consumers that did not get any response are all very dissatisfied. This is of course a very logical outcome. Figure 20 shows the large spread in complaint satisfaction.



Figure 20: Complaint satisfaction (ranging from very dissatisfied to very satisfied)

## 5.2 STRUCTURAL PATH MODEL VISUALIZES IMPORTANCE OF COMPLAINT HANDLING

The structural path model shows that complaint satisfaction has a very impact on overall satisfaction ( $r.=0.96$ ). This means that companies in similar industries as the SME should carefully handle complaints. Other studies like Davidow (2000), Gelbrich and Roschk (2011) and Homburg and Fürst (2005) have results that differ quite somewhat from each other (see table 15 for these results).

Homburg and Fürst do find a positive relationship, although this relationship is not as high as in this study. Gelbrich and Roschk (2011) do not find a significant relationship between transactional (measured similar as complaint) satisfaction and cumulative (overall) satisfaction. Gelbrich and Roschk (2011) discuss that they would expect a significant relationship between complaint satisfaction and overall satisfaction because five out of seven studies report this effect. They conclude that justice perceptions (which they measure) and complaint satisfaction share a common variance and that therefore complaint satisfaction does not contribute to overall satisfaction.

**Table 15: (Dis)similarities of results among different studies**

Relationship	This study	Davidow (2000)	Gelbrich and Roschk (2011)	Homburg and Fürst (2005)
Complaint satisfaction → Overall satisfaction	0,96	Not measured	ns	0,77
Redress (or other similar variable) → Complaint satisfaction	0,72	0,67	0,35	0,54
Overall satisfaction → Repurchase/ use intentions (or other similar variable, like loyalty)	0,87	0,42	0,30	ns

The structural model furthermore outlines the importance of redress for the SME. Results from different studies are much more similar for this relationship. Table 15 shows that all four studies that researched the impact from redress (or a similar variable like compensation) on complaint satisfaction found a positive relationship. Another high impact factor in this study is overall satisfaction on repurchase/ use intentions ( $r.=0,87$ ). Davidow (2000) and Gelbrich and Roschk (2011) do find a positive relationship between these variables but the impact factor in those studies is quite somewhat lower, namely 0,42 and 0,30. This shows that complaint handling for the SME in this study is even more important than for other companies because complaint handling has high impact on overall satisfaction and repurchase/use intentions.

## 5.3 GAP ANALYSIS SHOWS EXPECTED COMPLAINT HANDLING IS NOT PERCEIVED

A number of different studies use the gap analysis to measure the difference between expectations and perceptions. Cronin and Taylor (1992) discuss that there are differences in how perceptions are being measured. Some researches measure consumer attitude and other researches try to measure the experiences as objective as possible. This survey tried to measure expectations and perceptions as objective as possible, however consumer opinions can differ widely. Not all consumers are evenly satisfied when a recovery is conducted. Some consumers find one day waiting satisfactory and other consumers do not mind it to wait for even one week for the same solution.

Figure 21 shows the gap between expectations and perceptions on all complaint handling dimensions. Apology and credibility did not significantly influence complaint satisfaction and should therefore not be prioritized to be improved. It is interesting that both dimensions that do not influence complaint satisfaction score also the lowest with both perceptions and expectations.

Redress is by far the most important dimension and has also a large gap of -0,69. This means that consumer expectations are currently not met and that the SME currently performs about 21% under expectations. The 21% is the difference in a one five scale, as is the case here because of the five point Likert scale. Timeliness has an even larger gap than redress and timeliness does also significantly impact complaint satisfaction. Timeliness should be prioritized after redress as the most important dimension to improve.

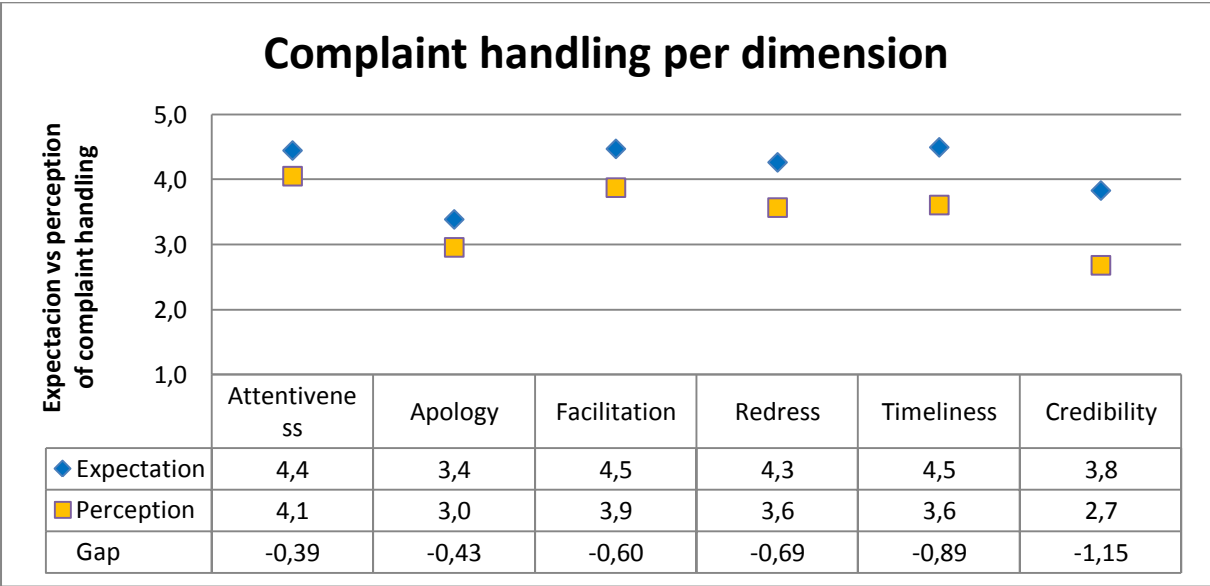


Figure 21: Complaint handling per dimension

**5.4 NPS SCORE IS VERY LOW FOR AN A-BRAND COMPANY**

The NPS (Net Promoter Score) score is a widely used management tool nowadays. Recent research (de Lange, 2011) showed that 62% of the companies in the Netherlands use the NPS score as a management tool. The NPS of complaining consumers in this study is -2,5, this means that there are more detractors than promoters which is a bad thing for a company selling premium products. A survey conducted with 5000 consumers living in the USA showed that there are big differences in NPS spread across different industries (see appendix IV). The industry of the SME is not measured in that survey but the results show that an NPS of -2,5 is a very low number in any industry.

