

Stockholm School of Economics

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## ***An Empirical Model of Customer Relationships and Value Creation In a Service Industry***

### **Abstract:**

This paper presents a model in which measures of customer and employee satisfaction, as well as other measures, are inserted into a model of the value creation process of a service company in order to better understand their relevance in business. The model is supported using theory, starting in the *Service Profit Chain* theory from Heskett et al., as well as by an extensive empirical study performed on an unnamed company. The conclusions reached are in the form of (1) recommendations to the company studied and (2) a qualified acceptance of the model as useful and well supported.

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# Introduction & Purpose

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## **What and Why**

Companies around the world spend time and money performing survey studies both of their customers and of their employees, but few seem to make advanced use of these often high-quality empirical materials. Many simply compute indices of arbitrarily chosen variables such as "customer satisfaction", and watch for slumps and rises. In the 1990:s, followers of the *Service Profit Chain* theory as well as others began to question the wide-spread use of customer satisfaction as a guiding measures, on the grounds that the relation between this widely defined customer attitudes and the profitability of the company was not actually understood. Their claim was that customer satisfaction or any other such measure, in order to be useful, must be inserted into a well developed framework, constituting a model of the value creation process of the company or industry, in order that their actual relevance would be discovered.

This paper is an attempt to construct such a model for a service industry based on previous research, and apply it to a company in the consumer banking business. The objectives of this project is that the model developed:

1. Be useful in terms of providing meaningful and actionable insights into the situation of a company.
2. Be applicable to the kind of none time-series survey data that any company may produce on its own.
3. Be reasonably clear and intuitive and provide a realistic picture of the value creation process in a service industry, including the role of customer satisfaction.
4. Be well supported by the empirical data available to us as well as by previous research.

Our focus will be placed entirely on the personal side of this value creation process; the direct, face-to-face interactions of employees and customers. An attempt will be made to established empirically proven connections throughout the process, and in the end to link it directly to the profitability and value of the company.

Formulating useful recommendations to the company studied will also be an objective.

## **Overview of Earlier Research**

Customer satisfaction research can be recognized as a distinct research field related to marketing. As a distinct research field it is comparatively new, and can be described as being in a stage of rich generation of ideas, low or beginning formalization, and lingering limitations due to lack of data.

To say something about the situation among practitioners, an informal preliminary overview suggests that customer satisfaction enjoys very wide usage as a mode of control or measurement within companies. Programs to improve customer satisfaction seem to be common, with the connection or equality between satisfaction and profitability seemingly being taken for granted.

Three conceptual areas are the cornerstones of this paper: employees, customers, and profits. As will be shown in the theoretical chapter, we have found that numerous studies have been published dealing with the customers-to-profits link and the employees-to-customers link. A lesser amount of research has been found on the third connection, employees-to-profits, and, most notably, few previous studies have included all three at once, something that has been explicitly called for by some researchers as necessary to a true understanding and measurement of service industry business processes.

Gathering the types of data needed in this research field has proved difficult and expensive. Whereas many companies perform survey studies, few researchers have been able to build on these either because data are kept secret by companies or because data is simply not produced in an ordered and coordinated way.

## **On The Company**

The company to be studied is a banking group headquartered in Europe. The company's operations are spread across five European countries with some bias towards the home country, and with a smaller presence in several more. It has approximately 10 000 000 customers in total, the large majority of which are private persons, around 1000 offices, and between 10 000 and 20 000 employees in Europe.

There are five main organizational levels, the highest being the national level and the lowest the individual offices.

That the study is performed in the consumer banking industry is suitable as this is a service industry where it can be assumed that there is a large amount of personal contact between employees and customers, and where a lot of the service in question, such as giving information or advice or negotiating a loan, is actually produced and delivered while the employee and customer are face to face. Lastly, many of the services offered by the financial sector to private customers can be expected to be characterized by high customer involvement, which we believe

increases the probability of making interesting findings, as the views held by consumers with regards to something that is important to them are unlikely to be trivial.

## **On The Data**

Three groups of empirical data will be used in this study: a survey of The Company's employees, a survey of its customers, and a set of financial data.

The 2004 employee survey consists of about 200 questions and has been replied to by some 4 500 employees. The questions deal with what employees think of the company and their managers, the conditions at their department or office, themselves and their co-workers in terms of competence, initiative and so on, as well as demographic variables such as employee age, gender, education, and years of experience. Most questions are on five-point scales, some are binomial and a few are on ten point scales.

The customer survey has about 55 000 respondents and about 100 questions, and the same type of scaling as the employee survey.

Financial data has been made available to us in the form of the company's own internal financial and operational score-card database for 2004. It contains profit-margin before and after credit losses, change in income, net sales per employee, risk measures, employee absenteeism, and a number of other measures.

## **Secrecy**

As required to make this study possible, no identifying information on the company will be given out in this paper, and the "The Company" will be referred to only as that.

# Method

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## Paper Outline

This paper contains a theoretical and an empirical step, and will proceed as follows.

### Theoretical Step

In the theoretical step, the central model of the paper will be developed almost immediately, after which its central concepts will be studied further using earlier research. In more detail:

1. The Service Profit Chain (SPC) theory will be introduced, upon which the constructed model will be based.
2. The SPC will be adapted by deductive logic to be congruent with the data, thereby being developed into the new, more detailed central model, which will constitute the main contribution and back-bone of this paper.
3. A longer theoretical chapter will be provided in which the central areas of the model will be examined in detail. This chapter will (1) provide further support to the central model, and (2) form the background to the discussion of the empirical findings.

### Empirical Step

The basic way in which theory and model will be joined with the data is that the central model will provide conceptually defined categories into which the empirical material will be distributed, and the links between them then studied statistically. In detail:

4. Each survey question included in the study will be assigned to its proper category based on a set of decision rules derived from the model. This is the basic method by which we will bring order to the data and facilitate the discovery of interesting connections.
5. The questions in each category will be grouped together into larger “factors” consisting of about two or three questions each, in order that they be more accessible for analysis.
6. Once these steps are done, the links and interactions between factors in the respective categories will be analyzed using a form of regression analysis called *path analysis*, and the most interesting results of this will be pondered on the basis of theory.

### Conclusion Step

The conclusions drawn will be (1) a positive or negative judgement on the value of the model, as well as (2) recommendations to The Company based on findings.

## Central statistical issues

### Why factorize?

Many questions in the surveys are very similar to each other and difficult to make sense of as they stand, and so by grouping the questions into factors we are able to (1) reduce the number of variables to analyze by about two thirds, and (2) interpret the material in terms of broader concepts rather than individual questions. Two examples:

- On the employee side, the three questions "My manager and I have discussed our relationship with each other", "My manager cares about me as a person" and "My manager supports me in my development" may be grouped to create the factor "SUPPORTING LEADERSHIP".
- On the customer side, the three questions "how welcome you feel with your banking errands", "how quickly you receive help at the office", and "the bank's employees assist me quickly and efficiently" may be grouped into a factor called "SERVICE MINDED".

The statistical tool used to facilitate this factorization step is called *factor analysis*, an introduction to which is provided in the appendix.

### Level of aggregation

A special challenge in the statistical study concerns the level of aggregation of the data at which the analyses will be performed. The root of this challenge is that although around 4 500 employees and 55 000 customers have responded to the respective surveys, there is no way to link an employee to a customer individually, and so if correlation or regression-based analyses are to be performed the data must first be aggregated to some level that is common to both employees and customers.

The lowest level where this would be theoretically possible would be the level of the individual offices, which would permit regressions with  $n \approx 1000$ . However, the lowest level possible to reach given how the surveys have been constructed is one at which  $n \approx 80$ , implying a considerable loss of statistical power. As it would be an enormous waste not to utilize the much larger statistical power available internally in the respective surveys, the result of this is that we will have to complete the empirical study in steps, running regressions within the employee survey using  $n \approx 4\,500$ , within the customer survey with  $n \approx 55\,000$ , and between the two and when connecting to financial data with  $n \approx 80$ .

### Establishing Causality

An important point to make in this section is the following: All data in this study are from the same point in time. This implies that we cannot perform time-series regressions, and without time-series regressions we cannot empirically prove causality. We can find out statistically that A

is correlated to B by performing regressions across geographical units, but we cannot prove if A causes B, if B causes A, or if A and B are both caused by C.

Perhaps the most important goal of the central model will be to solve this problem on theoretical grounds, that is to find out what may be the cause of what based on logic and earlier research. It is this combined use of empirics and theory that we hope will allow us to transcend what is usually accomplished using the types of data that we have available.

In short statistics will be used to show the existence of connections; theory and analysis will be used to show the direction of causality. This will be the most central theme of the analysis chapters, and many of our findings will remain open to challenge on this point.

## **“Leaping” Connections**

If (1) the central model developed by us mirrored reality perfectly, and (2) each of the surveys carried out by The Company covered every aspect of the business process perfectly, then all connections discovered in the factor analysis would form “complete chains” in the sense that the connections would run from the first category to the second to the third and so on, without skipping any categories. In reality, we do expect “leaping” connections to occur; if and when they do, they may be caused by either of the following alternatives:

1. There may be a *modelling error*, that is an error in the theoretical construction of the model or in the application of the model to the data of this particular case.
2. There may be an error of omission in one of the surveys, by which the right question has not been asked to trace the connection through a certain category. If this is the case we call the connection a *false direct*.<sup>1</sup>

## **Limitations**

What is probably the most basic limitation of this paper is the choice that has been made of studying only one company, the reason being time and space and that the analytical purposes of the study are best achieved through one in-depth study than several more shallow ones.

The second limitation is to look only at private customers as opposed to corporate ones, because of the preliminary finding that the private side has a richer body of previous research to draw upon.

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<sup>1</sup> The way that path analysis works is that, if A is the real cause of B which is the real cause of C, but the variable B has not been measured, path analysis will erroneously show A as the direct cause of C.

The third limitation is to stay within one country, the one where the company is most active, the reason being simply that this is the data that is available.

The fourth limitation is the fact that all the data to be included in the paper concerns the year 2004 – nothing before and nothing after. This has been discussed above, and the reason for it is mainly that frequent reorganizations of The Company tend to render data from different years incompatible.

## **Further Methodology**

Three appendices provide further information on the statistical methods of this paper:

Appendix F, containing an introduction to factor analysis

Appendix G, containing an introduction to path analysis

# Building the Model



## **The Service Profit Chain**

As stated above, the model to be developed in this paper will be based on the *Service Profit Chain* theory (SPC), which was developed in the 1990:s by Heskett, Sasser and Schlezinger in their book “The Service Profit Chain”. This theory was introduced as a response to what the authors considered a much too exclusive focus on customer satisfaction by companies. There were many cases of companies whose targets focused on fulfilling every wish of the customer in order to gain the positive effects of customer satisfaction, such as a word of mouth, but with little attention paid to the actual effects on profits. The SPC was an attempt to structure and understand the value creating process in service industries and thereby putting customer satisfaction into perspective.

The basic idea is that one has to understand the relationships that exist between a company’s (1) employees, (2) customers and (3) profits. The model maintains that there are direct relationships between profit, growth, customer loyalty, customer satisfaction, the value of goods and services, and employee capability, satisfaction, loyalty and productivity, but that these have to be connected in the proper order and more attention paid to the actual nature of the connections between them.

Employee satisfaction, retention and productivity is what determines the level of external service value for the customer. The theory states that the value perceived by the customer should be a function of what results the product or service generates and the quality of the process of acquiring it, in relation to the price and the cost of acquiring the product or service. This customer value, in turn, affects the level of customer satisfaction, loyalty, revenue growth and profitability. The elements within both the employee and customer side are interrelated, e.g. the level of loyalty is related to the level of satisfaction.<sup>2</sup>

An important point to be made is that the value of customer satisfaction to the company must be put in relation to the cost of creating that level of satisfaction. An analysis of this kind demands that companies understand the process of creating customer satisfaction as well as what positive effects on profit that follow from it, if any.

It should be noted by the reader that share of market, which is commonly considered as an important input into the profit generating process, is not included in the relationships presented

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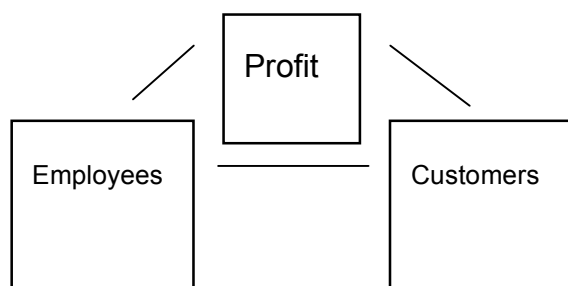
<sup>2</sup> Heskett et al., 1994

by Heskett et al. Studies by Reichheld and Sasser support the fact that market share is a less important prediction of profitability than is customer loyalty.<sup>3</sup>

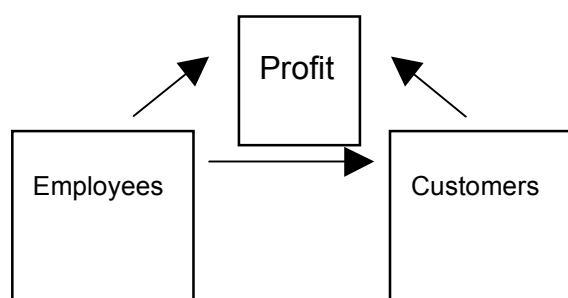
The strongest relationships found in early testing of the SPC were those between profits and customer loyalty, between employee loyalty and customer loyalty, and between employee satisfaction and customer satisfaction. The authors also find that the causality in this relationship runs both ways, meaning that satisfied customers contribute to satisfied employees and vice versa, in a self-reinforcing loop.<sup>4</sup>

The SPC model is appealing in many ways, but connecting the different parts is not trivial, as much of the input is relative and subjective, such as employee and customer attitudes. However, once the interrelationships can be interpreted and understood, a model like the SPC would be a great asset when assessing future profits, by enabling the company to base their expectation on measurable information about employee and customer relationships with much more precision than today.

### ***Initial Adaptations to the Model***



The three main elements featured in the SPC – employees, customers and profits – correspond to the three groups of data available from The Company. The most basic way to model the connections between three items is in the form of a triangle, and this embryonic image will be used to attempt to reconcile what has been learned from theory with the data.



According to the SPC and other findings, causal effects run in every direction along the three legs of the triangle. Employees interact with customers, and profits are a result of this interaction. As all of these cannot be focused upon equally, the choice is made to focus primarily on the “forward” directions: how employees affect customers, customers affect

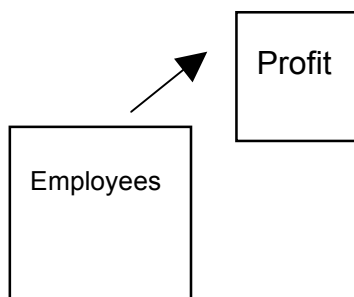
profits and (if possible given the data) how employees affect profits. The reverse causal directions (profits to employees, customers to employees and so on) will be symbolically included at a later stage by making the model cyclical, meaning that as employees affect customers, the customer’s

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<sup>3</sup> Reichheld, F, Sasser, E, 1990

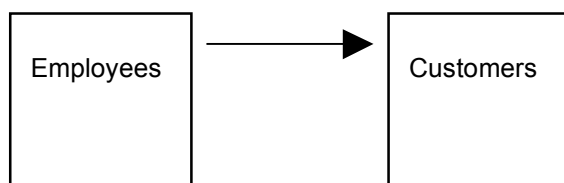
<sup>4</sup> Heskett et al., 1994

response behaviour, or the customer behaviour at the next meeting, will in turn affect employees as well.



Starting with the link between employees and profits, it is a given that profits are income minus costs. Since income comes from customers, if there is a connection between employees and profits that does not include customers it must have to do with costs, thus clarifying the contents of this leg of the triangle.

The profit data available to us is weak on information concerning costs; most variables it contains concern either income or profits or operational measures, making this presumably cost-centered leg of the triangle hard to bring into focus. If connections should be found directly between employee data and profit data it will be difficult to show whether the connection is a modelling error or a false direct, or if it is evidence of cost-channelled connections.



The connection between employees and customers is of the highest interest. It is the step where customer satisfaction is presumably produced, the one that The Company should be most able to influence, and it is on these two groups that the

most data is available. Managers at The Company refer to this link as the *customer meeting*. In this meeting, we assume that employees behave in a certain way determined by their professional competence, their attitudes, and input from managers and the world around them. Customers react to this, and walk away after each meeting having changed or updated their attitudes towards the company. The degree to which their attitudes are changed we assume to be a function of the strength and content of both this new impression and the customer's incumbent attitudes.

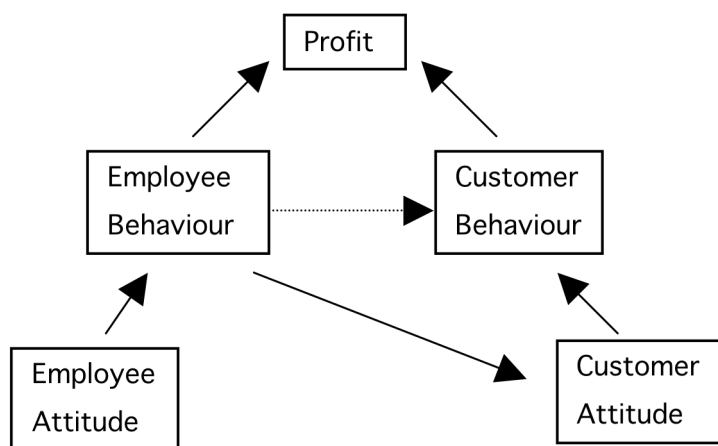
The connection between customers and profits contains those actions taken by customers that determine company profits, which will be exhaustively studied in the further theoretical sections as well as empirically. Such behaviour can potentially take many forms, such as:

- increasing the customer share-of-wallet given to the company or otherwise increasing their rate of purchasing from and profit generation to the company.
- customer retention, the choice made by a customer to remain a customer of a company
- customers spreading positive word-of-mouth about the company, easing the acquisition of new customers.

These last two legs of the triangle together can be thought of as the employees-to-customers-to-profits channel, and it is here that our focus will lie as we expand the model. Symbolized by this

portion of the triangle is the underpinning, axiomatic viewpoint of this paper: that the creation of value in a service industry takes place in the meeting of employees and customer, and that this meeting needs to be understood in terms of both its inner workings and its effects.

## Attitudes versus Behaviour



In order to extract more detail from the data and achieve a closer fit with theory, we now examine the separation of attitudes and behaviour among both employees and customers. The significance of this division rests on the following assertion: attitudes, like personalities or feelings, are strictly *inner* phenomena, and as such it is impossible for them to directly influence the attitudes or actions of

anyone except the bearer.<sup>5</sup> If other people are to be affected, it must be done through behaviour.

The distinction between attitudes and behaviour underlines the relevance of this paper as stated in the introduction – it is not enough merely to measure customer satisfaction using a single index or even in detail; to make the concept truly useful it must be understood how satisfaction and other attitudes affect behaviour, thereby including it in a framework for value creation.

We can now expand the model by separating attitudes from behaviour among both employees and customers, and model the behaviour of each group as influenced by that groups own attitudes, and influencing the attitudes of others in turn.<sup>6</sup>

To give some examples from the data, survey questions like “I feel respected and valuable at work” clearly describe an attitude, while “I often contact customers even though they haven’t contacted me” is a behaviour. Among customers, “I trust the staff of [the company]” and “I feel welcome with my business” are attitudes impacted by the behaviour of employees, while “how likely are you to recommend [the company] to others during the coming year?” is a question

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<sup>5</sup> Baumann, C., et al., 2005

<sup>6</sup> It is a semantic question whether the behaviour of a person A can impact the behaviour of person B without “passing through” the attitudes of person B. Arguably, an example of how this could be done is by behaving in such a way as to physically limit the behavioural options of someone else, thus influencing the behaviour of that person directly. This example, however, is poorly aligned with the purposes of the model, and answering the question in full lies beyond the scope of this paper. For the purposes of this paper, we will retain the assumption that the answer is “no”, that a person’s behaviour cannot directly influence that of others without that person’s attitudes acting as an intermediary.