## 6. DISCUSSION

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This study confirms findings of other articles but also gives some new insights in the field of complaint handling. The gap analysis is not conducted in the most important studies in the field of complaint handling. This study shows that a gap analysis can give a much more insight in the field and that it can be interesting to see what the differences between expectations and perceptions are for all complaint handling dimensions. The gap analysis also shows that there is a significant difference between the performance of the NSO's and BP's. NSO's outperform BP's but do still not meet consumer expectations.

Furthermore does the gap analysis reveal that consumers are not happy about the current complaint handling of the NSO's and BP's. Consumer expect a redress of 4,3 on a scale from 1 to 5 and perceive 3,6. This gap of -0,69 shows that consumers expect more than they perceive and that the redress of this SME should improve. The other dimensions that have impact on complaint satisfaction are timeliness, facilitation and attentiveness. Timeliness has a gap of -0,89, facilitation a gap of -0,60 and attentiveness a gap of -0,39.

Davidow (2000), Gelbrich and Roschk (2011) and Homburg and Fürst (2005) all conclude that the redress/ compensation dimension has the most impact on complaint handling satisfaction. This study shows the highest impact of redress on complaint satisfaction ( $r.=0,72$ ) but the other studies do come close to that number, Davidow shows a impact of  $r.=0,67$ , Homburg shows a impact of  $r.=0,47$  and Gelbrich and Roschk a impact of  $r.=0,35$ . All four studies do confirm that redress/ compensation is a very important complaint handling dimension. Therefore can be concluded that companies who want to increase complaint handling performance should focus on the redress/ compensation factor.

The fourth sub-question that was phrased in the beginning of the project is very difficult to answer. Effects on consumer satisfaction are difficult to determine before any changes are implemented. Every situation at every company is different and therefore it is difficult to see if structure in the complaint handling procedure in line with literature insights would benefit consumer satisfaction. The current situation is far from optimal, the changes mentioned in paragraph 6.1 should benefit the consumer.

### 6.1 MANAGERIAL IMPLICATIONS

The survey revealed that almost 20% of all consumers never got an answer on their complaint. This "no response" has directly influence on complaint handling satisfaction which in turn influences overall satisfaction. Complaints are nowadays just forwarded and not owned (no department is responsible or feels responsible) within the company. Therefore it was unknown that 19% of all complaints were not handled at all. The current state of complaint handling is not optimal and has to be changed. The consumer's problem should also be owned, as is not the case right now. Nowadays complaints are forwarded to NSO's/ BP's and no feedback is asked for whatsoever.

Another problem is the expectancy that the SME creates by letting consumers contacting them directly and then forwarding the complaints without even looking at them. Consumers that send their complaints to the SME expect the SME to fix the problem and not an external company. The consumer will link the service they get only in 50% to the name of the SME when they deal with a BP

and in 70% to the name of the SME when they deal with a NSO. Consumers do however not mind it when an external company handles their complaint, but opportunities to strengthen the SME's service name will then be lost.

### **6.1.1 STRATEGY: SET UP A CONSUMER CARE STRATEGY**

Although an optimal strategy is not researched, some notes on this topic are addressed to the SME so that they can improve the current situation. Currently it is not clear in what direction the company is going, their strategy says: "From product oriented to consumer oriented." but they are currently using not much consumer insight to improve their products or processes. The only way to learn from complaints is to listen to them, solve them and actively use them in the business process.

The future consumer care strategy should be aimed at owning the consumers problem. There should be a department responsible for the handling of complaints, this department should also be responsible for the complaint handling by external parties. Only when someone or a department becomes responsible action is taken. In the current situation no one is responsible and this causes the NSO's and BP's to act in the way they want.

### **6.1.2 THREE PHASES TO IMPROVE COMPLAINT HANDLING RESPONSES**

Consumers should be encouraged to give feedback, so that as much complaints as possible reach the SME. Companies like British Airways, Cisco and many others did set up successful consumer care departments by implementing some simple phases that should be followed in order to maximize consumer satisfaction. A three phase plan can be the base for setting up a working complaint handling strategy.

The three consumer care phases:

#### **1. Respond and own the consumer's problem**

It is important when a complaint is received that there is a quick response towards the voiced complaint in order to not let the consumer down. Timeliness did have impact on complaint satisfaction. Owning the problem is very important, only when a department is responsible for handling complaints both internally and externally improvements will be possible.

#### **2. Assure that the problem is being fixed**

A well known tactic for a SME with A-quality products is the zero-defects strategy, in which all problems in the guarantee phase are solved adequately. Service guarantees should therefore be clear to all parties, employees of the SME, NSO's and BP's but also consumers and on retail level.

#### **3. Survey consumers that complained**

The last phase is important because in this phase the complaint handling level of the SME, NSO's and BP's can be made clear. This study is a perfect example of the large differences between managerial expectations and true performances that can be made visible with the use of a survey. Managers working at the SME did think that NSO's and BP's were performing quite well but the survey revealed the poor current performance.

Other useful activities can be implemented to improve the current responses to consumer complaints in order to maximize consumer satisfaction. Complaining should be made easy, trying to encourage consumers to complain will change the amount of consumer insight flowing into the company. This insight will help the SME to improve its business. Consumers should be encouraged to solve their own problems, when Cisco started an internet forum in which consumers could ask questions and find answers based on questions by other consumers.

### **6.1.3 LIMITATIONS AND DIFFICULTIES TO OVERCOME WITH THIS STRATEGY**

The three phases above show in short what activities are important in this consumer care strategy. It is however not realistic within the SME that there can be loads of complaints handled internally. There is simply not enough manpower to get it done. Incoming complaints are however put into a database by the secretaries so that future surveys could be sent to consumers. The next survey should be conducted as soon as possible, because the results from this study are already from January 2013 and before. Even a short survey would show the progress, if there is any. If the results are not improving, management could be convinced to use more FTE's.