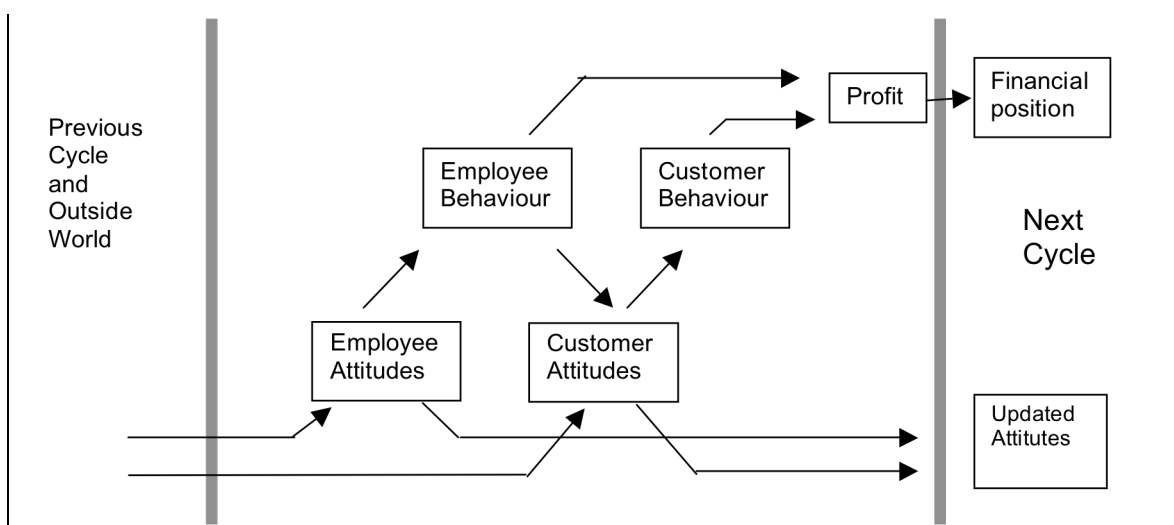
about behaviour that might follow from those attitudes. The work of separating attitudes from behaviour in the data will be treated in full in the Empirical Study section.

## Time linearity

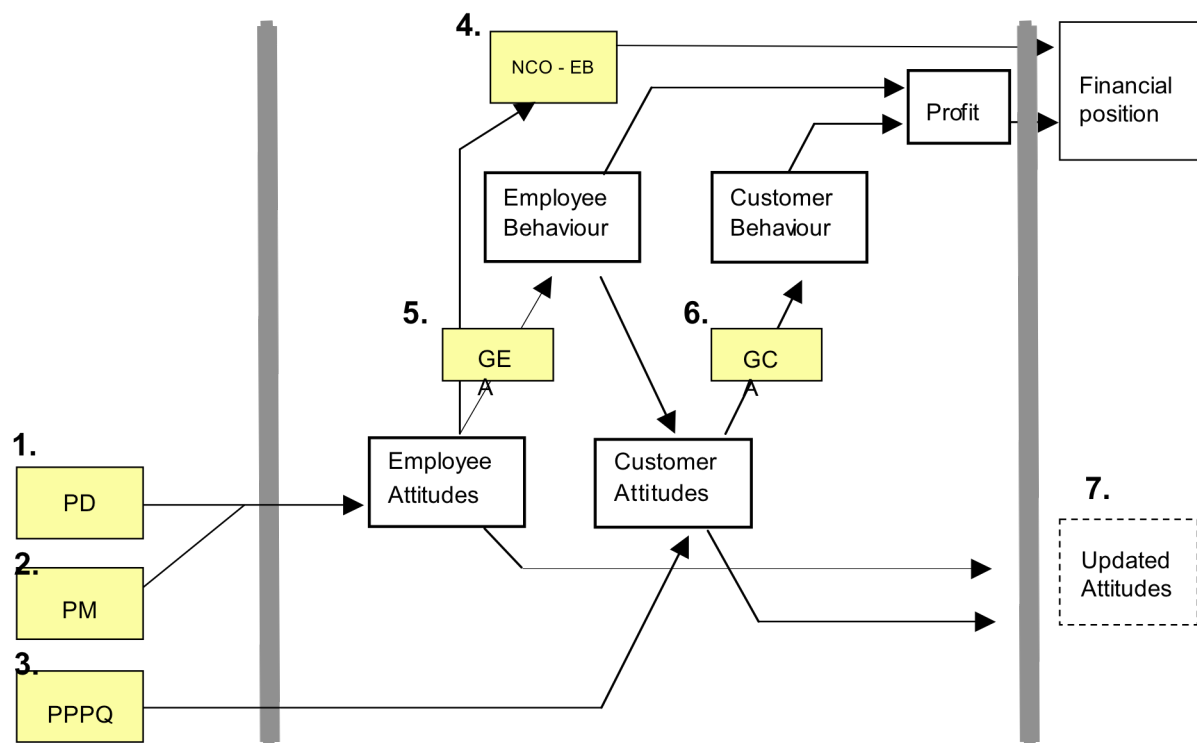
In the last steps before the model is ready to be used in studying the data, it would be preferable to give it a shape more intuitively suited for understanding a process that flows through time, such as a linear rather than triangular shape. We have established that, for each of the respective populations of the employees and the customers, attitudes are determinants of behaviour, and therefore we must model them as preceding behaviour in time. The result is a model with the following basic linearity:

1. Employee attitudes
2. Employee behaviour
3. Customer attitudes
4. Customer behaviour
5. Economic results

Finally we acknowledge the presence of other factors exerting relevant effects on the customer meeting in the shape of the outside world. Also, it must reasonably be assumed that the attitudes of employees and customers are permanently affected by each interaction, thus changing the preconditions for the next one and completing the cyclicity of the model. Below is depicted the final shape of the model.



## Final Adjustments



What is pictured on the preceding page is the central model in its final but general form. Due to the contents and shape of the available data in this particular case, some minor adjustments are made to arrive at a specific or developed version, which will be used in the empirical section of this paper.

Adjustments made in the developed version are as follows:

1. The first category of questions which can be used to measure preconditions to the employee/customer meeting, i.e. the effects of previous cycles and the outside world, is one which we chose to call "Preconditions from Demographics". This includes measures of employees' ages, years of experience, gender distribution and so on. This is modelled as impacting employee attitudes.
2. The second newly added "previous cycle" category is called "Preconditions from Management". This will center on the styles and qualities of management impacting employee attitudes.
3. The third and final added category in this part of the model is called "Preconditions of Price and Product Quality", and includes measures taken from the customer survey of customer judgements on the quality of specific products, the acceptability of price levels, and judgements on the completeness of the available product range. The reasons that some of these questions are modelled as preconditions rather than more central customer attitudes are (1) the desire to focus on the personal portion of the employee/customer

meeting, to which the products and prices that the employee and the customer have to discuss may logically be considered preconditions, and (2) that we do not wish to model price levels and product quality (not to be confused with service quality in this respect) as impacted by employee behaviour.

4. The next data-driven development of the model is the separation of the Employee Behaviour category into two separate categories to facilitate analysis. The category thus broken off from what is still the "main" Employee Behaviour category is one supposed to contain behaviours by employees which are not immediately directed at customers, such as willingness to recommend The Company as a workplace to other employees, Intention-to-Remain as employees of The Company, and so on.
5. It is a difficult question how to include the global and detailed measures of employee attitudes side by side, and how to model their impact on each other. In the end, we have deemed it most logical based on the contents of each category to model the global measures as impacted by the detailed ones, and then to model their impact on following categories as parallel. In this case, Detailed Employee Attitudes impact Global Employee Attitudes (employee satisfaction), and both categories influence the following behavioural categories.
6. By the same logic as above, Global Customer Attitudes as measured by CSI are modelled as affected by Detailed Customer Attitudes, with both these categories affecting Customer Behaviour.
7. "Updated Attitudes" is removed as a category from this version of the model as no data is available to measure it.

# Conceptual Theory

In this theoretical section of the paper we will examine in detail the contents of and connections between those categories of the above model that are directly involved in the employee/customer meeting and the creation of value, namely customer attitudes and employee behaviour as their cause, customer behaviour, and profits. Employee behaviour and other aspects of firm performance will of course be included to the extent that they are the causes of reactions among customers, but due to space limitations we will not theoretically examine how these attitudes and behaviours on the employee side should be brought.

## Customer Attitudes – Satisfaction

This section focuses on the contents of the third node of the central model, customer attitudes. The general term used in research to denote the attitudes of customers towards a company is *satisfaction*, which will be the guiding concept of this section. In general language, being satisfied means having been exposed to something and having found it good or acceptable, perhaps in relation to a level which was demanded or expected. This section will establish what is known about the concept from formal research.

An attitude such as satisfaction can be directed either toward a company as a whole, which is referred to as *global attitude* or *global satisfaction*, or toward a specific aspect of a company or its service, which is referred to as *detailed attitudes* (or *domain specific* in some authors' work).<sup>7</sup>

Research has established that satisfaction should be thought of as a mental state (i. e. an attitude, not a behaviour), which supports the attitudes/behaviour division used in the central model, and that the values it assumes may be thought of as ranging on a scale from low to high.<sup>8</sup>

Satisfaction is considered somehow to be a function of *performance*, but the shape of this function is not generally known. It is not necessary for this function to be either linear or symmetric across all values of performance. For what is commonly called “threshold” or “hygiene” factors, the function will be steeper for low values of performance, while so-called “surprise” or “delight” factors give a stronger response in high values.<sup>9</sup>

Satisfaction is usually a relative concept. It can be considered in relation either to price, from a “value for money” point of view, or in relation to some other qualifying measure such as *customer expectations*. An advanced product can be judged to give the same satisfaction as a basic one, if the difference in what the product does corresponds to a difference in what it ought to do. Price will

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<sup>7</sup> Söderlund, M., Vilgon, M., 1999

<sup>8</sup> Söderlund, M., Vilgon, M., 1999

<sup>9</sup> Andersson and Mittal, 2003

be included in the factors among which we will search for the empirical causes of satisfaction for The Company.

One of the most common measures of global satisfaction is the *Customer Satisfaction Index* or *CSI*, developed by Fornell in 1992. When using this measure, customers are asked to state their level of satisfaction (1) in general, (2) compared to their expectations, and (3) compared to the customer's hypothetical ideal for the product or industry. CSI is measured and published annually for a large number of companies in both Sweden and the United States as the Swedish and American *Customer Satisfaction Barometers*, *SCSB* and *ACSB*, and is hence often used in research.<sup>10</sup> This measure is also used by The Company, the suitability of which will be examined below.

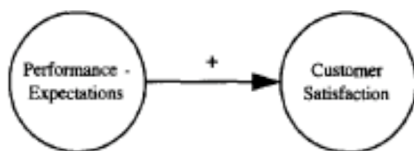
## How Is Satisfaction Determined?

The assumption is that satisfaction is determined through some function combining expectations and performance. The exact shape of this function is surprisingly hard to determine, and four suggestions as to how it might work will be discussed next.

## Disconfirmation Model

The Disconfirmation model holds that after each experience, customers supposedly compare the company's performance with what their expectations were, and if performance exceeds expectations (positive disconfirmation) then satisfaction is increased; if performance does not live up to expectations (negative disconfirmation) then satisfaction is decreased. A consequence of this is that satisfaction will be negatively linear in expectations: high expectations lead to low satisfaction.<sup>11</sup>

The Disconfirmation model seems intuitive in many situations, and phrases like "meeting and exceeding customer expectations" have proven easy for both managers and service personnel to understand and implement, but the model does hold some problems. Firstly, the functioning of the model requires that the entire customer side of the market hold inaccurate expectations, and that customers do not collectively learn much from experience. Otherwise, if expectations were accurate, then performance would equal expectations barring random variations and the model would not work. Secondly, the model implies that the absolute level of performance is unimportant, which means that vastly unequal performances could produce the same satisfaction given that expectations were correct.<sup>12</sup>



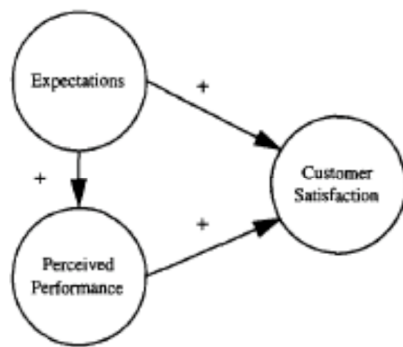
<sup>10</sup> Fornell, C., 2003

<sup>11</sup> Johnson, M. D., et al. 1996

<sup>12</sup> Johnson, M. D., et al. 1996

## Performance Model

The Performance (or Anchor) model is in some ways the opposite of the Disconfirmation model. The idea is that since expectations are formed from past experience, they contain information

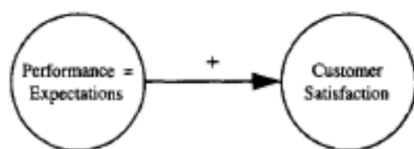


about past performance in the same way that the most recent experience does about present performance, and that customers probably weigh the two together to decide satisfaction and adjust expectations for the future. This means that if a particular performance deviates sharply from expectations, and expectations are not too weak, they may act as an "anchor" to satisfaction which will then not be swayed by the deviation as much as might have been expected.<sup>13</sup> For instance, if you have eaten at a restaurant several times before, you may be more inclined to "forgive" a single bad meal than if you were there on your first visit.

It is the Performance model that serves as the conceptual foundation for the ACSB and the SCSB.<sup>14</sup>

## Rational Expectations Model

The Rational Expectations model attempts to correct one of the problems of the above models, by arguing that, when taken as a whole, the expectations of agents in the marketplace ought to be correct. Fornell et al. quote an earlier author, Boulding, who expressed this in the words "the summation of ignorance produces knowledge."<sup>15</sup> Since the Rational Expectations theory argues that aggregate expectations will be correct and therefore equal to performance, the separation of expectation and performance is redundant and they can be modelled as having a joint, positive effect on satisfaction<sup>16</sup>



## Expectations-Artefact Model

This fourth model comes into play in very special circumstances, namely at times when the business at hand is something that the customer is inexperienced at, that seems complex to the customer, and that usually is largely intangible. At such times, the customer may not possess a clear picture of what to expect, meaning that expectations will be "weak" or non-existent, and it

<sup>13</sup> Johnson, M. D., et al. 1996

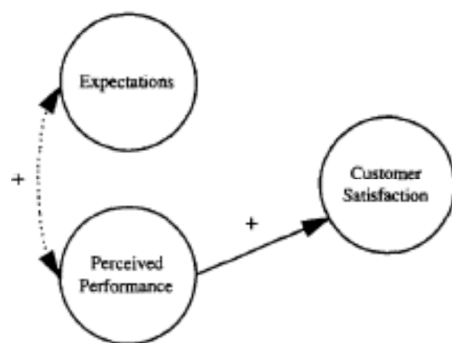
<sup>14</sup> Johnson, M. D., et al. 1996

<sup>15</sup> Fornell, C., 2003

<sup>16</sup> Johnson, M. D., et al. 1996

is hard to consider any one of the above models as correct. If the customer has no expectations, then performance can neither be anchored nor judged by them.

Continuing the argument, once the customer has had an interaction with the company of sufficient importance she will no longer be inexperienced. If she doesn't hold any expectations when she walks into the office of a company she may nonetheless do so when she walks out, just as she will somehow have formed a level of satisfaction. This implies that for complex, non-frequent service industries (such as getting a mortgage at a bank), perhaps expectations should be viewed more as an output than an input of the experience. In this case expectations and satisfaction are created at the same time, with performance being the single determinant of both. We should then find a strong positive correlation between expectations and satisfaction, even though no causal relationship is modelled between them.<sup>17</sup>



## Which Model Is Right?

Fornell et al. have conducted an experiment to find out empirically which model best fits reality in the case of consumer banking, among other industries. Their finding is that although the total explanatory power of the Performance model is strong for the banking industry, the inclusion of expectations does not contribute much to this. Customers were better at predicting performance for non-services ( $R^2 = 0,55$ ), than for other services ( $R^2 = 0,43$ ), which in turn they were better at predicting than for bank loans ( $R^2 = 0,40$ ). This supports the hypothesis that expectations are weak for banking services. The conclusion of Fornell et al. is that the Expectations-Artifact model is indeed closest to reality in the banking industry, while both other services and non-services are best described by the Performance model.<sup>18</sup>

## Customer behaviour – Loyalty

### Behavioural Component

What is a loyal customer? There should be little argument that the answer has to do with the customer remaining with the company for more than just a single purchase: a customer who has

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<sup>17</sup> Johnson, M. D., et al. 1996

<sup>18</sup> Fornell, C. 2003

been coming to a store every day for 15 years is a loyal customer, one who is there for the first time is not. From the literature, a suggested formula is that loyalty can be measured by "tracking customer's accounts over a defined time period and noting the degree of continuity in patronage."<sup>19</sup>

However, this definition does not seem to be enough. For instance, if it should turn out that the reason a customer has repeatedly been coming back to a certain store is that she was simply not aware that there were other alternatives, is this loyalty? Inversely, if the one-time visitor was there because the place she usually visited (and maybe felt closely attached to) was closed that day or out of stock, does her action constitute disloyalty against the other company? Bloemer et al. call the behavioural view of loyalty "a narrow, 'out-come focused' view of something that is really a dynamic process"<sup>20</sup>, and note that "the numbers produced by this approach may very well result from some completely different factor."<sup>21</sup>

In a third and final example, suppose a customer buys a hot-dog from the same stand every day for 10 years. This would show up in any retention study as a case of fierce customer loyalty. But suppose we then learn that each day, the customer spends a non-trivial amount of time looking through all the available offers on the market as she knows it (say there are six other hot-dog stands), and only keeps on choosing the same stand because each time it turns out that its hot-dogs are the cheapest. If this customer were to be asked about her loyalty to the vendor, she might reply that she feels no loyalty at all.

These examples make it clear that our definition of loyalty needs a psychological component as well.