A team with employees from Marketing, Quality Control and the Dutch NSO could be created to improve the current service guarantees as they seem not effective. Another important aspect these team members share is that all members have direct benefits in improving the current poor complaint handling. The NSO can improve their current complaint handling for which they are responsible, Marketing should get more consumer insight and use current insight to improve procedures to benefit consumer needs and Quality Control wouldn't need to check almost all products that are returned from NSO's or BP's.

Insight in the current state of complaint handling is also not available companywide. This causes managers to act based on instinct and gut feelings rather than facts. Systematic complaint handling facts should be available on a monthly base so that managers can act based on real performance rather than gut feelings. It is also important that managers highly value these facts and do not act on beforehand. Another cultural difficulty is that complaints are viewed as difficult and employees within the SME tend to not want be actively involved when a consumer knocks on the door. The mind-set of all employees should be changed, complaints are good. When consumers complaint you have a chance to improve whatever went wrong, when consumers are not happy and do not complaint you don't have that chance.



## 7. LIMITATIONS AND FURTHER RESEARCH

This study does have some limitations, which can be prevented in future research. First and foremost is the use of the six complaint handling dimensions of Davidow (2003) maybe not the most applicable in the case of the SME. Gelbrich and Roschk (2011) bundle the complaint handling dimensions of Davidow (2003) which increases model fit. See figure 22 for the bundling of the dimensions. It is also difficult to distinguish between the six dimensions, as it can be difficult to tell for most people what statements out of the survey belong with what dimension.

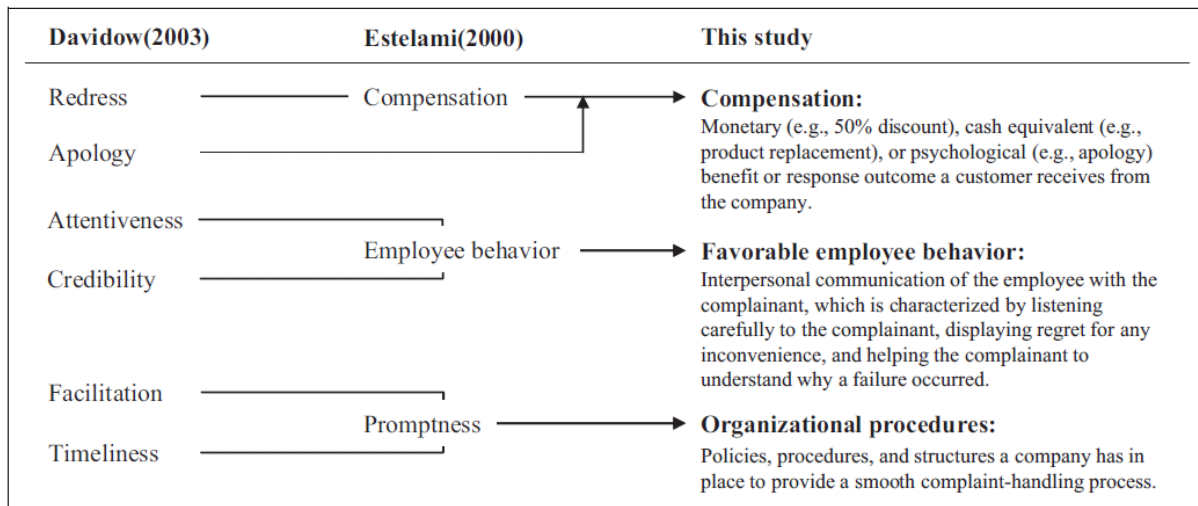


Figure 22: The complaint handling dimensions in the Gelbrich and Roschk (2011) study

Another limitation is that the structural path model that this study uses is a bit different than other complaint handling models, almost all complaint handling studies use different path models. Therefore it is not easy to compare the path models among different studies. Furthermore is the base model that is used in this study not tested in a lot other studies. Davidow (2003) suggested the main part of this model for future research but does not research the model by himself. Davidow did however study a similar model in 2000, which yields a number of other results than this study. This shows that different respondents and different industries can change results drastically, making it difficult to standardize the model.

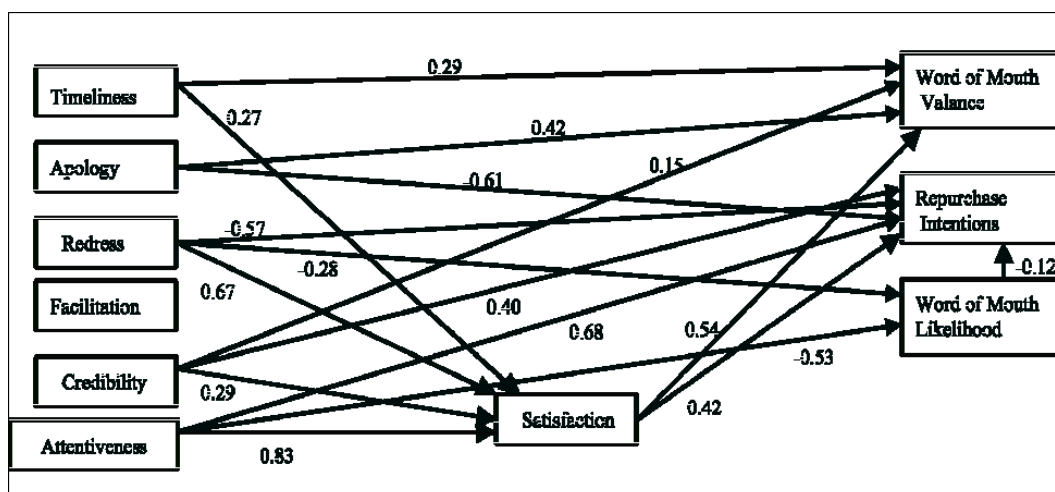


Figure 23: Significant model paths in the study of Davidow (2000)

Attentiveness is in the study of Davidow (2000) the dimension that influences complain satisfaction the most ( $r.=0.83$ ) while redress has also high impact ( $r.=0.67$ ). Timeliness ( $r.=0.27$ ) and credibility ( $r.=0.29$ ) have moderate impact on complaint satisfaction. See figure 23 for all significant model paths in the path model of Davidow (2000). Although redress does have similar impact, attentiveness does have only low impact on complaint satisfaction in this study. Davidow (2000) conducted his study under 319 students in a large university in the southern United States. The students in the study of Davidow (2000) reported a complaint experience from the near past. The students were reporting on their own behaviour as consumers. 46% of the students were women. The single most frequent type of complaint was against restaurants (27.4%). Participation was voluntary and anonymous.

The difference in impact from attentiveness could perhaps be explained by the fact that 88% of all respondents in study were male and the type of complaint was not against restaurants but a B2C quality products manufacturer. The differences between these studies show nevertheless that there is no such thing as a standard in importance for the complaint handling dimensions. All studies that try to summarize findings across different settings should therefore be read and approached carefully as they could use results across different research settings that may not be comparable at all.

Further studies should try use the most simplified model that still researches the whole complaint handling process from organizational response to customer behavioural intentions. If a sort of standard path model is used in multiple studies, the results can be much more easily compared across different industry settings.

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## APPENDIX I: THE SURVEY AND INVITATION MAIL

---

### THE INVITATION MAIL

Help <Company name> improve and receive a gift!

Dear Mr/Ms [LastName],

During the past year you have contacted <Company name> via our website's contact form. At <Company name>, we are constantly working to improve our service and therefore we would greatly appreciate it if you would complete this survey about your experience with us.

The survey should take you less than 15 minutes to complete. Needless to say, your response will be treated confidentially.

To show our appreciation, we would like to offer you a gift if you send us your response before 14 February 2013. You may choose from the following gifts:

- A £ 15 iTunes gift card
- A £ 15 Amazon digital gift card
- A £ 15 Mediamarkt gift card

Please go to the following website to complete the survey: [SurveyLink]

Yours sincerely,

<Name CEO>

CEO <Company name>

Note: If you would rather not participate in this and other surveys from <Company name>, you can unsubscribe from future reminders and surveys here: [RemoveLink]

### THE SURVEY

Page 1:

Thank you for taking the time to complete this survey about <Company name>. Your feedback will help us to improve our services. Many questions in the survey are statements with which you can agree or disagree to a certain extent. Please tick the box that best represents your opinion. There are no right or wrong answers, it is your opinion that counts!

You can edit or go back to a previous page while taking the survey. This gives you the option to update your answers, should you reconsider your opinion. Once the [Done] button is clicked, you will not be able to re-enter and change your answers. Questions about the survey can be sent to j.valster@<company name>.com.

Page 2:

YOUR EXPECTATIONS OF COMPLAINT HANDLING

The first part of the survey deals with your opinion of complaint handling by companies that sell premium products in the £ 40 to £ 250 range. Please indicate how you feel that such a company SHOULD act when receiving your complaint.

1. To what extent do you agree with the following statements? (1. Strongly disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly agree)

The company should make it easy to determine where to send complaints.

The company should give the opportunity to explain the problem.

The company should respond with: "We are sorry." after receiving the complaint.

Customers who submit a complaint should receive a honest apology.

Customers who submit a complaint should receive an adequate solution.

Customers who submit a complaint should receive exactly what they need.

The company should send a response quickly after receiving the complaint.

The company should take care of complaints as quickly as possible.

The company should explain why the problem occurred.

The company's explanation of the problem should be very convincing.

The company's contact employee should treat the complainer with respect.

The company's contact employee should be friendly.

Page 3:

YOUR COMPLAINT ABOUT A <COMPANY NAME> PRODUCT OR SERVICE

Questions 2, 3 and 4 deal with your experience of the complaint handling performance by <Company name> and its partners. You have had contact with <Company name> or its partners regarding a product or service complaint. Please recall this situation and respond by ticking the box that best reflects your experiences.

2. How serious was the problem?

No problem, Minor problem, Moderate problem, Major problem, Do not know

3. How serious were the consequences of this problem?

No consequences, Minor consequences, Moderate consequences, Major consequences, Do not know

COMPLAINT HANDLING BY <COMPANY NAME> AND ITS PARTNERS

4. To what extent do you agree with the following statements? (1. Strongly disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly agree, Not applicable)

<Company name> and/or partners made it easy to determine where to send my complaint.

<Company name> and/or partners gave me the opportunity to explain the problem.

<Company name> and/or partners responded with: "We are sorry." after receiving my complaint.

I received an honest apology.

I received an adequate solution.

I received exactly what I needed.

<Company name> and/or partners responded quickly after receiving my complaint.

<Company name> and/or partners took care of my complaint as quickly as possible.

<Company name> and/or partners explained why the problem occurred.

<Company name> and/or partners explanation of the problem was very convincing.

<Company name> and/or partners contact employee treated me with respect.

<Company name> and/or partners contact employee was friendly.

Page 4:

YOUR FEELINGS ABOUT <COMPANY NAME>

5. To what extent do you agree with the following statements? (1. Strongly disagree, 2. Disagree, 3. Neutral, 4. Agree, 5. Strongly agree)

I was satisfied with the handling of my complaint.

I felt positive about the complaint handling by <Company name> and/or partners.

My satisfaction with <Company name> increased after receiving the reaction to my complaint.

My impression of <Company name> has improved as a result of the complaint handling process.

I now have a more positive attitude towards <Company name> than before the complaint.

Family and friends know about my complaint experience with <Company name>.

I tell people how <Company name> handles complaints.

Whenever I talk about firms handling my complaint, I mention the <Company name> case.

I will probably purchase a <Company name> product again.

I am using the <Company name> product more intensively than I used to do before the product failure.

In the next years, I will use <Company name> products frequently.

6. To what extent would you recommend <Company name> to friends, family and colleagues?

0 (very unlikely), 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 (very likely)

7. Did you first complain to your local retailer or webshop, before contacting <Company name>?

No, Yes

8. In general, how would you like to contact <Company name> regarding complaints?

<Company name> website or email

<Company name> Twitter

<Company name> Facebook

<Company name> internet forum or message board

Online chat with <Company name> employee

Telephone

Via local retailer or webshop

Via <Company name> distributor

By other means (please specify)

9. When should <Company name> be available to answer your complaint?



No direct contact needed

Monday to Friday from 9.00 to 17.00

Monday to Friday from 9.00 to 20.00

Every day from 9.00 to 17.00

Every day from 9.00 to 20.00

Always, 24 hours a day

Other (please specify)

Page 5:

10. What is your gender?

Male

Female

11. What is your age?

Under 25 years old

25 – 39 years old

40 – 64 years old

65 years or older

12. In which country do you live?

[list of countries]

Other country:

13. Which company handled your complaint?

<Company name>

Do not know

Other company:

14. Which gift would you like to receive?

A £ 15 iTunes gift card (sent to your postal address)

A £ 15 Amazon digital gift card (sent to your email address)

No gift (I do not wish to enter my email or address details)

Page 6:

15. What is your address? (the gift card will be sent to this address)

First name:

Last name:

Address:

City/Town:

ZIP/Postal Code:

Email Address:

Phone Number:

Your address information will be kept strictly confidential and will not be used for commercial purposes.