## Psychological Component of Loyalty

Having observed that answers to the "why"-question such as "because she had to" or "for no reason", leave our definition of loyalty wanting, and we need to explore answers like "because she *wants* to." A statement like "I'm doing this because I want to" is only meaningful if (1) other alternatives are present, (2) the choice between them is free, and (3) the choice can be derived from the chooser's personal preferences. These three criteria may be called the volitional process necessary for loyalty, and if they are present, the customer may develop the most important form of psychological loyalty, which is called *commitment*.<sup>22</sup>

Commitment is the psychological component of loyalty, and it may be characterized as the feeling of a customer that she has "made her choice once and for all" and intends to stick with it. The customer considers herself "a company X customer", and will strive to stay loyal to company

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<sup>19</sup> Bloemer, J., et al. 1998

<sup>20</sup> Bloemer, J., et al. 1998

<sup>21</sup> Bloemer, J., et al. 1998

<sup>22</sup> Bloemer, J., et al, 2002

X of her own volition, even in the presence of other alternatives. When asked why she is loyal to a certain company, a committed customer may respond that this is because she “likes” the company, or something to that effect. Basu finds that “the stronger commitment, the more likely the buyer is to overcome potential obstacles in the buyer-seller relationship, resulting in repeat patronage.”<sup>23</sup>

A finding that illustrates the importance of commitment was presented by Cialdini et al. in 1976. The finding was that once a customer has made a choice through a volitional process and commitment has developed, the customer will often be prepared to continue with the initial decision even though objective incentives are withdrawn.<sup>24</sup>

Some illustrative voices from previous researchers define commitment as:

”an enduring desire to maintain a relationship.”<sup>25</sup>

”having a sense of belongingness to [the company], being happy of being a customer of [the company], feeling emotionally attached to [the company] and feeling part of the family of [the company].”<sup>26</sup>

We are now ready to proclaim that what we commonly refer to as loyalty is defined as having both a behavioural and a psychological component: the action of remaining with a company (customer retention), which must be caused by the feeling of commitment. A precisely worded, comprehensive definition of loyalty is provided by Bloemer et al.:

“Loyalty is the biased (i.e. non random) behavioural response, expressed over time, by some decision making unit, with respect to one [company] out of a set of [companies], which is a function of psychological (decision making and evaluative) processes resulting from commitment”<sup>27</sup>

In line with Bloemer et al., we will refer to behavioural loyalty in the absence of commitment as *spurious* loyalty.<sup>28</sup>

Other authors have arrived at quite similar conclusions using different frameworks and terminologies. Allen and Meyer’s versions is that loyalty may be either *affective*, equal to the type based on psychological commitment, *calculative*, which is the kind of spurious loyalty where the

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<sup>23</sup> Bloemer, J., et al, 2002

<sup>24</sup> Cialdini, R., et al, 1976

<sup>25</sup> Morgan, R.S, and Hunt, S.D, 1994

<sup>26</sup> Bloemer, J., et al, 2002

<sup>27</sup> Bloemer, J., et al, 2002

<sup>28</sup> Bloemer, J., et al. 1998

basis of behaviour is actually a series of separate and un-emotional decisions, perhaps based on switching costs, or *normative*, which is the case of a customer remaining with a company out of perceived moral obligation, or for consideration of “public opinion”.<sup>29</sup>

A final note should be that switching costs, in this context, can be either monetary costs, other external costs such as time, or internal costs such as the mental effort of making a new decision. This provides a link between customer behaviour and the specific industry as characterized by its level of complexity, since it can be assumed that the cost of mental effort increases when the market or product is more complex or the consumer is less knowledgeable, such as may be the case in consumer banking.<sup>30</sup>

## Customer Behaviours Other than Loyalty

In a customer behaviour paper by Söderlund and Vilgon in 1999 emphasis is also placed on three other aspects of customer behaviour: number of orders, purchasing volume and purchase amount.<sup>31</sup> These concepts are closely related to loyalty. Relative purchasing volume is often referred to as *share-of-wallet*. Arguably, share-of-wallet is the twin concept of loyalty, in the sense that the former deals with behavioural consistency across time and the latter across some other axis, such as the amount of money spent in a single time-period. If customer A spends 80 % of her money at a certain company each time she goes there, and she goes there 55 % of the time when shopping for a certain product, this produces the same result for the company as would a customer B, who spends 55 % of her money on each visit but the company gets 80 % of her visits in search of that product, given that total spending by the two customers is the same. Baumann et al. also treat share-of-wallet in close connection to loyalty.<sup>32</sup>

When Zeithaml et al. propose what they call “a comprehensive, multi-dimensional framework of customer behaviour intentions in services”, the four main dimensions of their framework are purchase intentions and price sensitivity, which are both measures of loyalty, word-of-mouth communications and complaint behaviour.<sup>33</sup> The point to be taken from Zeithaml et al. is that commitment-based loyalty can be a driver of all four of these phenomena. The logic is that engaging in word-of-mouth activities (actively spreading the word about a company in a positive manner) as well as making the effort of complaining to a service company once a product has occurred are both presumed to carry a certain cost for the customer. The customers would not engage in these activities if they did not foresee that the relationship would go on and continue to be of value to them.

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<sup>29</sup> Bloemer, J., et al, 2002

<sup>30</sup> Bloemer, J., et al, 2002

<sup>31</sup> Söderlund, M., Vilgon, M., 1999

<sup>32</sup> Baumann, C., et al., 2005

<sup>33</sup> Bloemer, J., et al, 2002

## **Concept of Profit**

One of the ambitions of this paper is to add to the understanding of how employee and customer relationships affect a company's financial performance. We argue that the advantage of understanding satisfaction and loyalty is limited if we do not also understand their connection to profits and value. An example follows: as stated earlier, satisfaction about a product or service is a result of the perceived value for the customer in relation to the cost of acquiring it: cost of effort and price. Lowering the price would therefore increase the level of customer satisfaction, and probably increase loyalty as a result, but would increase neither profits nor value, all else being equal. Being able to assess the effects on financial performance by increasing customer satisfaction by a given unit, a company could be more accurate in determining when the marginal cost of increasing customer satisfaction surpasses the marginal income. A practical implication of this logic is the importance of assessing the value of increased customer satisfaction in relation to the cost of achieving it.

## **Accounting Versus Market Based Measures**

In attempts that have been made to make a connection between customer attitudes and profits and value, a discussion has emerged about which measure of financial performance to use. No consensus seems to exist among researchers as to the relative general virtue of accounting versus market based measures in satisfaction studies. Both have been attempted. Ittner and Larcker for instance use Tobin's  $q$  as a measure of economic performance.<sup>34</sup> They voice the familiar criticism against accounting measures, that "a problem with accounting approaches is that accounting measures do not measure shareholder value reliably, as measured by the capital markets." They also point out that accounting measures are riddled with comparability problems.<sup>35</sup>

These authors themselves also admit several problems associated with using Tobin's  $q$  or other market-based measures, such as frequent distortions due to fluctuations in overall market factors. In addition, stock prices are not comparable between firms, and stock returns are not risk adjusted.<sup>36</sup>

In this paper, because (1) our data is not of time-series type, and (2) all correlations and regressions are performed either on individuals or on subdivisions within the one company we are studying, making market data unavailable, accounting measures are what will be used.

As much as possible, we would like our concept of economic performance to be from a shareholder perspective, which makes value generally more relevant than profits. Two things would be necessary to make the transition from profits to value: (complex) assumptions about developments across time, and an interest rate. Attempting to calculate an interest rate based on

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<sup>34</sup> Anderson, E. W, et al., 2004

<sup>35</sup> Anderson, E. W, et al., 2004

<sup>36</sup> Anderson, E. W, et al., 2004

the risk measures that are available to us in the financial data lies beyond the scope of this paper, and so we will refrain from any outright attempt at moving from profitability to value. However, given that we make significant findings regarding risk, we will be able to draw non-quantified conclusions about how value will be impacted.

## ***Links Between Satisfaction And Loyalty***

Having established the contents of each of our three major families of concepts, we now turn our attention to how they are interconnected.

### **Earlier Empirical Results for Global Satisfaction**

When looking at earlier research broadly, it seems beyond question that a statistical connection of some sort exists between satisfaction and loyalty, the details of which will be explored below.

Hallowell (1996) uses both global and detailed measures of satisfaction, and compares them with loyalty measures including historic rates of retention on a division-level within an American bank. His finding is that eight out of eight regressions support the existence of a link between satisfaction and loyalty.<sup>37</sup> In terms of  $R^2$ , Hallowell finds that "customer satisfaction may be responsible for as much as 37 per cent of the difference in customer loyalty levels".<sup>38</sup>

Bloemer et al. find a correlation between satisfaction and loyalty of 59 %, between "quality" and loyalty of 0,66 %, and between "image" and loyalty of 53 %. In a regression, the three explaining questions together produce an  $R^2$  of 53 % for loyalty. With some further exploration, Bloemer et al. conclude that the effect of quality on loyalty is most correctly viewed as being indirect, via satisfaction, i.e. quality impacts satisfaction, which in turn impacts loyalty.<sup>39</sup>

Söderlund and Vilgon attempted to bypass loyalty and link satisfaction directly to retention rates, but find that satisfaction rates were not significantly lower among defectors than among retained customers. They still did not reject their hypothesis that satisfaction be connected to loyalty in the form of repurchase intentions.<sup>40</sup>

In Baumann, satisfaction was found to be correlated with loyalty, but not to be among the key predictors. The factor found to be the key predictor in this study, however, was affection, which is as good as identical to the concept of affective commitment used in this paper.

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<sup>37</sup> Hallowell, R., 1996

<sup>38</sup> Hallowell, R., 1996

<sup>39</sup> Bloemer, J., et al. 1998

<sup>40</sup> Söderlund, M., Vilgon, M., 1999

## Earlier Empirical Results Detailed Attitudes

It is a fact that, in the studies we have seen, the link between global satisfaction and loyalty has often been strong but never unity, and in the cases where other variables besides global satisfaction have been included, it has not always been the strongest predictor of loyalty.

A finding from Grønholdt and Martenssen is that two detailed satisfaction measures that make a notable impact on loyalty in consumer banking are what the authors called "reliability" and "efficiency".<sup>41</sup> They also find that a factor they termed "position in the market" was significant when explaining satisfaction.<sup>42</sup>

Baumann defined short-term loyalty as "willingness to look for a new bank and/or close an account within the next three months", and achieved an  $R^2$  of 47 % when running regressions on this using seven measures of detailed satisfaction. "Perceived switching cost" was the largest single factor.<sup>43</sup> Longer-term loyalty could be predicted to an  $R^2$  of 55 % in the same study, using nine explainers. The strongest three in descending order were "affective attitude", "switching costs" and "role requirements".<sup>44</sup> We note that these three reasons correspond in turn to affective/commitment based loyalty, spurious/calculative loyalty, and normative loyalty.

Finally, from the same study, a perhaps surprising negative correlation with long-term loyalty was found with "self-stated banking knowledge". This is to say, the more a client feels he knows about banking, the less likely he is to stay with his bank. Baumann's et al. explanation is that high banking knowledge is a sign of high position involvement in banking, and that such involved, knowledgeable customers are more likely to 'shop around' for good deals.<sup>45</sup>

## Determinants of Other Behaviours Than Loyalty

Baumann achieved a degree of explanation  $R^2$  of 72,2 % when explaining word-of-mouth, defined as self-stated willingness to recommend, using ten explaining variables. The highest contributions to  $R^2$  came from "affective attitude", "fees and interest rates", and "confidence in judgement".<sup>46</sup>

The effect of satisfaction on word-of-mouth was found to depend on the length of relationship already passed – customers were more likely to recommend given the same level of satisfaction after a longer relationship.<sup>47</sup>

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<sup>41</sup> Bloemer, J., et al. 1998

<sup>42</sup> Bloemer, J., et al. 1998

<sup>43</sup> Baumann, C., et al., 2005

<sup>44</sup> Baumann, C., et al., 2005

<sup>45</sup> Baumann, C., et al., 2005

<sup>46</sup> Baumann, C., et al., 2005

<sup>47</sup> Baumann, C., et al., 2005

Söderlund and Vilgon found a positive association between satisfaction and word-of-mouth.<sup>48</sup>

## **Related Concepts: Share-Of-Wallet**

Share-of-wallet for savings and loans had an  $R^2$  of 18 % in Baumann, with "perceived access" as the most important of four explaining variables, followed by whether or not the client had recently opened an account with a competing bank, "confidence in bank judgement", and gender, showing women to be more prone to keep their debts/loans in a single place.<sup>49</sup>

Looking only at customers classified as "dissatisfied",  $R^2$  for share-of-wallet was 48 %. Strongest variables were "number of current suppliers", "fees and interest rates", and "length of relationship".<sup>50</sup> Share-of-wallet as measured by percentage of accounts kept by a customer in one and the same bank was explained to an  $R^2$  of 32 % using only "number of current suppliers" and "fees and interest rates" as explainers.<sup>51</sup>

## **"The Employee-Customer-Profit Loop"**

An interesting finding is the fact that there is a non-trivial correlation between customer loyalty and employee loyalty. Grønholdt and Martenssen formulate their result on this point as "the hypothesis that the slope coefficient is 1 cannot be rejected, thus indicating that a 1 unit change in employee loyalty will result in roughly the same change in customer loyalty."<sup>52</sup>

Grønholdt and Martensson dub their result "the employee-customer-profit loop", thereby notifying that "the higher the level of employee loyalty is, the higher the level of customer loyalty will be. This in turn leads to better bottom line results."<sup>53</sup> This corresponds to our idea of the "employees-to-customers-to-profits channel" mentioned under "Building The Model".

## **Links to Profits**

Researchers have found that in retail banking, some 50 - 60 % of all customers may actually be unprofitable, and in one sample of more than 400 customers to a bank, the ten most profitable generated 25 % of total profits.<sup>54</sup> These illustrations of the variation in customer profitability show the necessity not just of understanding customers' reactions in the business process themselves, but of making clear how they are connected to value. We will do this by starting in the two concepts we have already explored, customer attitudes as exemplified by customer satisfaction, and customer behaviour as exemplified by customer loyalty. We will first lay out the

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<sup>48</sup> Söderlund, M., Vilgon, M., 1999

<sup>49</sup> Baumann, C., et al., 2005

<sup>50</sup> Baumann, C., et al., 2005

<sup>51</sup> Baumann, C., et al., 2005

<sup>52</sup> Grønholdt, L., Martensen, A., 2001

<sup>53</sup> Grønholdt, L., Martensen, A., 2001

<sup>54</sup> Söderlund, M., Vilgon, M., 1999

empirical evidence for the existence of their respective links to value and profitability, and then make arguments as to the exact nature of the links.

## **Existence Of The Link From Satisfaction**

Söderlund and Vilgon treat four different hypotheses about the relationships between customer satisfaction and (1) repurchase intentions, (2) number of orders, (3) purchase volume and (4) purchase amount, respectively, and find empirical evidence to accept all except the second hypothesis.<sup>55</sup>

Switching from profitability to value, Fornell uses his own ACSI to find that companies ranking higher on the ACSI achieved higher stock-prices than those ranking lower, as measured both by the Dow Jones, NASDAQ and S&P 500 indices. He goes on to argue that information on satisfaction or "the quality of customer relationships" should be included in financial statements, and makes reference to findings that satisfaction account for 38 % of the variation in total consumer spending.<sup>56</sup> Andersson et al. reach a positive conclusion as to their hypothesis that there is a positive relationship between customer satisfaction and shareholder value. Specifically, they find that the ACSI is positively associated with both equity prices and price-to-book value ratios.

If there is a moderating voice in this chorus, it belongs to Ittner and Larcker who claim that, in a survey of senior managers in charge of quality programs in the U S, only 27 % thought they could link customer satisfaction measures to either accounting or stock price returns.<sup>57</sup> This moderation, however, is not echoed by Baumann et al., whose conclusion is that if those divisions of an American bank classified as low-satisfaction could increase their satisfaction to that of those classified as high, they could increase their approximate ROA from 1,35 % to 1,94 %, a 44 % increase.<sup>58</sup> A possible answer to any disagreement lies in the finding that the impact of satisfaction levels differs across industries. Anderson et al. find that among the factors behind such differences is, for instance, degree of concentration, with a higher degree of concentration and fewer companies causing satisfaction to have a stronger positive effect on value.<sup>59</sup>

## **Existence Of The Link From Loyalty**

Hallowell finds that seven out of eight regressions run support the existence of a link between customer loyalty and profitability. The measures of profitability included ROA and Non-Interest

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<sup>55</sup> Söderlund, M., Vilgon, M., 1999

<sup>56</sup> Fornell, C., 2003

<sup>57</sup> Fornell, C., 2003

<sup>58</sup> Baumann, C., et al., 2005

<sup>59</sup> Anderson, E. W., et al. 2004

Expenses over Revenues, and the loyalty measures focused on company as well as customer reported length of relationship.<sup>60</sup>

Grønholdt and Martensen calculate that, for every 1 % increase in customer loyalty profits should increase by 0,885 %, an association close even to unity.<sup>61</sup>

The loyalty-related concept of word-of-mouth is included in Anderson's et al. analysis, and they find that increases in word-of-mouth result in "lower acquisition costs and and greater and accelerated cash flows." The link from loyalty of scope, the propensity of those customers who chose a certain company for their purchases of product A to also chose it for product B, to profitability is also established.<sup>62</sup>

## **Nature Of The Links**

If it has appeared above that the impact of satisfaction (an attitude) on profitability is stronger than the impact of loyalty (a behaviour), this impression changes immediately when attention is turned to authors writing about the nature rather than the existence of the links. To quote one of the authors mentioned above, Söderlund and Vilgon write that "the main idea, in short, is that it is more profitable to keep existing customers rather than constantly attracting new ones, and that customer satisfaction is a determinant of [loyalty]." In other words, although the analysis in that article begins with customer satisfaction, it upholds the general finding that customer attitudes can only influence profitability through behaviour, and that customer retention is the most important example of such behaviour.<sup>63</sup>

Anderson et al. write that customer satisfaction leads to profitability by causing increased retention rates, thus reducing the costs of future customer transactions, as well as through lower price sensitivity, which is also a measure of loyalty in the face of competition.<sup>64</sup>

Finally Hallowell et al. summarizes their own findings by stating that they "support the theory that customer satisfaction is related to customer loyalty, which in turn is related to profitability." Hallowell connects these findings to the Service Profit Chain theory.

## **Importance of the Kinds of Loyalty**

An important finding that may already be apparent to the reader is that not all types of loyalty are equally profitable, or indeed profitable at all. Bloemer et al., find results that affective/commitment based loyalty is the most important determinant of increased positive word of mouth, increased purchase intentions, decreased price sensitivity and increased

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<sup>60</sup> Hallowell, R., 1996

<sup>61</sup> Grønholdt, L, Martensen, A, 2001

<sup>62</sup> Anderson, E. W., et al. 2004

<sup>63</sup> Söderlund, M., Vilgon, M., 1999

<sup>64</sup> Anderson, E. W., et al. 2004

complaining. Normative loyalty has a small positive influence on both word-of-mouth and price sensitivity but, most importantly, spurious/calculative loyalty seems to have a negative impact on customer retention rates. Furthermore, customers who show a high level of spurious loyalty will also be unwilling to voice positive word-of-mouth or complaints towards the bank, the reason being of course that both these actions carry certain costs for the customer, and a customer with no other reason for staying with her bank has no motivation to carry those costs.<sup>65</sup>

Put bluntly, if customer loyalty is achieved only by for instance consistently selling to the lowest prices, "loyalty" is not profitable. Indeed, this may even be a strategy to attract especially non-profitable customers, which, as has been mentioned above, do exist in consumer banking.

### **Where In the Income Statement?**

The fundamental logic for where customer behaviour should show up in an income statement or a valuation formula is clear enough: if customers buy more and keep buying for longer time periods, company revenues go up. However, a number of other input-places for loyalty-related behaviour into the income statement can be usefully mentioned in preparation for analysis.

Anderson et al. suggest that a loyal customer base will increase a company's bargaining power towards suppliers and partners, translating customer loyalty into an asset in quite a different way.<sup>66</sup> Furthermore, apart from actually increasing cash-flows from customers, increased loyalty levels should serve to make those cash-flows more stable, thus decreasing financial risk and increasing company value even more than is reflected in the income statement.<sup>67</sup>

Most authors also argue that apart from increasing revenues, customer loyalty may also decrease costs. This can be done in a direct way in terms of customers gaining experience and thus demanding less support and time from the company, and indirectly by the company achieving economies of scale or climbing learning curves. Some authors, however, moderate this claim by pointing out that if higher customer loyalty comes in the shape of a few large customers buying proportionately more, these may start to feel deserving of more support, special deals or other costly concessions from the seller.<sup>68</sup>

From the analysis of previous research, the conclusion is drawn that our hypothesized model seem to be supported by other empirical studies. Relevant issues touched upon in this section will be considered in the following analysis.

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<sup>65</sup> Bloemer, J., et al, 2002

<sup>66</sup> Anderson, E. W., et al. 2004

<sup>67</sup> Anderson, E. W., et al. 2004

<sup>68</sup> Söderlund, M., Vilgon, M., 1999

# Empirical Proceedings

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## ***The Steps Of The Process***

As mentioned in the Method chapter, two steps must be performed with regard to each category in the model before any findings can be made:

1. DISTRIBUTION – the decision of which questions that belong in which category of the model.
2. FACTORIZATION – the grouping together of questions within each category into factors to facilitate analysis.

The goal of the distribution step is this:

- That the content of any two categories A and B be such that, if a statistical connection is found between a factor in A and a factor in B, it should be natural to assume that the factor in category A is causing the factor in B.

The goals of the factorization step are these:

- That the questions in each factor all measure the essentially same thing.
- That every factor be meaningful in terms of being easily distinguishable from all others, and serving a potential purpose in the model.
- That every factor contain approximately the same number of questions, to provide an even playing-field in terms of the statistical variability of each factor and the multi-collinearity<sup>69</sup> between them.<sup>70</sup>
- That the process of summarizing the data through factorization should not be allowed to contort the informational contents of the categories, i.e. that the final result must give a fair and complete view of what was there before factorization was performed.