15. What is your email address? (the digital gift card will be sent to this address)

Your email:

Your email address will be kept strictly confidential and will not be used for commercial purposes.

Page 7:

16. Would you like to participate in future <Company name> surveys?

No

Yes

If you have any comments, please share them with us below.

Thank you for completing this survey! If you have any questions or comments, please contact us at [j.valster@<company name>.com](mailto:j.valster@<company name>.com).

Yours sincerely,

Jarno Valster

Marketing intern at <Company name>

## **APPENDIX II: THE INTERNAL INTERVIEW QUESTIONS**

---

The questions:

1. What is your job at the SME/ NSO?
2. What is the job of your department?
3. What are the most important aspects for the end-user which the SME has to meet?
4. Did you define different types of end-users?
5. How many times do you contact the end-user?
6. In which ways do you contact the end-user?
7. Which subjects do you discuss with the end-user?
8. How do you think that this company should act towards the end-user with regard to after-sales service?
9. How does the end-user think that this company should act with regard to after-sales services?
10. How does the competition line up in the eyes of you and the end-user?
11. Do you have other remarks or suggestions for the master thesis?

## APPENDIX III: LISREL OUTPUT OF THE SEM

---

DATE: 4/ 9/2013

TIME: 16:01

L I S R E L 9.10

BY

Karl G. Jöreskog & Dag Sörbom

This program is published exclusively by  
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<http://www.ssicentral.com>

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Universal Copyright Convention.

The following lines were read from file D:\Documents\Dropbox\Afstuderen\SEM\SEM5.SPJ:

SEM5

D

Raw Data from file 'D:\Documents\Dropbox\Afstuderen\SEM\DATA\_SPSS\_FOR\_SEM.LSF'

Sample Size = 190

Latent Variables COM\_SAT SAT WOM RI FAC APO RED TIM CRE

ATT

Relationships

COM\_SAT1 = 1.51\*COM\_SAT

COM\_SAT2 = COM\_SAT

SAT1 = 1.42\*SAT

SAT2 = SAT

SAT3 = SAT

WOM1 = 0.92\*WOM

WOM2 = WOM

WOM3 = WOM

RI1 = 1.11\*RI

RI2 = RI

RI3 = RI

FAC1\_P = FAC

FAC2\_P = FAC

APO1\_P = APO

APO2\_P = APO

RED1\_P = RED

RED2\_P = RED  
 TIM1\_P = TIM  
 TIM2\_P = TIM  
 CRE1\_P = CRE  
 CRE2\_P = CRE  
 ATT1\_P = ATT  
 ATT2\_P = ATT  
 SAT = COM\_SAT  
 WOM = SAT  
 RI = SAT  
 COM\_SAT = FAC APO RED TIM CRE ATT  
 Path Diagram  
 End of Problem

Sample Size = 190

SEM5 D

Covariance Matrix

	COM_SAT1	COM_SAT2	SAT1	SAT2	SAT3	WOM1
COM_SAT1	2.378					
COM_SAT2	2.281	2.337				
SAT1	2.072	2.116	2.182			
SAT2	1.999	2.002	1.985	2.106		
SAT3	1.784	1.774	1.763	1.868	1.952	
WOM1	0.265	0.272	0.342	0.388	0.347	1.500
WOM2	0.306	0.322	0.410	0.371	0.299	1.036
WOM3	0.514	0.519	0.598	0.574	0.488	0.802
RI1	1.454	1.454	1.399	1.377	1.220	0.258
RI2	0.752	0.781	0.824	0.798	0.760	0.254
RI3	1.093	1.121	1.129	1.112	1.011	0.353
FAC1_P	1.107	1.129	1.017	1.030	0.913	0.190
FAC2_P	0.979	0.991	0.900	0.868	0.788	0.260
APO1_P	1.206	1.191	1.098	1.128	1.116	0.095
APO2_P	1.271	1.267	1.186	1.188	1.106	0.194
RED1_P	2.267	2.227	2.071	2.001	1.832	0.211
RED2_P	2.268	2.221	2.036	2.026	1.794	0.231
TIM1_P	1.659	1.669	1.541	1.527	1.394	0.178
TIM2_P	1.798	1.811	1.675	1.660	1.504	0.232
CRE1_P	1.327	1.301	1.246	1.186	1.114	0.306
CRE2_P	1.421	1.381	1.391	1.331	1.205	0.275
ATT1_P	1.489	1.515	1.414	1.326	1.211	0.314
ATT2_P	1.314	1.334	1.244	1.191	1.068	0.319

Covariance Matrix

	WOM2	WOM3	RI1	RI2	RI3	FAC1_P
WOM2	1.299					
WOM3	1.023	1.530				
RI1	0.278	0.410	1.426			
RI2	0.192	0.465	0.684	1.153		
RI3	0.261	0.508	1.060	0.793	1.304	
FAC1_P	0.266	0.283	0.800	0.357	0.562	1.707
FAC2_P	0.220	0.191	0.538	0.250	0.440	1.080
APO1_P	0.134	0.343	0.748	0.375	0.606	0.874
APO2_P	0.256	0.480	0.859	0.361	0.636	1.048
RED1_P	0.286	0.490	1.466	0.860	1.145	1.104
RED2_P	0.323	0.510	1.466	0.857	1.105	1.047
TIM1_P	0.188	0.196	1.024	0.549	0.779	1.165
TIM2_P	0.251	0.256	1.071	0.610	0.855	1.092
CRE1_P	0.262	0.351	0.844	0.546	0.669	0.832
CRE2_P	0.273	0.406	0.950	0.639	0.804	0.772
ATT1_P	0.242	0.313	1.057	0.543	0.811	0.966
ATT2_P	0.291	0.332	0.921	0.492	0.688	0.873

Covariance Matrix

	FAC2_P	APO1_P	APO2_P	RED1_P	RED2_P	TIM1_P
FAC2_P	1.379					
APO1_P	0.829	1.756				
APO2_P	0.885	1.518	1.802			
RED1_P	0.871	1.324	1.363	2.736		
RED2_P	0.871	1.231	1.246	2.557	2.779	
TIM1_P	0.988	1.236	1.284	1.694	1.617	2.318
TIM2_P	0.964	1.224	1.264	1.822	1.737	2.136
CRE1_P	0.680	0.912	1.081	1.418	1.413	1.236
CRE2_P	0.697	0.973	1.098	1.448	1.503	1.276
ATT1_P	0.935	1.059	1.128	1.460	1.413	1.428
ATT2_P	0.928	1.060	1.088	1.310	1.284	1.352

Covariance Matrix

	TIM2_P	CRE1_P	CRE2_P
TIM2_P	2.399		
CRE1_P	1.346	1.956	
CRE2_P	1.409	1.643	1.901

ATT1_P	1.472	1.047	1.057	1.801	
ATT2_P	1.358	0.947	1.000	1.566	1.636

Total Variance = 43.339 Generalized Variance = 0.217119D-06

Largest Eigenvalue = 26.625 Smallest Eigenvalue = 0.058

Condition Number = 21.491

SEM5 D

Number of Iterations = 21

LISREL Estimates (Maximum Likelihood)

Measurement Equations

COM\_SAT1 = 1.510\*COM\_SAT, Errorvar.= 0.0946 , R<sup>2</sup> = 0.960

Standerr (0.0158)

Z-values 5.989

P-values 0.000

COM\_SAT2 = 1.507\*COM\_SAT, Errorvar.= 0.0625 , R<sup>2</sup> = 0.973

Standerr (0.0296) (0.0138)

Z-values 50.867 4.529

P-values 0.000 0.000

SAT1 = 1.420\*SAT, Errorvar.= 0.170 , R<sup>2</sup> = 0.922

Standerr (0.0244)

Z-values 6.957

P-values 0.000

SAT2 = 1.411\*SAT, Errorvar.= 0.120 , R<sup>2</sup> = 0.943

Standerr (0.0402) (0.0204)

Z-values 35.116 5.913

P-values 0.000 0.000

SAT3 = 1.279\*SAT, Errorvar.= 0.320 , R<sup>2</sup> = 0.836

Standerr (0.0500) (0.0373)

Z-values 25.580 8.594

P-values 0.000 0.000

WOM1 = 0.920\*WOM, Errorvar.= 0.650 , R<sup>2</sup> = 0.566

Standerr (0.0830)

Z-values 7.835

P-values 0.000

WOM2 = 1.120\*WOM, Errorvar.= 0.0397 , R<sup>2</sup> = 0.969

Standerr (0.0966) (0.0731)

Z-values 11.596 0.542

P-values 0.000 0.588

WOM3 = 0.910\*WOM, Errorvar.= 0.699 , R<sup>2</sup> = 0.543

Standerr (0.0850) (0.0865)

Z-values 10.705 8.085

P-values 0.000 0.000

RI1 = 1.110\*RI, Errorvar.= 0.190 , R<sup>2</sup> = 0.867

Standerr (0.0457)  
Z-values 4.169  
P-values 0.000

RI2 = 0.667\*RI, Errorvar.= 0.707 , R<sup>2</sup> = 0.387

Standerr (0.0679) (0.0766)  
Z-values 9.813 9.228  
P-values 0.000 0.000

RI3 = 0.954\*RI, Errorvar.= 0.390 , R<sup>2</sup> = 0.701

Standerr (0.0597) (0.0514)  
Z-values 15.978 7.600  
P-values 0.000 0.000

FAC1\_P = 1.080\*FAC, Errorvar.= 0.540 , R<sup>2</sup> = 0.684

Standerr (0.0836) (0.0898)  
Z-values 12.931 6.012  
P-values 0.000 0.000

FAC2\_P = 0.999\*FAC, Errorvar.= 0.380 , R<sup>2</sup> = 0.724

Standerr (0.0745) (0.0720)  
Z-values 13.423 5.283  
P-values 0.000 0.000

APO1\_P = 1.184\*APO, Errorvar.= 0.354 , R<sup>2</sup> = 0.799

Standerr (0.0775) (0.0620)  
Z-values 15.286 5.701  
P-values 0.000 0.000

APO2\_P = 1.281\*APO, Errorvar.= 0.160 , R<sup>2</sup> = 0.911

Standerr (0.0754) (0.0611)  
Z-values 16.985 2.620  
P-values 0.000 0.009

RED1\_P = 1.602\*RED, Errorvar.= 0.169 , R<sup>2</sup> = 0.938

Standerr (0.0880) (0.0370)  
Z-values 18.198 4.572  
P-values 0.000 0.000

RED2\_P = 1.596\*RED, Errorvar.= 0.231 , R<sup>2</sup> = 0.917

Standerr (0.0896) (0.0402)  
Z-values 17.818 5.749  
P-values 0.000 0.000

TIM1\_P = 1.425\*TIM, Errorvar.= 0.287 , R<sup>2</sup> = 0.876

Standerr (0.0843) (0.0536)  
Z-values 16.913 5.346  
P-values 0.000 0.000

TIM2\_P = 1.498\*TIM, Errorvar.= 0.154 , R<sup>2</sup> = 0.936

Standerr (0.0836) (0.0520)  
Z-values 17.918 2.964  
P-values 0.000 0.003

CRE1\_P = 1.255\*CRE, Errorvar.= 0.381 , R<sup>2</sup> = 0.805



Standerr (0.0819) (0.0712)  
 Z-values 15.319 5.347  
 P-values 0.000 0.000  
 CRE2\_P = 1.310\*CRE, Errorvar.= 0.186 , R<sup>2</sup> = 0.902

Standerr (0.0781) (0.0676)  
 Z-values 16.760 2.755  
 P-values 0.000 0.006  
 ATT1\_P = 1.302\*ATT, Errorvar.= 0.106 , R<sup>2</sup> = 0.941

Standerr (0.0724) (0.0403)  
 Z-values 17.987 2.626  
 P-values 0.000 0.009  
 ATT2\_P = 1.203\*ATT, Errorvar.= 0.189 , R<sup>2</sup> = 0.884