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<sup>69</sup> Multi-collinearity arises when two or more factors in a category are correlated. If the factors within a model category are too strongly correlated, they would in turn correlate with the same factors within other categories and further analysis would be impossible.

<sup>70</sup> As a rule of thumb, it is decided that every factor should contain either two or three questions, with exceptions allowed downwards but not upwards.

The goals stated for the factorization step turn out not always to be without internal conflict, making necessary in numerous cases where a “correct” solution could not be found the use of subjective judgement to decide which solution is instead the most useful.

Finally each factor will be assigned a name. The names will be based on the questions that define the factor and the goal will be that each name be descriptive of its contents without precluding analysis. The reader is reminded that any closer examination of the factors formed can only be achieved by studying the actual questions included in each factor, which are available in the appendix.

## **Use of Statistics In The Distribution and Factorization Steps**

The distribution step is entirely concept-based, while the factorization step will be performed on statistical and conceptual grounds equally.

The reason that distribution be performed entirely on conceptual grounds is that if a correlation were to be found between two variables when performing this step, there is no empirical way of knowing whether this is because the two variables measure the same thing, in which case they would belong in the same category and should be grouped into a common factor, or whether one is the cause of the other, in which case they belong in different categories. Furthermore, even if two variables were to obviously belong in the same step of the causal chain, such as in the case of “we are aware of X” and “we are aware of Y”, there still need not be any correlation between them if they are concerned with different parameters. Statistics are hence of no use in the distribution step.

In the factorization step, the role of statistics is much more important and complex. Let us consider for a moment what statistics may tell us. If two variables are strongly correlated, this may mean either (1) that they measure essentially the same thing, or (2) that they measure different things that have a common cause, unknown to us, or (3) that they measure different things and that the correlation is spurious. Only in the first of these instances would it be correct to include them in the same variable, but only from a conceptual analysis can we tell the three cases apart, proving that the conceptual basis always need to be there before a factor is accepted.

Why is the statistical basis important? Because without it we might have ended up constructing variables that seemed conceptually pleasing but where variables most strongly correlated to each other were spread over several different factors. This would cause potentially insurmountable problems of multi-collinearity.

Can an example be constructed where the statistical grounds are not necessary at all? The answer seems to be yes; an example would be a case where the content of several variables is such that they collectively make up a stringently definable whole, making it meaningful to group them into a factor with no correlation necessary. For instance, if “I like apples”, “I like oranges” and “I like

bananas” were all available as variables, they could be meaningfully grouped together as ”Liking of fruit” even if no correlation was present.

All this being said, let us summarize by stating that the target aimed for in this process has been for each factor to be supported by statistics and concepts together. The reason for this is that, theoretical examples notwithstanding, a robust statistical correlation is the only confirmation we can hope for that variables perceived by us to measure the same thing have also been perceived so by those responding to the survey.

## **The Process In Practice**

In the distribution step, the main difficulty is the handling of large amounts of information with no assistance from statistical tools. To be successful in this task, use was made of explicitly formulated ”decision rules”, which also has the benefits of allowing us to show stringency in this process and to make it reasonably easy for others to follow and challenge.

A dangerous potential drawback of using fixed decision rules is that the process may become ”dumb”, meaning that difficult discussions may be swept under the carpet and that mistakes may be made that could have been avoided by proceeding in some other way. The solution applied to this problem is to employ not one but several decision rules simultaneously. Careful individual analyses are then performed when these complementary decision rules do not concur. This tactic proved quite useful.

In the factorization step, the root of most difficulties was how to strike the balance between statistics and concepts. Here, a process is developed that starts with a sequence of iterative steps and ends with an overview of each category: In each category, we start on the conceptual side and first set apart any questions whose conceptual affinity is obvious enough to accept them as factors without support from statistics. The SPSS factor analysis program is then run and those groups are selected as factors that are obvious choices due to their statistical behaviour. Conceptual micro-decisions are then made again when possible and the factor analysis program is then run again when necessary until each block of questions has been pried apart into acceptable factors. The results of this process is an argumentative continuum where the stronger the statistical grounds the fewer conceptual arguments are necessary, and vice versa. Finally, we review the outcome in each category until we are satisfied that it contains a fair reflection on the original data and that no pivotal information had been overlooked.

Below follows the account of the process in as much detail as can be fitted. Final results, including the actual printouts of the factorization program when applicable, are included in the appendix as well as a guide to factorization in general.

## **Employee Survey**

### **Preconditions: Demography**

Demographic questions are easily identified. Here go "physical" preconditionary questions concerning age and gender of employees etc.

#### **Factorization**

The category contains only eight questions, all of which are conceptually separate and most also statistically so. Results for the category are shown below:

YEARS EMPLOYED • ROLE EXPERIENCE • AGE • GENDER • EDUCATION •  
FULLTIME • DEPARTMENT SIZE • IS MANAGER

### **Preconditions: Management**

The decision-rules used to separate this category from Employee Attitudes were (1) "does this question contain the word 'manager'?" and (2) "is this question about what the manager does or how the employee reacts?". Questions containing "manager" were kept in the Preconditions From Management category except a small number that contain that word for different reasons than the others such as "I have good opportunities to make a career as a manager or a specialist within [the company]", and "I work toward individual targets (decided by myself and my manager)"; and a group of four questions in the form of "how much confidence do you have in [your manager]?", which we found to be descriptive of employee attitudes resulting from manager actions rather than those actions themselves.

#### **Factorization**

The GENDER NEUTRALITY factor was isolated conceptually.

Using the standard extraction rule of eigenvalue = 1, the SPSS factor program produces just two groups from the remaining 20 questions. From the wording of the questions in each it is apparent that the two factors have to do with the "supportive" and "demanding" leadership respectively, or with a perceived difference between them.

To limit loss of information due to grouping only the top three loaders in each factor are included, meaning 14 questions in this category are discarded as not adding much further information.

SUPPORTING LEADERSHIP • DEMANDING LEADERSHIP • GENDER  
NEUTRALITY

## Employee Attitudes (detailed)

The questions used to separate between Employee Attitudes and Employee Behaviour was of course "is this an attitude or a behaviour?" In easy cases, the answer to this is readily available from the wording used in the question, especially the verb, as in the case of "I feel respected and valuable at work" (attitude), and "I often contact private customers even though they haven't contacted me". The complementary decision rules used to increase the chances of getting logical results were "is this true before the employee meets the customer or during the meeting?" and "does the question contain the word 'customer'?" In all but a few cases the answers to the three questions coincide.

As an example of a difficult case, consider "I have the authority I need to do a good job." This question was initially considered to describe an attitude, to be more relevant before the customer meeting than during it, and even to have a lot to do with preconditions from management, since authority is presumably something handed out to employees by managers. It was soon discovered, however, that the same question had been posed to customers as "What grade would you give [the company] regarding to what extent the staff has the authority to make the required decisions", and from this follows that, for this question to be meaningful, having the right authority must be something that is considered visible to customers and therefore it belongs inside the meeting.

"We easily get the support we need in customer meetings due to our routines and support systems" and "I can get access to the specialist competence needed in a customer meeting sufficiently fast" These two questions measure the customer meeting explicitly, and "receiving support" is arguably more naturally considered a behaviour than an attitude. However, what the questions really seem meant to describe are the qualities of organization at each office of the bank, something that exists well before the customer meeting. Also, the questions tell us nothing about how this support and specialist competence actually come into play in the meeting, meaning that it would be much more interesting to give them a place in the causal chain before the employee behaviours rather than among them, to see which behaviours on the side of the employees are actually enhanced by having a good organization behind the employee. The questions are left in the Attitudes category.

## Factorization

EQUAL OPPORTUNITIES is separated conceptually.

When running the factor program this time eigenvalue is kept at 1, but to produce a readable printout from this larger number of questions the visual cut-off point is lowered to 0,25.

PERSONAL DEVELOPMENT is separated on conceptual grounds from INCLUSION. KNOWLEDGE OF SELF is apparently related to these two conceptually, but is separated by statistics. WORKLOAD sits alone in its column, and in accordance with the " $\leq 3$ " rule, four questions are stricken from this factor. Personal skills of employees are conceptually separated

from matters of how the office is organized into COMPETENCE & DRIVE and ORGANIZATION. BELIEF IN ORGANIZATION, like INCLUSION, is evenly split between two columns in this printout, but the two questions in it are not difficult to unite conceptually.

It is interesting to note that the question concerning each employee's trust in his closest manager behaves differently from the ones concerning trust in upper levels of management, and so we keep them as separate factors TRUST IN CLOSEST and TRUST.

TOOLS is statistically separate although conceptually related to ORGANIZATION. The remaining factors GOALS, KNOWLEDGE OF CUSTOMERS and KNOWLEDGE OF FACTS present no difficulties.

The remaining questions in the category are dropped from the analysis, a conceptual loss on the grounds that some of these questions are certainly very interesting, but a necessity on statistical grounds and in order not to have the model expand uncontrollably.

PERSONAL DEVELOPMENT • INCLUSION • WORKLOAD • KNOWLEDGE: SELF • COMPETENCE & DRIVE • ORGANIZATION • BELIEF IN COMPANY • TRUST CLOSEST • TRUST • TOOLS • GOALS • KNOWLEDGE: CUSTOMERS • KNOWLEDGE: FACTS

## **Employee Attitudes (global)**

In this part of the survey, the responding employees have been asked to state their satisfaction levels "in general".

### **Factorization**

Each of the three questions in this category is judged best suited to stand alone on grounds of preserving conceptual clarity.

EMPLOYEE SATISFACTION % TIME • EMPLOYEE SATISFACTION • EMPLOYEE WELLNESS

## **Employee Behaviour 1**

The definition of this category follows from the discussion under Attitudes (detailed) above. It may be mentioned in addition that all of the so-called "GAP" questions on the employee side are purposely placed in this category, which will come in handy further on in the analysis.

### **Factorization**

TOTAL QUALITY is separated as a single-question factor since it appears actually to be a global measure rather than a detailed one. Two questions exhibit factor loadings greater than 0,3 in each

of three columns; they are dropped as statistically too unclear to interpret. PROBLEM-SOLVING and CUSTOMERS PRIORITIZED are kept separate so as not to pollute the conceptual clarity of primarily the latter factor, which we know is one that The Company has historically considered quite important, making it perhaps especially relevant to examine.

TOTAL QUALITY • INDIVIDUAL • PRODUCT COMPETENCE • CLOSENESS • PROBLEM-SOLVING • CUSTOMERS PRIORITIZED • CONVENIENT • ACTIVE • AUTHORIZED

## **Employee Behaviour 2**

Questions concerning the intentions of employees to remain with the company or recommend it as a workplace for others.

### **Factorization**

All three questions in this category are left as stand-alone factors.

EMPLOYEE WORD-OF-MOUTH • INTENTION TO REMAIN • INTENTION TO REMAIN (YEARS)

## **Customer Survey**

### **Preconditions: Communications**

These questions describe the situation among customers before they actually interact with the company's employees, and most have to do with modes of communication in one way or another. They include such things as whether or not a customer has recently visited one of the banks offices, whether or not the customer considers The Company her "main bank", both known to have been important in previous studies, as well as whether the customer usually interacts with The Company personally or by phone or Internet.

### **Factorization**

No groupings were necessary in this category.

USED OFFICE • TIMES CONTACTED • HOME LOANS • MAIN BANK • MAINLY OFFICE

### **Customer Attitudes (detailed)**

This category is by far the largest on the customer side, and includes the customer versions of the nine GAP questions. The rest of the questions included quite easily fit the "customer attitudes" label, in that they are inner feelings and judgments on the part of customers.

The presumption that they are formed in reaction to behaviour by employees can in most be logically upheld. Example: "How would you rate [The Company] regarding: that its staff assist you quickly and efficiently?" In some cases however, the things to which customers presumably react are such that cannot strictly be considered employee behaviour, such as opening hours. Empirical results will show how customers are influenced by these matters.

Many of the questions available here are ones that have proven to be significant in previous studies, for instance questions concerning trust.

### **Factorization**

The category is difficult both because of its size and because it is the one most infested by multicollinearity.

Only INFORMATION and ACCESSIBILITY are clearly defined in the first statistical printout. Conceptual separations of pairs of factors showing almost identical statistical factor loadings are done in the cases of LOAN PROCESS versus TRUST, and INDIVIDUALITY versus AUTHORIZED.

Three different factors were almost evenly split between columns, with less than 0,1 points difference between the loadings. Of these, LOAN PROCESS was kept on as it was judged conceptual clear and important, "What grade would you give [the company] regarding the ability to take initiative and make suggestions adapted to your situation?" was kept as it was conceptually supported by "What grade would you give [the company] regarding having a holistic view of the economic situation of you and your family" which had a similar loading, and the question "What grade would you give [the company] regarding to what extent the staff cares and gets involved with your banking errands" was dropped as it could not be acceptably grouped with any others.

PRODUCT COMPETENCE • COMMUNICATORS • LOAN PROCESS • TRUST  
• CITIZENSHIP • SERVICE MINDED • AUTHORIZED • INDIVIDUALITY •  
RELATIONSHIP-BUILDERS • ACCESSIBILITY • INFORMATION •  
ENVIRONMENT

### **Preconditions of price and product quality**

This category contains questions regarding price levels and perceived quality of three different groups of products.

### **Factorization**

In this category, on conceptual grounds, the three questions having to do with price are grouped together as PRICE and the three having to do with product quality and conditions of offers as PRODUCT QUALITY, as this is the way in which they can be related to theory. The alternative

would have been to group across the other dimension as "PRODUCT A", "PRODUCT B", "PRODUCT C".

PRICE • PRODUCT QUALITY
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### **Customer Attitudes (global)**

This is the category containing the global customer satisfactions questions, in the form of "how satisfied are you in general?" They follow the three archetypical questions proposed by Fornell.

#### **Factorization**

As is standard practice, the three questions that make up the standard satisfaction-measurement questions of Fornell's Customer Satisfaction Index are grouped together to a single factor called CSI. The remaining question stands alone.

CSI • HOME OFFICE SAT
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### **Customer Behaviour**

This category includes those measures of customer behaviour that provide the connection to profitability, including measures of intention-to-remain (I.T.R.), share-of-wallet (SoW), and word-of-mouth (WoM).

#### **Factorization**

The three questions concerning the intention to remain regarding savings, loans, and other services are grouped together as "INTENTION TO REMAIN". The other questions stand alone.

WORD OF MOUTH • INTENTION TO REMAIN • SHARE OF WALLET LOANS • SHARE OF WALLET SAVINGS • CUSTOMER PROFIT
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# Correlations Analysis

Finally we are able to view and comment upon the findings from the first true statistical analysis step, the intra-category factor correlations. The reason for performing this step is to assess whether there has to be any adjustments made to the model due to reasons such as multi-collinearity. Since the number of findings is very large, the choice has been made in this section to comment only on the strongest ones, from 0,799 down to 0,5, which follow below in descending order of strength. The statistical results themselves are found in appendix, along with some illustrative graphical representations.

## Price – Quality

PRICE and PRODUCT QUALITY are the two factors that have the single highest correlation in our model, 0,799. This is in line with theory, from which we know that customers take price levels into account when making judgements about products. A speculative interpretation would be that interest rates may be intuitively regarded by consumers as part of products rather than prices, making the two concepts even more closely related than in other services.

Also, that judgements on product quality are made in such close connection to price judgements may also be a sign that consumers do indeed hold weak expectations about performance of banking services.

No adjustments are made to the model.

## Product Competence – Communicators – Service-minded

Apart from PRICE – PRODUCT QUALITY, the highest intra-category correlation on the customer side is PRODUCT COMPETENCE – COMMUNICATORS, 0,749, and next in strength is COMMUNICATORS – SERVICE MINDED, 0,668. From the factor printout we see that the COMMUNICATORS factor is made up of questions that straddle both the PRODUCT COMPETENCE and the SERVICE MINDED factor columns, suggesting that COMMUNICATORS can actually be interpreted as some form of combination of the other two factors. In a causality analysis, we contend that PRODUCT COMPETENCE cannot be caused by either of the other two: being service minded or a good communicator does not cause an employee to know more about products. More reasonable would be to conclude that having a good knowledge of products enables an employee to be clear and effective in communicating with customers. Between SERVICE MINDED and COMMUNICATORS, we argue that being a good communicator is a behaviour that requires both ability and willingness. Whereas the fact that someone has good potential communication skills does not cause that person to be service-minded, being service-minded could easily be interpreted as having the motivation necessary to being a good Communicators. We draw the conclusion that COMMUNICATORS can be thought of as caused by PRODUCT COMPETENCE and SERVICE-MINDED together.

## **Personal development – Inclusion – Knowledge of self**

INCLUSION – PERSONAL DEVELOPMENT have a correlation of 0,729. INCLUSION is the factor in this category for which the sum of the values of its correlation coefficients to other factors is the largest, 6,101. The factor printout shows that INCLUSION splits its weight across three columns but is most closely related to PERSONAL DEVELOPMENT and KNOWLEDGE OF SELF.

When analyzing causality, we would contend that the fact that one is being socially included at work is more likely to be a cause of positive personal development than be caused by it, i. e. that an employee's (lack of) personal development be the reason they are (not) being socially included at work. There also remains, as always, the possibility of a common cause.

Looking at the other relation, INCLUSION – KNOWLEDGE OF SELF, the situation is more ambiguous. Does being included provide access to information and discussions that help an employee establish knowledge of his role in the company? Or is it that the two have a common source consisting in some form of general competence, visible to others, that can cause a person both to form knowledge and to be included? We refrain from drawing a causality conclusion on this point.

Such strong correlations as these on the employee side will cause problems in the path analysis step, and so it would be useful if somehow it could be removed. Since we have not concluded that INCLUSION is caused by or is a cause of the others, we cannot change where we have placed it in the model. Instead we chose to remove INCLUSION as an explicit factor and include it instead by placing PERSONAL DEVELOPMENT and KNOWLEDGE OF SELF side by side and letting INCLUSION become a “meta-factor” symbolized by these two together. This is to say INCLUSION will not be included in the continuing statistical analysis, but we can find out how it would have behaved by looking at PERSONAL DEVELOPMENT and KNOWLEDGE OF SELF together. In the graphical representation of the findings, a dotted square is drawn around the last two factors to symbolize this.

## **Product competence – Trust – Citizenship**

When answering the questions “how much trust do you have in [the company]?” and “how much trust do you have in [the company]’s employees?”, it is crucial to assess whether the respondees have been stating their level of trust in terms of professionalism and product competence, or in terms of honesty and good intentions. The difference is that between trusting someone because he is “an expert” or because he is “a good person.” Looking at the correlations of TRUST with other factors, we find that the correlation to CITIZENSHIP, which includes questions that have much more to do with good intentions than towards competence, is 0,640. However, The correlation with PRODUCT COMPETENCE is slightly larger at 0,656. From these findings, the only conclusion we can draw is that TRUST seems to contain a mixture of the two interpretations.

## **Age – Years Employed – Role Experience**

The correlations between AGE, ROLE EXPERIENCE and YEARS EMPLOYED are expected to be relatively high per definition. AGE – YEARS EMPLOYED do have a high correlation, 0,636. Because AGE is conceptually more different from ROLE EXPERIENCE than is YEARS EMPLOYED, keeping the combination of AGE and ROLE EXPERIENCE is found to be more useful than keeping YEARS EMPLOYED and ROLE EXPERIENCE, and so YEARS EMPLOYED is dropped from the model in order to limit multi-collinearity. This is also the best choice from a statistical point of view since AGE and ROLE EXPERIENCE have the smallest correlation of the three, 0,43.

## **Employee Satisfaction**

There are three global measures of satisfaction available on the employee side: Employee Satisfaction, Employee Satisfaction % and Employee Wellness. As expected, these three factors are highly correlated.

Since one question we are interested in is finding out what the value of these global measures might be compared to detailed measures, we wish to maximize the chances of finding significant correlations between the global measures and measures of behaviour, and so we especially need to minimize multi-collinearity between these measures. Employee satisfaction seems to be the “middle” factor of the three, in terms if both the other two factors having their highest intra-category correlations to this one, and so we choose to keep Employee satisfaction and drop Employee Satisfaction % and Employee Wellness from the model.

## **Organization**

We find that ORGANIZATION is strongly correlated with both COMPETENCE & DRIVE and with TOOLS, 0,619 and 0,576 respectively. In the factor printout, ORGANIZATIONS splits its weight with approximately two thirds in the COMPETENCE AND DRIVE column and one in the TOOLS column. This result is intuitive if one is willing to agree that an effective organization is a result both of the efficiency of the people that work there, COMPETENCE AND DRIVE, and the efficiency of the structure, TOOLS. To limit multicollinearity we apply the same operation used on INCLUSION, removing ORGANIZATION as an explicit factor turning it into a meta-factor symbolized by COMPETENCE AND DRIVE and TOOLS.

## **Supporting and Demanding Leadership**

SUPPORTING and DEMANDING leadership correlate at 0,610, an interesting correlation that can be given a number of possible explanations. One could argue that the reason for the correlation is that leaders that are demanding are aware of this and so make conscious efforts also to be supportive. Alternatively, being supportive and being demanding could simply be viewed as related rather than opposing components of a general quality of being a “good” manager. It can even be argued that placing high demands may be interpreted by employees as their manager

taking an interest in their career and personal development, so that being demanding becomes a component of being supportive. No change is made to the model.

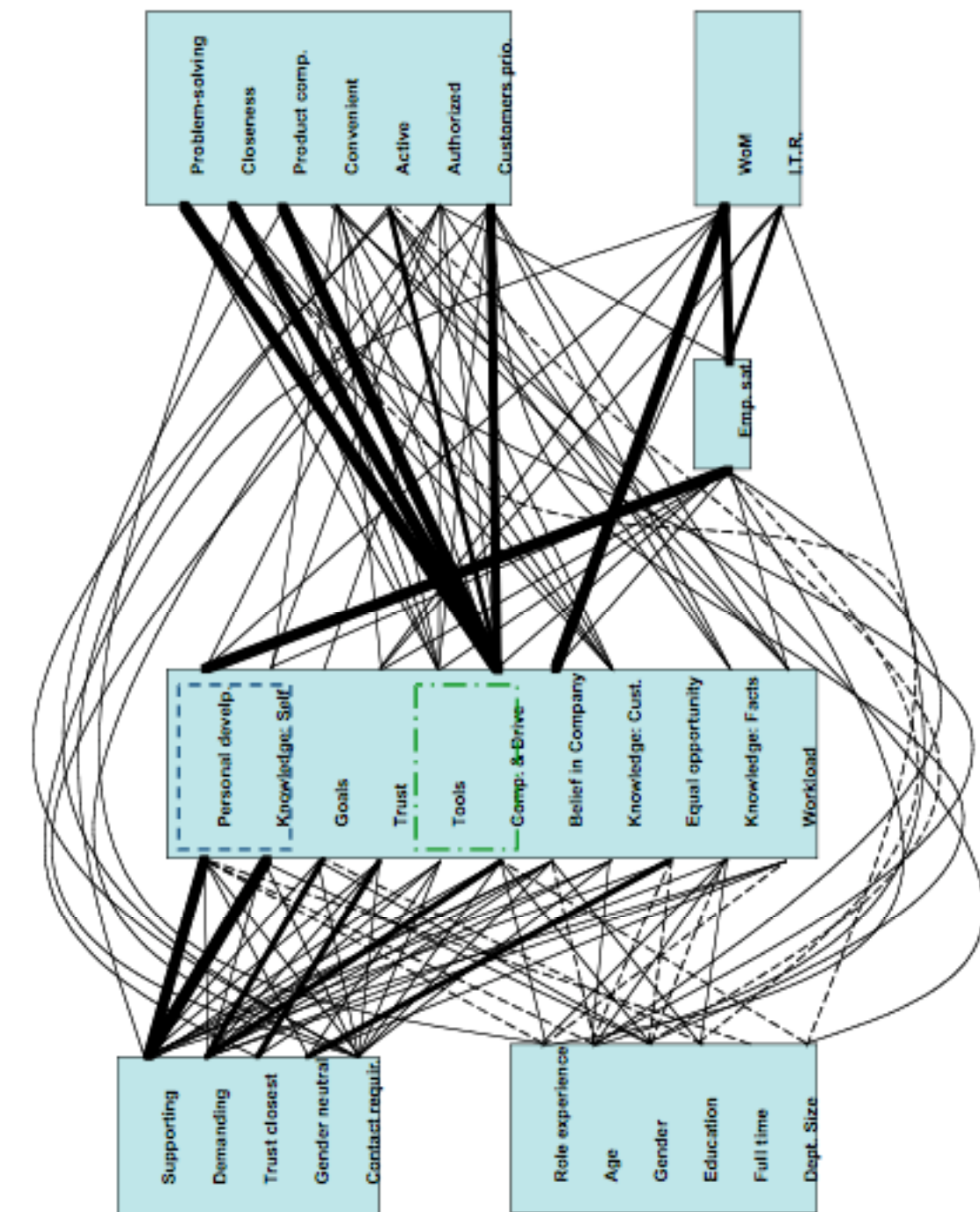
### **Personal development – Belief in company**

PERSONAL DEVELOPMENT and BELIEF IN COMPANY are correlated at 0,566. Do employees experience personal development as a result of working at a company they believe in, or do they believe in the company because they experience personal development? Since there are between 10 000 and 20 000 employees in the company, it seems far-fetched for any employee to argue that his own personal development be a cause of success for the company as a whole. However, an employee could argue that because he is experiencing personal development others are probably doing so too, and drawing the conclusion that the company is worth believing in since it is good at developing its personnel. The causal connection could hence point either way in this case. No change is made to the model.

A complete and expanded overview of the now slightly empirically applied model follows on the next page.



# Path Analysis



Shown above are the results of the first section of the path analysis. The lines represent statistically significant connections. Thicker lines indicate increasing strength, and dotted lines indicate negative signs.

In this part of the paper the results from the path analysis are analyzed, revealing how the factors in the different categories and so the categories themselves are connected to each other. The

outcome of this step will constitute the strongest test of the validity of the central model. Comments and sometimes tentative analyses are provided in for the strongest connections (highest betas) or groups of connections found in the Path Analysis, as well as others that provide insight important to the analysis as a whole. In a subsequent analysis chapter we will compare the findings discussed herein, and give comment to such connections that we were expecting to find but did not.

## **Employee Side**

Findings in this section are shown in graphical form on the preceeding page.

### **Matters of Gender and Equal Opportunities**

GENDER-NEUTRAL LEADERSHIP is the strongest cause of EQUAL OPPORTUNITIES, as would be expected, but also has a significant impact on PERSONAL DEVELOPMENT, which implies a positive judgement about gender-neutrality efforts, in the sense that ensuring gender neutral behaviour from managers seems to encourage not only the overt target of EQUAL OPPORTUNITIES but also not explicitly connected other factors. The connection from GENDER-NEUTRAL LEADERSHIP to WORKLOAD could be interpreted either as gender-neutrality efforts themselves causing extra work at the office, or, more positively, that gender-neutrality efforts cause either women or men to work harder for some other reason. EQUAL OPPORTUNITIES has not a single causal connection forward in the model, implying that for efforts to this end to be valuable, EQUAL OPPORTUNITIES must be considered a good in itself.

Interestingly, women are less likely to state that they have the KNOWLEDGE OF FACTS necessary in their positions, but are more likely to grade themselves high on COMPETENCE AND DRIVE. Looking ahead we see that COMPETENCE AND DRIVE is much more important than KNOWLEDGE OF FACTS in predicting employee behaviour, in fact the most important of all. If these judgements on behalf of female employees are accepted they would imply a positive conclusion on the relative effectiveness of female employees.

### **Matters of Management**

SUPPORTING LEADERSHIP and DEMANDING LEADERSHIP show remarkably coordinated behaviour, which comes as no surprise given their strong internal correlation. They are both causes of every factor in the customer attitudes category with the exceptions of KNOWLEDGE OF FACTS (DEMANDING LEADERSHIP alone) and EQUAL OPPORTUNITIES (SUPPORTING LEADERSHIP alone). They are further separated by the fact that SUPPORTING LEADERSHIP has a much stronger impact on PERSONAL DEVELOPMENT and KNOWLEDGE OF SELF, which we recall also means that it impacts INCLUSION. This strikes us as not at all surprising – a reasonably probable interpretation would be that supporting managers make employees feel included both in decision-making and socially,

and from this follows enhanced personal development as well as a clearer view for each employee of his place in the organization. So far, the findings support the model as it is constructed.

CONTACT REQUIREMENTS is something of an oddity in the category in that it is the starting point of four out of the six causal connections beginning in this category that go straight on to employee behaviour without passing through employee attitudes. This implies that we have found an example what was discussed in the model-building section, namely the behaviour of one person influencing the behaviour of another without passing through the second persons attitudes. A reasonable interpretation would be that the requirements described by the factor are formal ones, explicit rules about how many customers must be contacted, that are followed by employees without their attitudes coming into play. Another plausible explanation could be that there is simply a case of a false direct – that the right questions have not been asked in the attitudes category to trace the connection through it.

### **Matters of Experience**

ROLE EXPERIENCE is a positive cause of CLOSENESS, having a close connection with customers, but a negative cause of PERSONAL DEVELOPMENT and WORKLOAD, both of which could be taken as signs of more experienced employees being allowed to stagnate to some degree, which could be caused either by decreasing ambition or a failure on behalf of The Company. The positive causality of ROLE EXPERIENCE towards CLOSENESS is replicated by AGE, which also positively impacts KNOWLEDGE OF CUSTOMERS, altogether strong evidence that the general customer connectivity of employees increases with experience.

It is discouraging to note that BELIEF IN COMPANY decreases with age – we have no way of knowing whether this is a matter of each employee's level of belief decreasing over time, or of those employees that are now older having had a lower level of belief throughout their careers. If the latter alternative is true this would merely constitute a curiosity, whereas if the former alternative is correct and there is a trend of decreasing belief in the company throughout an employee's career, this would be much more serious.

### **Matters of Trust**

TRUST CLOSEST is the strongest cause of TRUST for upper management levels, but the least powerful node in the management category overall, something which does not seem to coincide with earlier research. This implies that the behaviour of an employee's closest manager has implications reaching far beyond the scope of the personal relationship between those two people or even the workings of that particular office. In effect, closest managers act as ambassadors, impacting the attitudes of employees towards the entire company.

### **Matters of Competence and Drive and Tools**

It was already known that TOOLS and COMPETENCE AND DRIVE, the two factors that together make up ORGANIZATION, were strongly correlated, and we can now see that they

also behave in similar ways in the path analysis, the difference being that COMPETENCE AND DRIVE has a much stronger impact on some later factors, and is itself influenced a few factors that do not influence TOOLS. The basic difference in contents between the two is that COMPETENCE AND DRIVE is focused on the professional qualities of individual employees, and TOOLS on how these are combined through processes and methods. The stronger effect of COMPETENCE AND DRIVE on PROBLEM-SOLVING, CLOSENESS, PRODUCT COMPETENCE and CUSTOMERS PRIORITIZED, could thus be seen as an indication that these behaviours are more likely to be driven by individual employee qualities than by organization processes or methods.

COMPETENCE AND DRIVE is the strongest cause of several factors in the Employee Behaviour category, most strongly of PROBLEM SOLVING, CLOSENESS, PRODUCT COMPETENCE and CUSTOMERS PRIORITIZED. Its own strongest causing factor is DEMANDING LEADERSHIP. This seems to qualify the analysis above which concluded that SUPPORTING LEADERSHIP may be the more important leadership type as it is the strongest cause of several other factors which in turn lead up to global employee satisfaction.

Our findings are not strong enough to support such a radical statement all the way, but what they do seem to point to, somewhat pointedly, is this: DEMANDING LEADERSHIP makes employees perform, and SUPPORTING LEADERSHIP makes them want to stay with The Company.

### **Matters of Clear Targets**

DEMANDING LEADERSHIP is a strong cause of GOALS, a factor we recall has to do with the clarity and individuality of the work objective set for each employee. Intriguingly, EDUCATION has a negative effect on GOALS. A plausible reason could be that employees with a higher education level are given larger independence and more complex roles and tasks, where formally set goals are harder to come by.

What implications these findings may have is unclear – from GOALS there exists only one weak forward-moving connection pointing to CUSTOMERS PRIORITIZED. Perhaps this is a reflection that, as has been indicated by managers at The Company, when clear targets set by managers do exist these targets tend to be about keeping up to certain measurable levels of customer contacts. If so, this finding is an indication that these targets are effective.

### **Matters of Global Satisfaction**

Concerning EMPLOYEE SATISFACTION, PERSONAL DEVELOPMENT is by far the most important determinant. PERSONAL DEVELOPMENT is in turn most strongly influenced by SUPPORTING LEADERSHIP, uncovering an indirect way through which the style of leadership can determine EMPLOYEE SATISFACTION. Indeed, all the factors in the employee attitudes category which influence EMPLOYEE SATISFACTION except WORKLOAD are in turn influenced by factors in the management category, and more so than

by the demographic factors. Of these only two, ROLE EXPERIENCE and AGE, have positive direct impacts on EMPLOYEE SATISFACTION, with three others exerting weak influences via attitude factors. These findings together show that factors related to management have a potentially very large impact on satisfaction levels among employees.

Looking forward from EMPLOYEE SATISFACTION, however, it is noted that this is actually one of the least important factors when it comes to influencing measured customer-oriented employee behaviour. The single connection in this area is the one from EMPLOYEE SATISFACTION to the consumer behaviour factor AUTHORIZED, a case in which the direction of causality must be put under consideration. Do more satisfied employees really receive more authorization, does their high level of satisfaction cause them to feel more content with whatever level of authorization they have, or is it rather that having higher authorization causes higher satisfaction? On these grounds, it is hard to argue that this global measure of satisfaction is very useful in this context.

Rather than calling global satisfaction a useless concept on the employee side, however, we should make note of the fact that EMPLOYEE SATISFACTION is an excellent predictor of the two non-customer oriented employee behaviours, EMPLOYEE WORD OF MOUTH and EMPLOYEE INTENTION TO REMAIN, in fact the best single predictor both of these two behaviours. The situation seems to be reminiscent of the one that holds for the supporting and demanding types of management.

## **Matters of Loyalty**

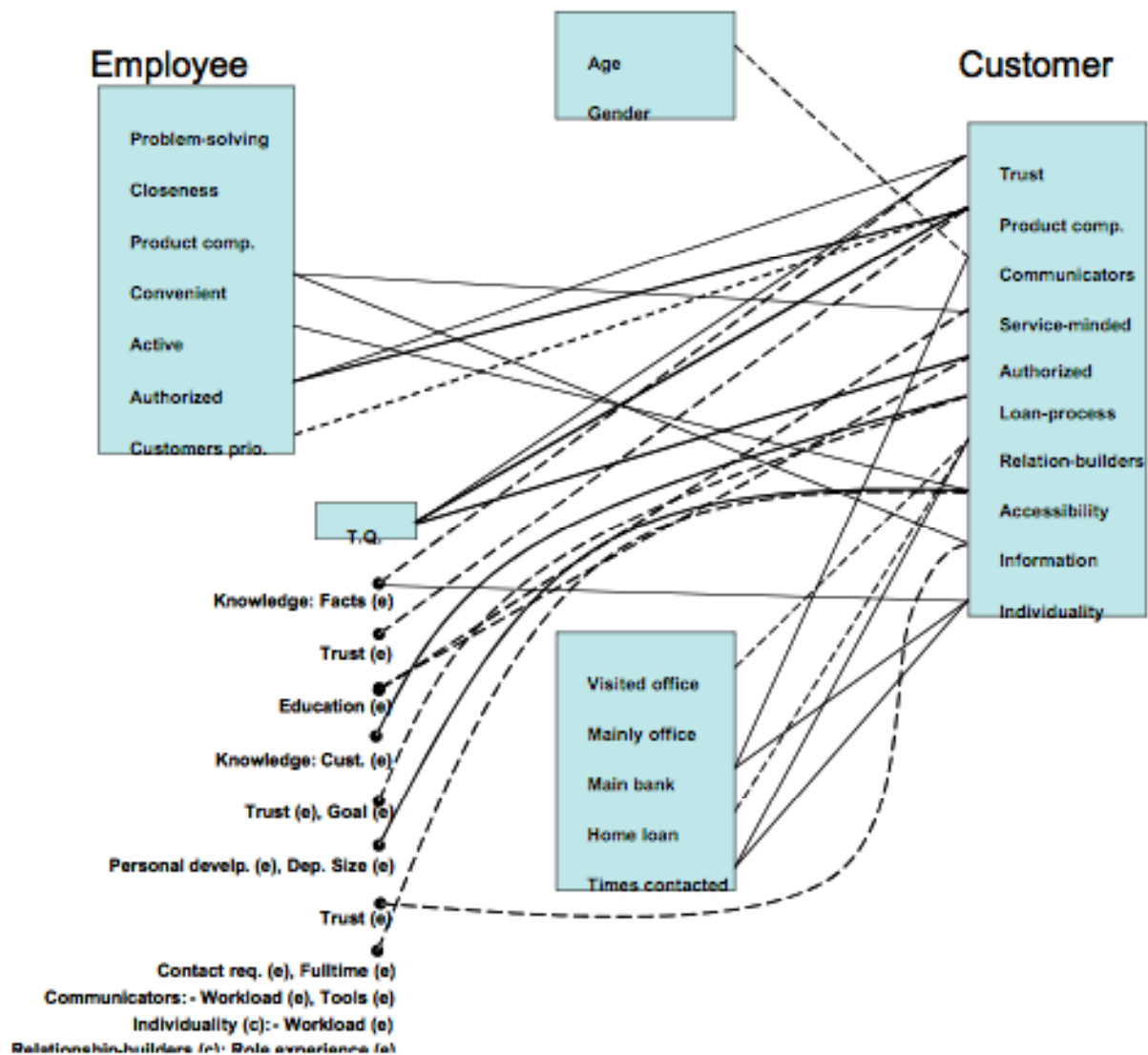
Apart from EMPLOYEE SATISFACTION, the strongest predictors of the the non-customer oriented employee behaviours EMPLOYEE WORD OF MOUTH and EMPLOYEE INTENTION TO REMAIN, are BELIEF IN COMPANY and TRUST.

## **Matters of Customer Oriented Behaviour**

Focusing finally at the customer oriented behaviour category, we have already noted that COMPETENCE AND DRIVE and TOOLS are the most important direct causes of factors in this category. The third most important causal factor, which has not yet been mentioned, is KNOWLEDGE OF CUSTOMERS, which is the source of five weak-level connections to factors in the employee behaviour category.

We recall from the correlations analysis that TOOLS and COMPETENCE AND DRIVE together constitute the components of the removed ORGANIZATION factor, and so we find that the factors, apart from KNOWLEDGE OF ORGANIZATION, that most strongly influence employee behaviour are a tight-knit group that are also highly correlated with each other. These factors appear to be a key to influencing employee behaviour and through that, presumably, customers.

## Connecting Employees and Customers



We now come to the regressions that cross the divide between employees and customers. As has been mentioned several times, the connection between the two groups, although theoretically well established, is difficult to make empirically in this particular case because of the aggregations that have been made, effecting that the regressions in this section have been performed with  $n \approx 80$ , instead of several thousand, and also that much variation has already been lost due to the aggregation itself.

Rather than leaving this section be however, we chose to comment on such findings that have been made.

Employee judgements about TOTAL QUALITY seem to carry merit in terms of this factor being the most powerful predictor of customer attitudes – this is contrary to the case of EMPLOYEE SATISFACTION, a case in which the global measure did not at all provide as much information as the detailed ones. TOTAL QUALITY is picked up on the Employee side as TRUST, PRODUCT COMPETENCE and AUTHORIZED. Looking ahead to the customer

side, we see that of these, TRUST is the strongest predictor of all for CSI, AUTHORIZED is the only one to have a direct connection to CUSTOMER PROFIT and that PRODUCT COMPETENCE has a positive impact on INTENTION TO REMAIN, but actually has a negative direct impact on CUSTOMER PROFIT.