Standerr (0.0707) (0.0384)  
 Z-values 17.021 4.935  
 P-values 0.000 0.000

#### Structural Equations

COM\_SAT = 0.126\*FAC - 0.0700\*APO + 0.720\*RED + 0.120\*TIM + 0.0198\*CRE + 0.118\*ATT,  
 Errorvar.= 0.0957 , R<sup>2</sup> = 0.904

Standerr	(0.0547)	(0.0506)	(0.0604)	(0.0556)	(0.0465)	(0.0522)	(0.0143)
Z-values	2.294	-1.385	11.905	2.154	0.427	2.265	6.691
P-values	0.022	0.166	0.000	0.031	0.669	0.023	0.000

SAT = 0.952\*COM\_SAT, Errorvar.= 0.0898 , R<sup>2</sup> = 0.910

Standerr (0.0334) (0.0141)  
 Z-values 28.481 6.380  
 P-values 0.000 0.000

WOM = 0.241\*SAT, Errorvar.= 0.946 , R<sup>2</sup> = 0.0579

Standerr (0.0753) (0.163)  
 Z-values 3.203 5.795  
 P-values 0.001 0.000

RI = 0.870\*SAT, Errorvar.= 0.247 , R<sup>2</sup> = 0.754

Standerr (0.0501) (0.0438)  
 Z-values 17.371 5.641  
 P-values 0.000 0.000

NOTE: R<sup>2</sup> for Structural Equations are Hayduk's (2006) Blocked-Error R<sup>2</sup>

#### Reduced Form Equations

COM\_SAT = 0.126\*FAC - 0.0700\*APO + 0.720\*RED + 0.120\*TIM + 0.0198\*CRE + 0.118\*ATT,  
 Errorvar.= 0.0957, R<sup>2</sup> = 0.904

Standerr	(0.0547)	(0.0506)	(0.0604)	(0.0556)	(0.0465)	(0.0522)
Z-values	2.294	-1.385	11.905	2.154	0.427	2.265
P-values	0.022	0.166	0.000	0.031	0.669	0.023

SAT = 0.120\*FAC - 0.0667\*APO + 0.685\*RED + 0.114\*TIM + 0.0189\*CRE + 0.113\*ATT, Errorvar.=  
 0.177, R<sup>2</sup> = 0.823

Standerr	(0.0522)	(0.0482)	(0.0607)	(0.0530)	(0.0443)	(0.0498)
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Z-values 2.289 -1.384 11.296 2.150 0.427 2.261  
P-values 0.022 0.166 0.000 0.032 0.669 0.024

WOM = 0.0288\*FAC - 0.0161\*APO + 0.165\*RED + 0.0275\*TIM + 0.00456\*CRE + 0.0272\*ATT,  
Errorvar.= 0.956, R<sup>2</sup> = 0.0476

Standerr (0.0155) (0.0127) (0.0534) (0.0154) (0.0108) (0.0147)  
Z-values 1.865 -1.271 3.095 1.788 0.423 1.850  
P-values 0.062 0.204 0.002 0.074 0.672 0.064

RI = 0.104\*FAC - 0.0580\*APO + 0.596\*RED + 0.0992\*TIM + 0.0165\*CRE + 0.0980\*ATT, Errorvar.=  
0.381, R<sup>2</sup> = 0.620

Standerr (0.0457) (0.0420) (0.0603) (0.0464) (0.0385) (0.0436)  
Z-values 2.275 -1.381 9.889 2.138 0.427 2.247  
P-values 0.023 0.167 0.000 0.033 0.669 0.025

#### Correlation Matrix of Independent Variables

	FAC	APO	RED	TIM	CRE	ATT
FAC	1.000					
APO	0.713 (0.047) 15.112	1.000				
RED	0.581 (0.057) 10.147	0.651 (0.046) 14.147	1.000			
TIM	0.678 (0.049) 13.802	0.682 (0.044) 15.647	0.740 (0.036) 20.515	1.000		
CRE	0.550 (0.061) 8.960	0.650 (0.048) 13.592	0.703 (0.041) 17.081	0.707 (0.041) 17.171	1.000	
ATT	0.712 (0.046) 15.519	0.691 (0.042) 16.265	0.686 (0.041) 16.585	0.761 (0.034) 22.334	0.628 (0.048) 12.968	1.000

#### Covariance Matrix of Latent Variables

	COM_SAT	SAT	WOM	RI	FAC	APO
COM_SAT	1.001					
SAT	0.954	0.998				
WOM	0.230	0.241	1.004			
RI	0.830	0.869	0.210	1.003		
FAC	0.670	0.638	0.154	0.555	1.000	
APO	0.664	0.633	0.153	0.551	0.713	1.000

RED	0.930	0.886	0.214	0.771	0.581	0.651
TIM	0.793	0.756	0.182	0.658	0.678	0.682
CRE	0.708	0.675	0.163	0.587	0.550	0.650
ATT	0.757	0.721	0.174	0.627	0.712	0.691

Covariance Matrix of Latent Variables

	RED	TIM	CRE	ATT
RED	1.000			
TIM	0.740	1.000		
CRE	0.703	0.707	1.000	
ATT	0.686	0.761	0.628	1.000

Log-likelihood Values

	Estimated Model	Saturated Model
Number of free parameters(t)	70	276
-2ln(L)	1878.020	1454.864
AIC (Akaike, 1974)*	2018.020	2006.864
BIC (Schwarz, 1978)*	2245.311	2903.043

\*LISREL uses  $AIC = 2t - 2\ln(L)$  and  $BIC = t\ln(N) - 2\ln(L)$

Goodness of Fit Statistics

Degrees of Freedom for (C1)-(C2)	206
Maximum Likelihood Ratio Chi-Square (C1)	423.156 (P = 0.0000)
Browne's (1984) ADF Chi-Square (C2_NT)	396.914 (P = 0.0000)
Estimated Non-centrality Parameter (NCP)	217.156
90 Percent Confidence Interval for NCP	(162.139 ; 279.943)
Minimum Fit Function Value	2.227
Population Discrepancy Function Value (F0)	1.143
90 Percent Confidence Interval for F0	(0.853 ; 1.473)
Root Mean Square Error of Approximation (RMSEA)	0.0745
90 Percent Confidence Interval for RMSEA	(0.0644 ; 0.0846)
P-Value for Test of Close Fit (RMSEA < 0.05)	0.000
Expected Cross-Validation Index (ECVI)	2.964
90 Percent Confidence Interval for ECVI	(2.674 ; 3.294)
ECVI for Saturated Model	2.905
ECVI for Independence Model	80.243
Chi-Square for Independence Model (253 df)	15200.105
Normed Fit Index (NFI)	0.972
Non-Normed Fit Index (NNFI)	0.982
Parsimony Normed Fit Index (PNFI)	0.791
Comparative Fit Index (CFI)	0.985
Incremental Fit Index (IFI)	0.985

Relative Fit Index (RFI)	0.966
Critical N (CN)	115.403
Root Mean Square Residual (RMR)	0.0763
Standardized RMR	0.0464
Goodness of Fit Index (GFI)	0.846
Adjusted Goodness of Fit Index (AGFI)	0.794
Parsimony Goodness of Fit Index (PGFI)	0.632

The Modification Indices Suggest to Add the

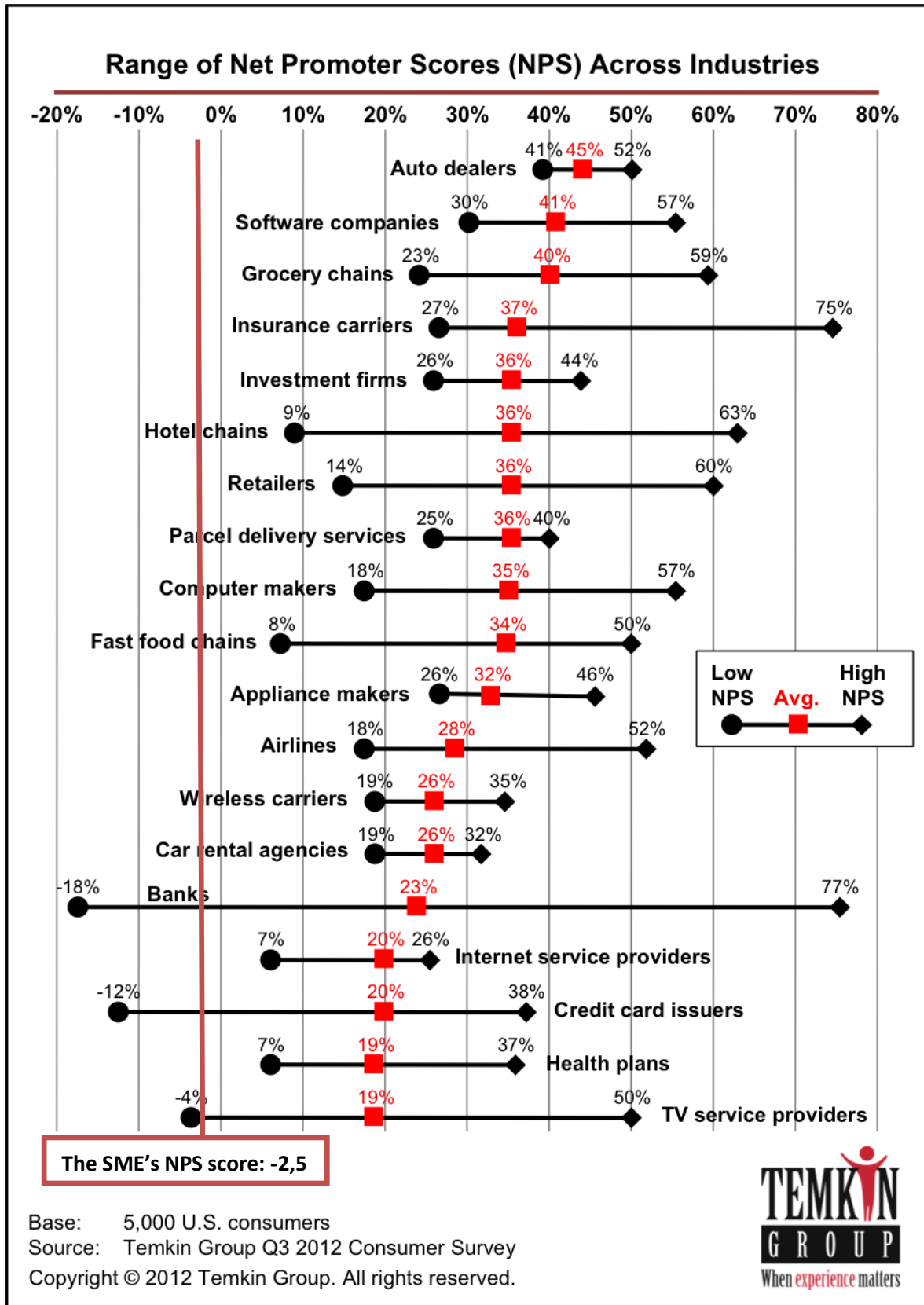
Path to	from	Decrease in Chi-Square	New Estimate
SAT1	COM_SAT	36.2	1.03
SAT2	COM_SAT	12.1	-0.58
SAT3	COM_SAT	10.7	-0.59
WOM2	RI	8.0	-0.16
WOM3	COM_SAT	8.3	0.19
WOM3	SAT	10.1	0.21
WOM3	RI	12.4	0.24
RI1	COM_SAT	24.6	0.73
RI1	SAT	19.6	1.14
RI3	COM_SAT	15.1	-0.55
RI3	SAT	13.5	-0.74

The Modification Indices Suggest to Add an Error Covariance  
Between and

		Decrease in Chi-Square	New Estimate
SAT1	COM_SAT2	28.6	0.07
SAT2	SAT1	9.5	-0.07
SAT3	COM_SAT2	8.9	-0.05
SAT3	SAT1	16.8	-0.10
SAT3	SAT2	56.9	0.17
RI2	WOM3	11.4	0.18
RI2	RI1	14.6	-0.18
RI3	WOM3	8.0	0.12
RI3	RI2	23.5	0.22
FAC2_P	RI1	8.4	-0.10
APO1_P	SAT3	8.8	0.09

Time used 0.640 seconds

## APPENDIX IV: BENCHMARK OF NPS SCORES ACROSS DIFFERENT INDUSTRIES



**APPENDIX V: THE SERVICE BLUEPRINT OF THE COMPLAINT HANDLING PROCESS**