CONVENIENCE is an important individual factor. CONVENIENCE influences SERVICE-MINDEDNESS, which is reasonable enough given that the questions making up the two factors are similar, if somewhat broader in the case of SERVICE-MINDEDNESS. Also, CONVENIENCE influences customer perceptions by being one of the strongest determinants of TOTAL QUALITY.

Having a high or correct level of AUTHORIZATION is apparently important in allowing an employee to convey an impression of TRUST and PRODUCT COMPETENCE.

It is curious to note that PRODUCT COMPETENCE is the second strongest determinant of TOTAL QUALITY, which in turn is a determinant of PRODUCT COMPETENCE, but that there is no direct connection found between the two factors bearing the name PRODUCT COMPETENCE.

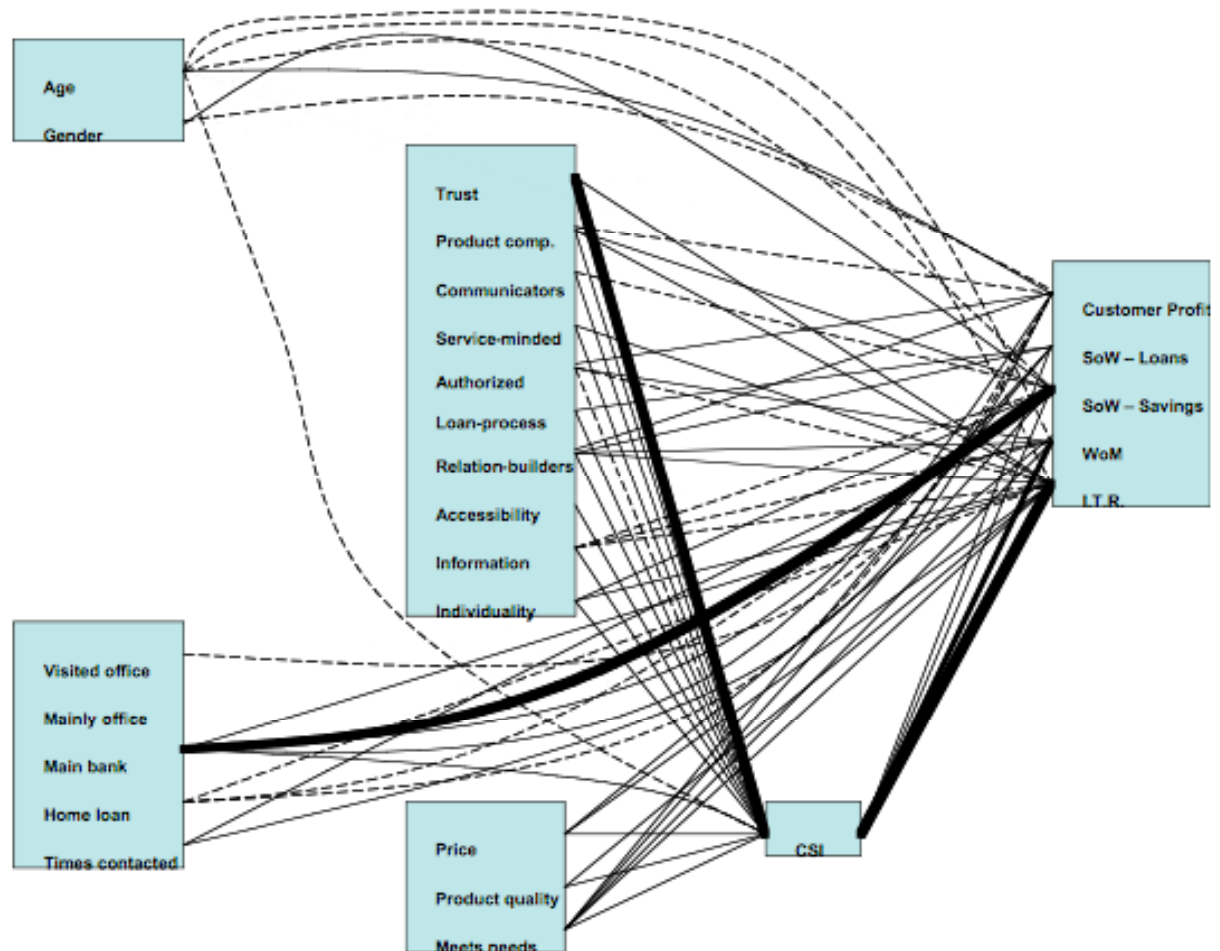
The negative effect of VISITED OFFICE on RELATION-BUILDERS can be interpreted as a discouraging finding from the bank's perspective – customers who have recently visited an office should be the ones that know the bank best, and so their verdict should be taken seriously. However, this could also be another case of reversed causality, as it might be more probable that it is the customers who do not feel that bank is striving to build a relationship with them who become less likely to visit The Company's offices. In this case, the finding simply underlines the importance of RELATION-BUILDING.

## **Customer Side**

### **Matters of Global Satisfaction**

We recall that global satisfaction is measured using CSI, Customer Satisfaction Index, which has been discussed in the theoretical sections. Through path analysis, it is found that CSI is an excellent predictor of all measures of customer behaviour except CUSTOMER PROFIT, and with notable strength in the case of INTENTION TO REMAIN. Furthermore, CSI itself is influenced by every one of the detailed customer attitude factors, the oddity here being the negative sign on the connection from AUTHORIZED.

The most important influence determining CSI is TRUST, yet apparently CSI does not capture the full effect of TRUST on INTENTION TO REMAIN, as there is also a direct connection



between the two. This strong connection to CSI and the lack of any negative effect on the behavioural factors make TRUST the most important factor among the detailed customer attitudes, in competition with RELATION-BUILDERS, which has the largest number of direct connections to behavioural factors but only a small effect on CSI.

## Matters of Gender and Age

Moving ahead in the model to where customer attitudes influence CSI and then customer behaviour, we start by noting that being female has a negative direct effect on CUSTOMER PROFITABILITY: women are generally less profitable as bank customers. However, it is possible that this result is in a certain sense an illusion. If female customers are less profitable, this should be a result either of females having less money or a lower income, or of them behaving in such a way as to generate less profit for the bank in relation to the money that they do have. The one other connection flowing from CUSTOMER GENDER is a positive correlation to SHARE OF WALLET SAVINGS, which gives an indication that the latter alternative may be more true. This is to say that female customers may be less profitable on average, but more profitable in relation to the size of their wallets, implying that a female customer may actually be preferable to a male one given that they are equal in income and assets. It is a short-coming of the customer survey that respondents have not been asked to indicate their economic conditions.

Older customers generate more profits, which could also easily be interpreted as a result of their having a larger wallet rather than how they behave. They are less likely to recommend the bank to others and score lower on INTENTION TO REMAIN. Theory would suggest that this could be a reflection of higher banking knowledge making them more aware of alternatives.

## **Matters of Contact**

The negative connection from VISITED OFFICE to CUSTOMER PROFIT is troubling if it is taken as an indication that visiting the office of a bank is somehow a negative experience encouraging a less profitable behaviour, but could also be an effect of the expensiveness of providing personal service. This could also be an error of causality, for instance if people with larger wallets who are potentially more profitable customers are also more inclined to conduct their banking business via phone or Internet, perhaps because they place a higher value on their time.

Frequently contacting customers seems to imply higher profits judging by our results, and if the direction of causality in this connection can be questioned, then at least in the neighbouring connection from TIMES CONTACTED to WORD OF MOUTH the causality is clear, as the propensity to spread positive WORD OF MOUTH is not known to The Company and hence cannot influence who The Company chooses to contact.

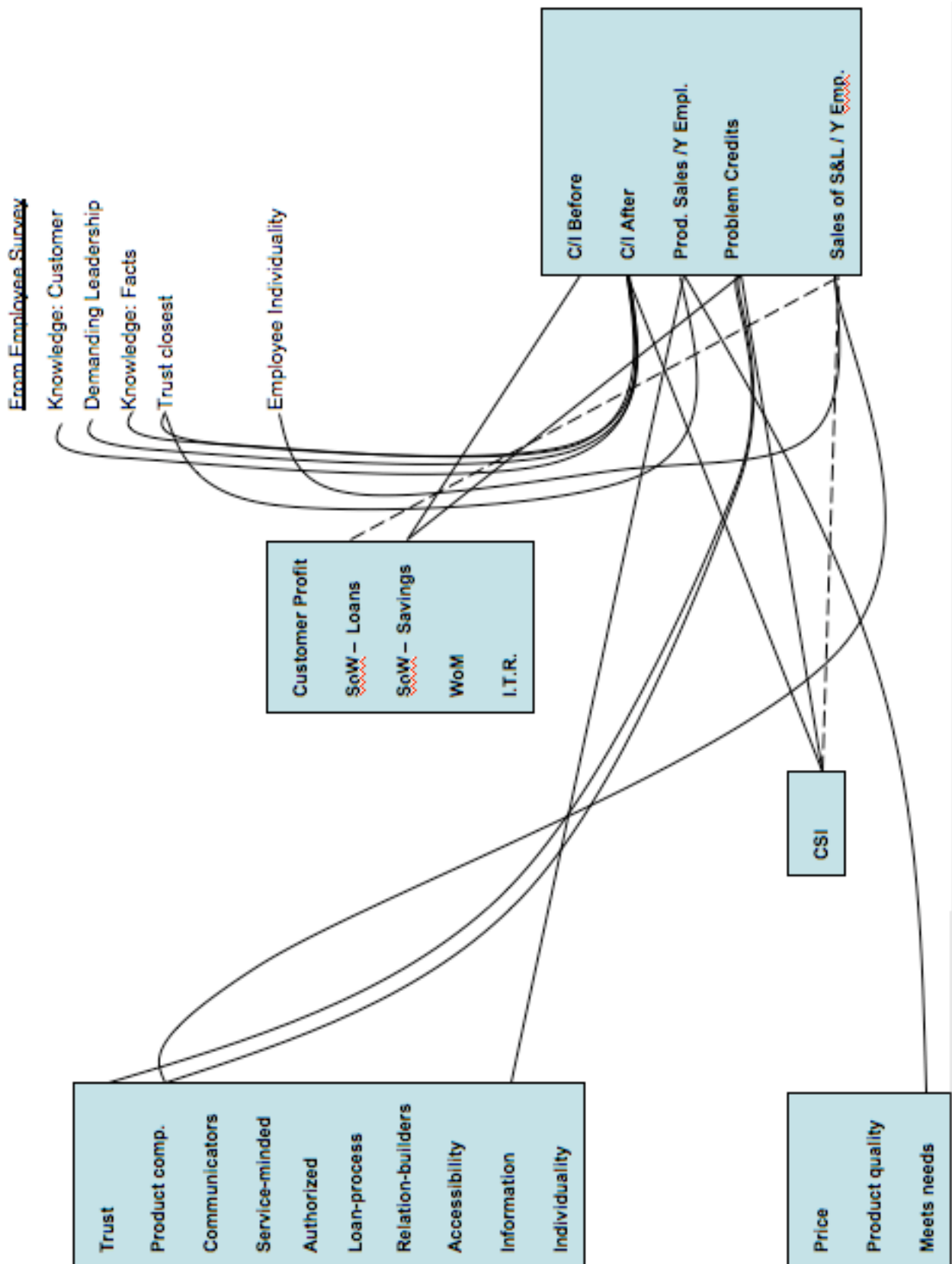
## **Matters of Products and Price**

The positive connections flowing from PRICE are easily explained by recalling that a high score on PRICE implies not high but “competitive” prices, a positive judgement from the customers’ point of view. Only two connections start in PRICE, implying that this may be a less important factor than what might have been expected. These connection are not without analytical interest however, as will become apparent in coming sections of our analysis.

The most important factor in the Precondition from Products category is neither PRICE nor PRODUCT QUALITY but whether or not the product portfolio of The Company meets the customers needs – this factor has a positive effect on four out of five customer behaviours and also on CSI, which makes it the most prolific factor in the customer survey apart from CSI itself.

## **Connecting To Profits**

The outcome of this section turns out to be by far the most difficult to analyze. The number of significant connections found is low compared to the intra-employees and intra-customers portions of the path analysis, but this is readily explained by the fact that this section, since it spans across several data sources, is also one in which regressions have had to be run using only  $n \approx 80$ .



A much larger oddity that must be addressed in this section is the fact that a large number of the connections that have been found show the "wrong" sign compared to what might have been expected.

Let us first review the chances that these oddities are statistically spurious, that is that they have resulted from effects in the material that are in fact either random or driven by something we cannot observe which impacts the material and leads us to observe "false" connections. We recall that the 80 observations used in these regressions are in fact the arithmetic means calculated in 80 units, which implies that a considerable loss of variability has already been incurred in that step. Furthermore, these 80 units are geographically defined, which is something of an invitation to spurious effects because economic conditions differ throughout the country in which The Company is being studied. In the larger regressions we were able to control for this by including the geographical regions as dummy variables in all regressions, but in this section this cannot be done, again due to small number of observations. These three interaction facts (low n, loss of variability due to using means, geographical nature of the units) means that the ground is indeed ripe for statistically spurious effects in this section.

Still, this cannot explain the apparent systematicness with which "wrong sign" connections abound in this section, but these will have to be examined in further detail.

When looked at more closely, the two largest gathering-points for the suspicious connections, C/I (costs divided by income) AFTER CREDIT LOSSES and PROBLEM CREDITS, may contain a clue that there is some internal system in the what appears to be random errors. The basis of this possibility is that C/I AFTER CREDIT LOSSES shows a much larger number of wrongly signed significant connections (5) than C/I BEFORE CREDIT LOSSES (1), which implies that problems are somehow introduced through the inclusion of credit losses. Now, the exact relation between credit losses and PROBLEM CREDITS, an internal designation used in the bank to denote such loans given that are or show signs of developing into "problems" is not known to us, but it seems quite reasonable to assume that PROBLEM CREDITS may be a main driving force behind the incurrance of credit losses. If this is so, then all it would take is either a random effect, an unobserved variable, or some geographical effect to explain both of these groups of problems together, since one seems to be the cause of the other.

The reasoning in the preceeding paragraph applies to a total of nine significant connections, all wrongly signed. This leaves seven further significant connections in this section, two of which are still wrongly signed compared to what would have been predicted by theory. They are:

- CSI having a negative effect on SALES OF SAVINGS & LOANS PER YEAR EMPLOYEE.
- SHARE OF WALLET SAVINGS having a positive effect on C/I BEFORE CREDIT LOSSES (implying that it drives lower profits).

We will refrain from speculating on any explanation of these effects.

Among the findings that do not pose problems of these kinds are connections from INFORMATION, TRUST CLOSEST and MEETS NEEDS to PRODUCT SALES/YEAR EMPLOYEE, showing some potentially important points for sales improvements; PRODUCT COMPETENCE (customers) & INDIVIDUALITY (employees) seem to impact NET SALES SAVINGS & LOANS.

Although we would have liked to see less ambiguous links from the rest of the value chain to this category of financial factors, we recall that some of the factors classified as "customer behaviours" are actually perfectly possible to consider as financial factors themselves, providing confidence that the relative failure in finding secure connections to this last category does not refute the model.

## Further Links to Theory

Can we confirm or reject the finding by Fornell that satisfaction in the banking industry should follow the Expectations Artefact model, which says that customer expectations are weak in consumer banking, and so satisfaction must be formed based on other information and entirely inside the employee/customer meeting? Because “expectations” have not been explicitly measured in the customer survey we obviously cannot reach an explicit conclusion on this point. A highly speculative discussion might be based on the fact that, by quite a wide margin, the most important factor in determining the global satisfaction measure CSI is the TRUST that customers feel towards the bank and its employees. It can be reasoned on this point that the most obvious situation where it is important to a customer to be able to trust an employee is one in which the customer is able to bring only a low level of knowledge into the situation on her own. Having low knowledge is tantamount to having weak expectations, and so this reasoning provides speculative support for the Expectations Artefact model.

Because the CSI index is based on the Disconfirmation model (we recall that CSI asks customers, among other things, rate The Company “compared to the perfect bank”, which requires the respondent to have expectations), any evidence that this model is not applicable to the industry in question undermines the theoretical underpinnings of the CSI index.

Regarding the value of the Fornell’s CSI in practice, we have found that it is indeed quite useful in predicting certain aspects of customer behaviour. It can be argued that CSI is the most important measure of customer attitudes, and that it is the one that should be chosen if only one measure were to be available. The factor that may be said to be the second most important in this respect, TRUST, exerts most of its influence on customer behaviour working through CSI. The one complementary measure that seems to be most important to include if CSI is to be used as a main measure is MAIN BANK. Somewhat simplified, CSI is an excellent measure of both Word-Of-Mouth and Intention-To-Remain, whereas MAIN BANK should be included when predicting Share-Of-Wallet, especially Share-Of-Wallet in savings.

What does the empirical evidence say about which type of loyalty, if any, is present among The Company’s customers? Commitment based/affective, spurious/calculative, or normative? Once again, any conclusions must be drawn indirectly, as the surveys have not contained any questions to provide this information explicitly. The factor used to measure the behavioural side of loyalty is of course Intention-to-Remain, ITR. Looking at the causes of ITR we see first of all that the strongest positive cause by a wide margin is the global satisfaction measure CSI, which apparently tells us nothing about the kinds of loyalty.

Among the slightly weaker causes of ITR we find that both PRICE and PRODUCT QUALITY, which might indicate spurious/calculative commitment, and more relationship-based factors such as SERVICE-MINDED, INDIVIDUALITY and TRUST (which also works through CSI),

which might be more indicative of commitment based/affective loyalty. We note also that RELATION-BUILDERS is present as a positive cause of ITR. RELATION-BUILDERS is of course mainly informative of the behaviour of the bank's employees (an example of a question included is "...what extent the bank strives to build a long term relationship with you as a customer"), but for this to be relevant to customers, which it must be since it has an influence on ITR, the customers must also be interested in building long-term relationships with the bank, which they should not be if they were mainly spuriously/calculatively loyal because of investment costs.

Looking at the effects rather than the causes of ITR we see that we have not been able to show ITR as a cause of any available financial measure, which is in line with the spurious/calculative loyalty theory – this, however, is one of the sections of the path analysis which has had to be carried out using only  $n \approx 80$ , and so this lack of an expected finding might be due to this statistical weakness.

Linking our findings to those of earlier researchers, we recall that Baumann et al., who were able to achieve an  $R^2$  for what they termed "long-term" loyalty of 55 % , using "affective attitude" (implying commitment based/affective loyalty), "switching costs" (implying spurious/calculative loyalty) and "role requirements" (implying normative loyalty), which quite clearly supports the suspicion that all three potential kinds of loyalty may be present.

In concurrence with most of the previous researchers mentioned in this paper, such as Hallowell in 1996 to name but one, the general proposition that both global and detailed satisfaction impact loyalty seems to be well established in our findings given the large number of significant connections. And the very high significance level of the regression.

Our adjusted  $R^2$  for ITR using 14 explaining variables is 0,512, which is remarkably in line with Bloemer et al:s finding of 53 % using fewer but more broadly defined explaining variables.

That global satisfaction be the key predictor of loyalty and that other factors may exert their influence through this variable is well in line with Hallowell, and relatively so with Baumann.

Grønholdt and Martenssens finding that "reliability" be a key predictor of satisfaction is confirmed by our findings to the extent that their "reliability" factor can be identified with the TRUST factor used by us.

We have not quite been able to reproduce Baumann's remarkable finding of an  $R^2$  of 72,2 % when explaining self-stated word-of-mouth (our  $R^2$  is 51,5 %; adjusted is 26,5 %), although our results are similar concerning which explaining factors are most relevant.

Bauman measured Share-of-Wallet jointly for savings and loans, and achieved an  $R^2$  of 18 %; we have kept the two separate, and achieved 26,4 % (adjusted) and 6,4 % (adjusted), respectively.

The fact that MAIN BANK is a much stronger predictor on the savings than on the loans side suggests that customers may be more inclined to "shop around" in the case of taking up a loan than they are when saving, which would explain that satisfaction with the performance of their present bank does not explain Share-of-Wallet for loans very well.

# Conclusions

## **Summary of Findings**

Before performing the conclusive steps of evaluating the model and stating recommendations to The Company and for future research, we summarize the main findings of the three preceding chapters as briefly as possible:

1. The factor COMMUNICATORS is highly correlated with both PRODUCT COMPETENCE and SERVICE-MINDED, in a way that suggests that the latter two be the causes or components of the former.
2. The factor INCLUSION is highly correlated with both PERSONAL DEVELOPMENT and KNOWLEDGE OF SELF, our analysis indicating that INCLUSION may be a cause of the latter two factors.
3. The factor TRUST on the customer side is highly correlated both with CITIZENSHIP and with PRODUCT COMPETENCE, indicating that both of two possible interpretations of the concept of trust may be present among The Company's customers.
4. The factor ORGANIZATION is closely correlated with COMPETENCE & DRIVE as well as with TOOLS, indicating that having a well-functioning organization requires both that employees be "competent and driven" and that they be given the right tools through a proper formal setting up of the workplace.
5. PERSONAL DEVELOPMENT and BELIEF IN COMPANY are highly correlated, and arguments can be made in support of either causal direction.
6. The factors SUPPORTING LEADERSHIP and DEMANDING LEADERSHIP have a strong positive correlation with each other, instead of the negative one which might have been expected. The former variety has connections flowing to PERSONAL DEVELOPMENT to EMPLOYEE SATISFACTION and on to EMPLOYEE WoM and INTENTION TO REMAIN, while the latter impacts "efficiency" factors in the customer oriented behaviour category.
7. GENDER NEUTRAL MANAGEMENT can be shown to have positive implications through its connections with PERSONAL DEVELOPMENT and other factors, even though EQUAL OPPORTUNITIES has no causal connection forward in the model
8. ROLE EXPERIENCE is a positive cause of CLOSENESS to customers, but a negative cause of PERSONAL DEVELOPMENT and WORKLOAD, which could be caused

either by decreasing ambition or a failure on behalf of The Company. BELIEF IN COMPANY also decreases with AGE, with no readily available explanation.

9. In effect, the closest managers act as ambassadors for all managers, impacting the attitudes of employees towards the entire company.
10. All those factors in the employee attitudes category which influence employee satisfaction except workload are in turn influenced by factors in the management category, and more so than by the demographic factors. These findings together show that factors related to management have a potentially very large impact on satisfaction levels among employees. EMPLOYEE SATISFACTION is actually one of the least important factors when it comes to influencing measured customer-oriented employee behaviour.
11. COMPETENCE AND DRIVE and tools are the most important direct causes to factors in customer oriented behaviour this category. The third most important causal factor, which has not yet been mentioned, is knowledge of customers.
12. The global customer satisfaction measure CSI is an excellent predictor of all measures of customer behaviour except customer profit, and with notable strength in the case of INTENTION TO REMAIN. The most important influence determining CSI is TRUST, which is the most important factor among the detailed customer attitudes, in competition with RELATION-BUILDERS. MAIN BANK is an important complement to CSI in predicting share-of-wallet measures.
13. The most important factor in the Precondition from Products category is neither PRICE nor PRODUCT QUALITY but whether or not the product portfolio of the bank meets the customers needs, which is the most prolific factor in the customer survey apart from CSI itself.
14. TRUST is found to be a central factor on the customer side, e.g. as a strong cause of CSI.
15. The Expectations Artefact model is found to be the most likely alternative to describe the formation of customer attitudes in consumer banking, putting in question the theoretical soundness of applying the CSI index to this industry.
16. Available findings from both theory and empirics allow arguments to be made for all three varieties of loyalty: commitment based/affective, spurious/calculative, and normative, with an emphasis on the former two, implying that it cannot be conclusively be established how the impact of loyalty on profits should be understood theoretically. The evaluation of the model on this point will thus have to be made based on more practical considerations, such as the usefulness of the findings made using the model.

17. In general, there is concurrence between the findings of this paper and those of earlier ones (such as Hallowell, Bloemer, Grønholdt & Martenssen, and Bauman) on matters concerning how much of the variation in satisfaction, loyalty and other behaviours that can be predicted statistically, as well as on the point of what predictors are most significant in most cases.

18. Although findings are weak regarding viable connections to the final category of the model, the nature of the factors in the Customer Behaviour category provide adequate support for the profit/value connectivity of the model.

## ***Recommendations to The Company***

From the large number of interesting and potentially important findings discussed in this paper, the following may be offered as the very most important points that may be of interest to The Company:

Regarding how to hold on to productive employees and facilitate the recruitment of new ones, points shown to be crucial include employees achieving personal development through their work and social inclusion in the workplace, as well as being able to believe in the company and its future. It has been shown that a supporting style of leadership from an employee's closest manager plays a large role in ensuring these factors. The Company would do well to make use of this finding, as well as to explore other methods by which personal development and belief in company may be ensured.

In ensuring that employees behave efficiently when working towards customers, the most important points to ensure are those that we have summarized as competence and drive. A level of demandingness from managers should continue to be utilized to achieve results in this area as well.

As has already been hinted at, if there is one point of the value creation process where it appears too much care cannot be taken, it is ensuring that competent persons are available to fill the roles of closest managers to other employees. Apart from the benefits through both the supporting and demanding styles of leadership, closest managers also exert large influence by acting as ambassadors for the company towards other employees, and establishing trust.

On the customer side, four areas may be singled out as being above the rest in importance and actionability to ensure profitable interactions with customers, in random order:

1. Keeping a high level of satisfaction as measured by CSI.
2. Being able to play the role of "main bank" to profitable customers by ensuring that products are available to meet all customer needs.

3. Establishing trust (which is linked both to product competence and to "citizenship").
4. Building relationships.

Regarding the continued use and gathering of survey data, a crucial experience of this paper is the fact that, in the future, The Company would be well advised indeed to ensure greater coordination between different data gathering operations so that such data aggregation problems as we have encountered can be avoided.

Our final word of advice to The Company is the following: when carrying out surveys or other research in the future, make sure to study not just the quality of The Company's performance and how well The Company meets the expectations of its customers, but what these expectations actually are. Acquiring more information on this area could provide highly valuable input to the discussion about the types of loyalty and their different implications for profitability, as well as have direct, potentially crucial implications for the two first points stated in the list above, such as finding out *how* to fulfill the role of a "main bank" to their customers.

## **Recommendations for Future Research**

While this paper has provided what we believe to be valuable input into the empirical side of understanding customer satisfaction in consumer banking and perhaps other service industries, research would be much furthered if the theoretical understanding of this area could be improved by clarifying the issue of which model of satisfaction formation model (such as the Expectations Artefact model or the Disconfirmation model) or what combination of these models, that should be applied to consumer banking and other services. The fact that each of the four models included in this paper have clear and simple intuitions and can so easily be argued for underlines the value that could be unlocked both to researchers and practitioners if a clearer answer to this question could be found.

The same is true for the question of finding a way to distinguish between which of the possible types of loyalty (its psychological aspect) that is the driving force behind any group of customers that exhibit behavioural loyalty. This has perhaps even larger potential business implications, due to the differences in what the commitment driven/affective and the spurious/calculative models imply.

Due to the explorative nature of this paper, many conclusions drawn are necessarily somewhat speculative, and many of those most interesting and potentially important would quite obviously merit closer examination on their own. To give but one example, we have found clear evidence that the factor we have called TRUST is very important indeed, but due to data limitations we have not quite been able to establish the causes of this factor.

Also, at several points where interesting connections have been found but we have not been able to reach clear conclusions on analysis, this could quite easily be remedied through individual studies using time-series data to solve the causality question empirically.

## ***Evaluation of the Model***

Should the central model be accepted or rejected? Apart from the value of such specific empirical findings that we have been able to make in this paper concerning The Company, the supposed central contribution of the paper is the central model itself, which has been developed with the intention of being applicable to any company a service industry with sufficient levels of direct interaction between employees and customers.

As we recall from the beginning of the paper, the four goals of the modelling process, each of which will now be given its final evaluation, were the following:

1. Be useful in terms of providing meaningful and actionable insights into the situation of a company
2. Be applicable to the kind of none time-series survey data that any company may produce on its own.
3. Be reasonably clear and intuitive and provide a realistic picture of the value creation process in a service industry, including the role of customer satisfaction
4. Be well supported by the empirical data available to us as well as by previous research

## **Usefulness**

The usefulness of the model to practitioners is argued from the findings summarized under the previous heading. They include what has been discussed regarding supporting and demanding leadership; the importance of "competence and drive" among a company's employees; the chain of connections flowing from supporting leadership to personal development, to employee satisfaction, to employees being inclined to recommend The Company as a workplace to others and to remain with The Company themselves; the importance of trust on both the employee and the customer sides; the ability of the CSI, TRUST and MAIN BANK factors to explain variations in customer behaviour, as well as numerous other findings. We hold this criterion to be quite clearly fulfilled.

## **Data and Calculations Required**

If the previous point centered on the potential pay-offs from using our model, this one might be said to be about the costs of doing so. The formal criterion concerning the type of data to be used is fulfilled, but this context is nonetheless a suitable one in which to recognize the fact that use of the model may be considered somewhat demanding with regards to the statistical tools

that must be employed, such as factor analysis and path analysis. It can be reasonably argued, however, that the necessity of employing statistical other than the very most basic ones is inherent in the missions of making use of survey data, especially large bodies of survey data that includes conceptually overlapping questions.

What we contend to be the most important point to be made under this heading is the fact that, due to the technique employed whereby the existence of connections between relevant factors is shown statistically but the presence and direction of causality in each connection is established entirely through theory, the model offers a method of by-passing the impossibility of showing causality without time-series data. This allows far wider use to be made of the kind of survey data that companies may produce, and so we consider the second objective of the model fulfilled in both its narrower and its broader sense as discussed in these paragraphs.

## **Clarity and Reflection of Reality**

The question of whether the model is "reasonably clear and intuitive" is of course a highly subjective one. While the final version of the model is obviously complex and the empirical application of the model even more so, this is not the same as being lacking in conceptual clarity. There is a basic symmetry in the model in that employees and customers are featured in essentially the same way. There are also structures present in the graphical layout of the model to help keep the it in mind: the single causal direction along the left-to-right flow of time, the attitudes/behaviour differentiation, the symbolic inclusion of the previous and next cycles.

As the closest thing to an objective measure, we recall that the model was developed in the beginning of the paper using quite simple logical tools and in only four pages, and thus hold this criterion fulfilled for the purposes of our conclusion.

## **Support from previous research and data**

PREVIOUS RESEARCH – on the theoretical side, we recall that the model was found to be in harmony with both the basic and advanced versions of the Service Profit Chain Theory at the stage of development.

At some points, a full application of previous research to the model has not been possible due to limitations of data, for instance regarding the types of loyalty and the differences in their potential results, but this remaining ambiguity on some theoretical points provides no evidence against validity of the model. In the theoretical chapter, several results of earlier research are quoted that provide strong support especially for certain major components within the model, such as the causal connection between global customer satisfaction and customer loyalty, if fewer to support the structure of the model in its entirety. The analytical tools employed in developing the model such as the attitudes/behaviour differentiation are supported by previous research as well.

DATA – what requirements should be fulfilled in order that the model be deemed to be confirmed by the data and the empirical application in this paper? In general, the requirement

must be that significant connections turn up where they are expected in the model. This requirement is qualified by the fact that, when "surprising" connections do turn up, it is not a given that they are implications of errors in the construction of the model, as there are also the questions of false directs due to lackings in the data, absence of expected connections for the same reason, or simply that unforeseen connections have been "discovered" though the application of the model in a way that confirm the usefulness of the model rather than imply its failure.

Starting on the employee side, perhaps the strongest support of all for the model comes from the remarkably well behaved groups of connections flowing from Preconditions Of Management (POM) to Employee Attitudes (EA) to the two types of Employee Behaviour (EB). From the POM category, only 7 statistically significant connections by-pass the EA category compared to 31 significant ones, including 4 "strong" and 2 "very strong" ones that take the predicted route from POM to EA, giving rise in turn to 39 significant connections including 1 strong and 7 very strong ones flowing forward from there. This of course also implies a positive judgement on the completeness of the employee survey in this section: a large portion of all potentially relevant information has been extracted from employees in this section. Also, not to much information has been lost in factorization. On the customer side this point cannot be valued due to the differences in the number of observations between sections of the path analysis.

In the sections of the model where a high number of observations have been available, only two factors included in the model (EQUAL OPPORTUNITIES and MAINLY OFFICE) are irrelevant in terms of having no forward-flowing connections, and no factor outside of the Preconditions categories are without explaining connections flowing to them from the left.

The average adjusted  $R^2$  achieved across all regressions is 26,8, which is well in line with previous research in the area.

Regarding the global satisfaction measures on both the employee and customer sides, these behave about in the way that was expected: some connections from detailed attitudes to behaviours are intercepted while others are not. An interesting object for further studies would be to run regressions on behavioural variables using *only* the global satisfaction measures, and compare  $R^2$ s to ones run using detailed attitudes.

One weakness which may be noted about the model concerns the modelling of Preconditions Of Demography on the employee side. A full third (10 out of 30) connections starting in this category by-pass the detailed EA category and connect directly to later categories, prompting a discussion about false positives or of failures of the model to reveal the exact way in which the influences of these factors are exerted.

## **Problematization**

An empirical problem which has obviously been hampering to this paper in several ways is the matter of linking the data areas through aggregation – this has been discussed well enough above.

Rather, a short note should be made under this heading on one of the choices made in our own treatment of the statistical material in the factorization step. Each time that two or more series of numerical data are reduced to means or medians, variability is lost. A result of this is that, as extreme values and irregularities are removed in this way, correlations between two such calculated series of means or medians may increase. Although not strictly a problem in itself, this introduces a subtle danger in the way the empirical material has been treated in this paper: because we have allowed the factors we produced from the original material to have different numbers of constituent questions (one, two or three), the *relative* strength of correlations found may have been affected. The effect of this is that the correlations between factors containing more variables is increased relative to those containing fewer. The result of this is potential analytical errors which are very hard to overview.

On the conceptual side, due to the scope and complexity of the models we have used it is natural that any number of issues could have been resolved in other ways than we have chosen, and that this could have impacted what conclusions would have been reached. To mention just a single example, consider a basic aspect of the way in which we have modelled the interactions between employees and customers to produce profits. In our model, this interaction is linear along the line from employees to customers and on to profits. Empirically, this is a necessity in enabling path analysis and other statistical tools to be employed in the way we have. Conceptually however, might not arguments be made that a more intuitive model would include employees and customers acting in simultaneously when conducting business and producing profits? Further examples of alternative thinking may easily be thought of by the reader. Some may probably be used to enhance the model developed in this paper in the future.

## **Final Summary**

A model has been developed describing the value creation process in consumer banking, and has been empirically applied to an un-named consumer banking company. After extensive examination on both theoretical and empirical grounds the model has been accepted, as it has been found to be in accordance with a set of criteria including usefulness, clarity and support from earlier research and data.

Numerous illustrative conclusions have been drawn concerning the workings of the value creating process, including matters of leadership, trust, and global and detailed employee and customer satisfaction measures. From these have been produced recommendations both to The Company and for future research.

Empirical and conceptual short-comings have been discussed, and the model has been volunteered for improvement by future researchers.

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# Appendix A: Factors and Questions

## Employees

### Precondition of Demographics

Factor	Question
YEARS EMPLOYED	How many years have you been an employee at the The Company group
ROLE EXPERIENCE	How many years have you had your present work description?
GENDER	What is your gender?
AGE	Age?
EDUCATION	Mark the highest finished education.
FULLTIME	Are you a full time employee
DEPARTMENT SIZE	How many are you at your office/department?

### Preconditions of Management

Factor	Question
SUPPORTING LEADERSHIP	c) My manager and I have talked about our relationships with each other.
SUPPORTING LEADERSHIP	a) My manager cares about me as a person.
SUPPORTING LEADERSHIP	m) My manager supports me in my growth and development.
DEMANDING LEADERSHIP	h) My manager follows up, making sure that things get done on schedual.
DEMANDING LEADERSHIP	How efficiently do you believe that your boss operates the organization towards stated goals?
DEMANDING LEADERSHIP	k) My manager drives sales efforts actively.
ENVIRONMENTAL LEADERSHIP	My boss and I have during personal coaching sessions adressed my competence in reference to the environmental products offered by the company and the internal environmental work done at the office/department.
GENDER NEUTRAL LEADERSHIP	Do you believe that your manager listens equal amounts to women as men, or does he/she listen more to women, or more to men?

## Employee Attitudes

## Employee Satisfaction

Factor	Question
PERSONAL DEVELOPMENT	b) I have excellent possibilities for having a career as specialist or manager within the Company group.
PERSONAL DEVELOPMENT	How do you view the general possibilities to grow within the The Company group?
PERSONAL DEVELOPMENT	c) My work assignments are very interesting.
PERSONAL DEVELOPMENT	g) I feel that I evolve personally and that I grow in my profession.
INCLUSION	a) I feel respected and valuable in my work.
INCLUSION	d) People care about me at work.
INCLUSION	I feel involved in what is being done and decided at my office.
WORKLOAD	d) The demands put upon me are not contradictory or incompatible.
WORKLOAD	How often do you work overtime?
WORKLOAD	b) We have sufficient time for our customer meetings.
WORKLOAD	b) I believe that my work load is resonable, i.e. not too great.
WORKLOAD	a) I mostly get all my work assignments done.
WORKLOAD	f) There is room for recovery after time periods of hard work.
WORKLOAD	e) I have a good work life balance.
CLARITY/KNOWLEDGE: CUSTOMERS	a) I have gotten clear feedback about my previous work achievements.
CLARITY/KNOWLEDGE: CUSTOMERS	e) I have been able to make clear how I wish to develop in the future.
CLARITY/KNOWLEDGE: CUSTOMERS	b) I know what competence needed in the future in order to do a great job in the bank.
COMPETENCE & DRIVE	a) The people at our office have the right competence today (factual, customer relations, sales ability, will etc)
COMPETENCE & DRIVE	Describe what you feel is notable in your office.
COMPETENCE & DRIVE	a) My work comrades are not afraid of taking responsibility for resolving those problems that come up grouping work.
ORGANIZATION	b) There is a well functioning organization making everyone knowing their assignments in our office.
ORGANIZATION	c) We are good at distributing the work efficiently.
BELIEF IN COMPANY	e) The The Company group is on a voyage I would like to be a part of.
BELIEF IN COMPANY	f) I believe that the The Company group will be one of the winners of it's industry.
TRUST CLOSEST	a) .. Your closest supervisor (indicated earlier.)
TRUST	d) the management of the The Company group.
TRUST	c) your regional manager.
TRUST	b) your local bank manager.
TOOLS	e) We get the support we need in our work through the organization, our methods and our work procedures.

TOOLS	a) We easily get the support we need in customer meetings due to our routines and support system.
TOOLS	I can get access to the specialist competence needed in a customer meeting sufficiently fast.
TOOLS	
GOALS	d) I have all the information needed to do a good job.
GOALS	b) I work according to individual goals. (Agreed upon between worker and supervisor)
KNOWLEDGE: CUSTOMERS	a) In our office, we work towards clear, common goals.
KNOWLEDGE: CUSTOMERS	b) I am knowledgeable in the level of satisfaction among our customers.
KNOWLEDGE: CUSTOMERS	a) I am very knowledgeable in what is important in order for the office to become successful.
KNOWLEDGE: FACTS	How do the demands put upon you in your work correspond to your competence?
KNOWLEDGE: FACTS	I have the factual competence I need in my work.
EQUAL OPPORTUNITIES	Do you believe that women and men have the same opportunities to grow within the The Company group?

### Employee Satisfaction

Factor	Question
EMPLOYEE SATISFACTION %	What percentage of your work hours would be characterized by you being happy with your work in general?
EMPLOYEE SATISFACTION	a) I am satisfied with my general situation at the The Company group.
EMPLOYEE WELLNESS	i) All in all, I feel good.

### Non Customer-Directed Employee Behaviour

Factor	Question
YEARS EMPLOYED	b) I would recommend to a good friend to apply for a job at the The Company group.
INTENTION TO REMAIN	c) If I was offered an equivalent work at another employer, I would decline.
INTENTION TO REMAIN (YEARS)	How long do you believe that you will continue to work within the The Company group, as you view it today?

### Employee Behaviour

Factor	Question
TOTAL QUALITY	i) What conclusive holistic grade would you give The Company

INDIVIDUAL	regarding being a customer to the bank?
INDIVIDUAL	g) Our ability to take initiative and make suggestions adapted to the financial situation of the customer.
INDIVIDUAL	h) Our ability to get the customer to feel that he/she is an important customer to the bank.
PRODUCT COMPETENCE	f) Our ability to listen to the customer and understand the needs of the customer.
PRODUCT COMPETENCE	c) Our competence in issues regarding savings and financial security placements.
PRODUCT COMPETENCE	d) Our competence in issues such as housing loans as well as other loans and credits.
CLOSENESS	e) Our competence in issues concerning banking services such as payments, giro and payment cards.
CLOSENESS	a) At our office we have close connections with our private customers.
PROBLEM-SOLVING	b) We make the private customers feel that they can always get the help needed when contacting the bank.
CUSTOMERS PRIORITIZED	b) We swiftly and efficiently manage those problems that may arise in customer relations.
CONVENIENT	c) We prioritize customer contacts in our work.
ACTIVE	a) It is simple and convenient for the customer to do their banking errands.
ACTIVE	f) I often make contact with customers even though they have not contacted me.
AUTHORIZED	g) Our activity level is enough to create more satisfied customers
	h) I have the authority I need to perform well in my work.

## Customers

### Preconditions of Price and Product Quality

Factor	Question
PRICE	What grade would you give The Company in reference to the competitiveness of loans and credits?
PRICE	What grade would you give The Company in reference to the competitiveness of savings?
PRICE	What grade would you give The Company in reference to the competitiveness of payments, creditcards and other every day services?
PRODUCT QUALITY	What grade would you give The Company in reference to other conditions for loans and credits are good?

PRODUCT QUALITY	What grade would you give The Company in reference to other conditions for saving which are good (only if asked, number of free withdrawals)?
PRODUCT QUALITY	What grade would you give The Company in reference to payments, credit cards and other every day services are good?
MEETS NEEDS	What grade would you give The Company in reference to that the company has products and services that meets all my needs

### Precondition of Communication

Factor	Question
USED OFFICE	During the last 12 months, have you visited a The Company banking office?
TIMES CONTACTED	During the last 12 months, how often have you been contacted by The Company? This pertains to visits, phone calls and personal letters or mail, not circulars of any kind.
HOME LOANS	Do you have housing loans?
MAIN BANK	What bank do you consider your main bank?
MAINLY OFFICE	Do you mainly keep in touch with The Company?

### Customer Attitudes 1

Factor	Question
PRODUCT COMPETENCE	What grade would you give the staff at The Company in reference to competence in issues revolving savings and financial securities.
PRODUCT COMPETENCE	What grade would you give the staff at The Company in reference to competence in issue revolving housing loans as well as other other loans and credits.
PRODUCT COMPETENCE	What grade would you give the staff at The Company in reference to competence in issues revolving banking services such as payments, giro and payment cards.
COMMUNICATORS	What grade would you give the staff at The Company in reference to the ability to listen and understand your needs.
COMMUNICATORS	What grade would you give the staff at The Company in reference to the ability to explain and give clear information.
LOAN PROCESS	What grade would you give the staff at The Company in reference to the routines for house loans are well functioning (only if asked: easy to apply for a loan, quick response...)

TRUST	What grade would you give the staff at The Company in reference toHow great is your trust in The Company in general?
TRUST	What grade would you give the staff at The Company in reference toHow great is your trust in the staff at The Company?
CITIZENSHIP	What grade would you give The Company in reference tothe bank being a positive force in your local community.
CITIZENSHIP	What grade would you give The Company in reference tothe bank being a a bank for each and all.
SERVICE MINDED	What grade would you give the staff at The Company in reference tothat the employees assist you quickley and efficiently
SERVICE MINDED	What grade would you give your banking office in reference tohow welcome you feel with your banking errands.
SERVICE MINDED	What grade would you give your banking office in reference tohow quickly you receive help at the office.
AUTHORIZED	What grade would you give The Company in reference towhat extent the staff has authority to make the required decisions.
INDIVIDUALITY	What grade would you give the staff at The Company in reference tothe ability to take initiative and make suggestions adapted to your situation.
INDIVIDUALITY	What grade would you give The Company in reference tohaving a holistic view of the economic situation of you and your family.
RELATIONSHIP-BUILDERS	What grade would you give The Company in reference towhat extent you percieve that you are an important customer for the bank.
RELATIONSHIP-BUILDERS	What grade would you give The Company in reference towhat extent the bank strives for building a long term relationship with you as a customer.
ACCESSIBILITY	What grade would you give The Company in reference tohow simple and convenient it is to perform your banking errands.
ACCESSIBILITY	What grade would you give The Company in reference tooportunities to perform your errands during times most convenient for you.
ACCESSIBILITY	What grade would you give your banking office in reference tohow the opening hours are fitting for your schedual.
INFORMATION	What grade would you give The Company in reference tothe ease with which you can understand the content of the information you are given.
INFORMATION	What grade would you give The Company in reference tohow well the given information is adequate for your needs.

ENVIRONMENT	What grade would you give The Company in reference to the consideration given by the company to the environment.
ENVIRONMENT	What grade would you give The Company in reference to their range of products and services with an environmental aspect.

### Customer Satisfaction (CSI)

Factor	Question
CSI	Given all your experiences, how satisfied or unsatisfied are you with The Company?
CSI	Considering the expectations that you have on The Company, how well does The Company meet those expectations?
CSI	Imagine the perfect bank. How close or how far away from this ideal do you consider The Company to be?

### Customer Behaviour

Factor	Question
WORD OF MOUTH	How likely is it for you to recommend using The Company to others during the coming year?
INTENTION REMAIN	TO How likely is it that you will choose to continue using The Company for those banking services that you do at The Company today?
INTENTION REMAIN	TO If you were to take out a new loan in the coming year, how likely would it be for you to choose The Company?
INTENTION REMAIN	TO If you were to initiate new savings, how likely would it be for you to choose The Company?
SHARE OF WALLET LOANS	About how large percentage share of your loans and credits do you have from The Company?
SHARE OF WALLET SAVINGS	About how large percentage share of your total bank savings and financial placements are kept at The Company?
PROFIT INTENSITY	Net Income from the individual customer, contribution to profit, TB4

# Appendix B: Results of Factor Analysis

## Content of constructed factors – including factor loadings

Employee Attitudes		Factor Loadings									
PERSONAL DEVELOPMENT	How accurate is the following? b) I have excellent possibilities for having a career as specialist of manager within [The Company]?	0,76									
	How do you view the general possibilities to grow within the [The Company] group?	0,63									
PERSONAL DEVELOPMENT	How accurate is the following? g) I feel that I evolve personally and that I grow in my profession.	0,68		0,28							0,27
	How accurate is the following? c) My work assignments are very interesting.	0,58									
INCLUSION	How accurate is the following? a) I feel respected and valuable in my work.	0,59		0,45							
	How accurate is the following? d) People care about me at work.	0,53		0,45	0,45						
	How accurate is the following? I feel involved in what is being done and decided at my office.	0,51		0,33	0,28						
WORKLOAD	<del>How accurate is the following? d) The demands put upon me are not contradictory or incompatible.</del>		0,4	0,27							
	How often do you work overtime?	0,32	0,55							0,34	
	<del>How accurate is the following? b) We have sufficient time for our customer meetings.</del>	0,31	0,53							0,28	
	How accurate is the following? b) I believe that my work load is resonable, i.e. not too great.		0,85								

	How accurate is the following? a) I mostly get all my work assignments done.		<b>0,82</b>							
	How accurate is the following? f) There is room for recovery after time periods of hard work.		<b>0,79</b>							
	<del>How accurate is the following? e) I have a good work life balance.</del>		<b>0,74</b>							
CLARITY	What has that personal coaching session meant for you? a) I have gotten clear feedback about my previous work achievements.			<b>0,8</b>						
	What has that personal coaching session meant for you? e) I have been able to make clear how I wish to develop in the future.			<b>0,7</b>						
	What has that personal coaching session meant for you? b) I know what competence needed in the future in order to do a great job in the bank.			<b>0,69</b>						
COMPETENCE & DRIVE	How accurate is the following? a) The people at our office have the right competence today (factual, customer relations, sales ability, will etc)				<b>0,67</b>					
	Describe what you feel is notable in your office.				<b>0,76</b>					
	How accurate is the following? a) My work comrades are not afraid of taking responsibility for resolving those problems that come up grouping work.				<b>0,74</b>					
ORGANIZATION	How accurate is the following? b) There is a well functioning organization making everyone knowing their assignments in our office.			0,26	<b>0,6</b>		0,34			
	How accurate is the following? c) We are good at distributing the work efficiently.				<b>0,64</b>		0,32			

BELIEF IN COMPANY	How accurate is the following? e) The [The Company] group is on a voyage I would like to be a part of.	<b>0,44</b>				<b>0,46</b>					
	How accurate is the following? f) I believe that the [The Company] group will be one of the winners of it's industry.	0,36				<b>0,54</b>					
TRUST CLOSEST	How great is your confidence level for...? a). Your closest supervisor (indicated earlier.)			<b>0,66</b>		0,26					
TRUST	How great is your confidence level for...? d) the management of the [The Company] group.					<b>0,78</b>					
	How great is your confidence level for...? c) your regional manager.					<b>0,81</b>					
	How great is your confidence level for...? b) your local bank manager.			0,41		<b>0,61</b>					
	How accurate is the following? a) My work comrades are not afraid of taking responsibility for resolving those problems that come up grouping work.				<b>0,74</b>						
TOOLS	How accurate is the following? e) We get the support we need in our work through the organization, our methods and our work procedures.	0,26			0,34		<b>0,59</b>				
	How accurate is the following? a) We easily get the support we need in customer meetings due to our routines and support system.						<b>0,75</b>				
	How accurate is the following? I can get access to the specialist competence needed in a customer meeting sufficiently fast.						<b>0,67</b>				
	<del>How accurate is the following? d) I have all the information needed to do a good job.</del>						<b>0,57</b>	0,26			-

GOALS	To what extent is the following accurate? b) I work according to individual goals. (Agreed upon between worker and supervisor)			<b>0,45</b>				<b>0,44</b>			
	To what extent is the following accurate? a) In our office, we work towards clear, common goals.			0,37	0,39			<b>0,49</b>			
UNDERSTANDING	How accurate is the following? b) I am knowledgeable in the level of satisfaction among our customers.										
	How accurate is the following? a) I am very knowledgeable in what is important in order for the office to become successful.							<b>0,73</b>			
KNOWLEDGE	How do the demands put upon you in your work correspond to your competence?							<b>-0,68</b>			
	How accurate is the following? I have the factual competence I need in my work.					0,3		<b>0,56</b>	0,32		

Employee Behaviour		Factor Loading					
TOTAL QUALITY	What grade would you give the offices ability regarding private customers concerning the following issues? i) What conclusive holistic grade would you give [The Company] regarding being a customer to the bank?						
INDIVIDUAL	What grade would you give the offices ability regarding private customers concerning the following issues? g) Our ability to take initiative and make suggestions adapted to the financial situation of the customer.	<b>0,827</b>					
	What grade would you give the offices ability regarding private customers concerning the following issues? h) Our ability to get the customer to feel that he/she is an important customer to the bank.	<b>0,732</b>					

	What grade would you give the offices ability regarding private customers concerning the following issues? f) Our ability to listen to the customer and understand the needs of the customer.	<b>0,802</b>	0,309					
PRODUCT COMPETENCE	What grade would you give the offices ability regarding private customers concerning the following issues? c) Our competence in issues regarding savings and financial security placements.	0,398	<b>0,719</b>					
	What grade would you give the offices ability regarding private customers concerning the following issues? d) Our competence in issues such as housing loans as well as other loans and credits.		<b>0,835</b>					
	What grade would you give the offices ability regarding private customers concerning the following issues? e) Our competence in issues concerning banking services such as payments, giro and payment cards.		<b>0,801</b>					
CLOSENESS	How accurate is the following? a) At our office we have close connections with our private customers.			<b>0,828</b>				
	How accurate is the following? b) We make the private customers feel that they can always get the help needed when contacting the bank.			<b>0,754</b>				
PROBLEM-SOLVING	How accurate is the following? b) We swiftly and efficiently manage those problems that may arise in customer relations.	0,303			<b>0,752</b>			
CUSTOMERS PRIORITIZED	c) We prioritize customer contacts in our work.				<b>0,61</b>			
CONVENIENT	What grade would you give the offices ability regarding private customers concerning the following issues? a) It is simple and convenient for the customer to do their banking errands.					<b>0,845</b>		

ACTIVE	How accurate is the following? f) I often make contact with customers even though they have not contacted me.						<b>0,911</b>	
	How accurate is the following? g) Our level of activity is sufficient for us to create more satisfied customers.				0,435		<b>0,603</b>	
AUTHORIZED	How accurate is the following? h) I have the authority I need to perform well in my work.							<b>0,934</b>
dropped!	<del>What grade would you give the offices ability regarding private customers concerning the following issues? b) We care about the customer and we get involved in the banking errands of the customer.</del>	-	0,327	-	<b>0,589</b>			
dropped!	<del>How accurate is the following? c) The ability to create satisfied private customers is at the top at our office.</del>		<b>0,648</b>	-	0,326			

Customer Attitudes		Factor Loadings					
PRODUCT COMPETENCE	What grade would you give the staff at [The Company] in reference to competence in issues revolving savings and financial securities.	<b>0,681</b>					
	competence in issues revolving housing loans as well as other other loans and credits.	<b>0,719</b>					
	competence in issues revolving banking services such as payments, giro and payment cards.	<b>0,654</b>					
COMMUNICATORS	What grade would you give the staff at [The Company] in reference to the ability to listen and understand your needs.	<b>0,669</b>		0,383			

	the ability to explain and give clear information.	<b>0,667</b>		0,322			
<b>LOAN PROCESS</b>	What grade would you give [The Company] in reference to how well routines for housing loans work? (is it simple to apply for a loan, is the decision swiftly communicated back to the customer...)	<b>0,421</b>	<b>0,472</b>				
<b>TRUST</b>	How great is your trust in [The Company] in general?	0,335	<b>0,698</b>				
	How great is your trust in the staff at [The Company]?	0,463	<b>0,579</b>	0,32			
<b>CITIZENSHIP</b>	What grade would you give [The Company] in reference to the bank being a positive force in your local community.		<b>0,681</b>				
	the bank being a bank for each and all.		<b>0,731</b>				
<b>SERVICE MINDED</b>	What grade would you give [The Company] in reference to the staff giving you swift and efficient help.	0,46		<b>0,653</b>			
	how welcome you feel with your banking errands.		0,303	<b>0,684</b>			
	how quickly you receive help at the office.			<b>0,719</b>		0,314	
<b>AUTHORIZED</b>	What grade would you give [The Company] in reference to what extent the staff has authority to make the required decisions.	<b>0,538</b>			0,379		
<b>INDIVIDUALITY</b>	What grade would you give the staff at [The Company] in reference to the ability to take initiative and make suggestions adapted to your situation.	<b>0,567</b>			<b>0,495</b>		
	having a holistic view of the economic situation of you and	0,469			<b>0,583</b>		

	your family.						
RELATIONSHIP-BUILDERS	What grade would you give [The Company] in reference to what extent you perceive that you are an important customer for the bank.				<b>0,74</b>		
	what extent the bank strives for building a long term relationship with you as a customer.				<b>0,723</b>		
ACCESSIBILITY	What grade would you give [The Company] in reference to how simple and convenient it is to perform your banking errands.					<b>0,653</b>	
	opportunities to perform your errands during times most convenient for you.					<b>0,867</b>	
	how the opening hours are fitting for your schedule.					<b>0,738</b>	
INFORMATION	What grade would you give [The Company] in reference to the ease with which you can understand the content of the information you are given.						<b>0,864</b>
	how well the given information is adequate for your needs.						<b>0,803</b>
ENVIRONMENT	What grade would you give [The Company] in reference to the consideration given by the company to the environment.						
	their range of products and services with an environmental aspect.						

# Appendix C: Empir. Results: Correlations

## Preconditions from Management

	GENDER NEUTRAL	DEMANDING	SUPPORTING	CONTACT REQUIREMENTS	TRUST CLOSEST
GENDER NEUTRAL	1,000				
DEMANDING	0,188	1,000			
SUPPORTING	0,245	<b>0,610</b>	1,000		
CONTACT REQUIREMENTS	0,063	0,370	0,280	1,000	
TRUST CLOSEST	0,227	<b>0,684</b>	<b>0,715</b>	0,259	1,000

We find that each correlation in the Preconditions from Management category is significant at 99,9 % or better. Three correlations are within the highest quartile,  $> 0,45$ . The mean of the absolute value of correlations is 0,364.

### Preconditions from Communications

	HOME LOAN	VISITED OFFICE	TIMES CONTACTED	MAINLY OFFICE	MAIN BANK
HOME LOAN	1,000				
VISITED OFFICE	0,088	1,000			
TIMES CONTACTED	-0,119	-0,103	1,000		
MAINLY OFFICE	0,004	-0,258	0,052	1,000	
MAIN BANK	-0,046	-0,069	0,055	0,035	1,000

We find that each correlation in the Preconditions from Communications category is significant at 99,9 % or better, except for Home Loan – Mainly Office, which is significant at 0,628 %. None of the correlations are within the highest quartile. Five correlations are negative. The mean of the absolute value of correlations is 0,083.

### Customer Behaviour

	S.O.W. LOANS	S.O.W. SAVINGS	CUSTOMER PROFIT	INTENTION TO REMAIN	WORD OF MOUTH
S.O.W. LOANS	1,000				
S.O.W. SAVINGS	0,454	1,000			
CUSTOMER PROFIT	0,157	0,059	1,000		
INTENTION TO REMAIN	0,376	0,459	0,000	1,000	
WORD OF MOUTH	0,168	0,166	0,005	0,387	1,000

We find that each correlation in the Customer Behaviour category is significant at 99,9 % or better, except for Intention to Remain – Customer Profit and Word of Mouth – Customer Profit, which are significant at 0,052 % and 0,761 % respectively. Two of the correlations are within the highest quartile. The mean of the absolute value of correlations is 0,223.

### Employee Behaviour

	PROBLEM SOLVERS	CUSTOMERS PRIORITIZED	CONVENIENT	AUTHORIZED	INDIVIDUALITY	PRODUCT COMPETENCE	CLOSENESS	ACTIVE
PROBLEM SOLVERS	1,000							
CUSTOMERS PRIORITIZED	0,379	1,000						
CONVENIENT	0,376	0,327	1,000					
AUTHORIZED	0,266	0,335	0,253	1,000				
INDIVIDUALITY	<b>0,497</b>	0,387	<b>0,472</b>	0,213	1,000			
PRODUCT COMPETENCE	0,416	0,327	0,424	0,230	<b>0,575</b>	1,000		
CLOSENESS	<b>0,450</b>	<b>0,448</b>	0,443	0,278	<b>0,568</b>	0,412	1,000	
ACTIVE	0,267	0,416	0,240	0,264	0,332	0,205	0,357	1,000

We find that each correlation in the Employee Behaviour category is significant at 99,9 % or better. Six of the correlations are within the highest quartile. The mean of the absolute value of correlations is 0,363.

### Customer Attitudes (Price – Product Quality)

	Price	Quality
Price	1,000	<b>0,80</b>
Product Quality	<b>0,80</b>	1,000

We find that the correlation between Price and Product Quality is significant at 99,9 % or better. This correlations is within the highest quartile.

### Customer Satisfaction

	CSI	Home office
CSI	1,000	0,54
Home office	0,54	1,000

We find that the correlation between CSI and Home Office is significant at 99,9 % or better. This correlations is within the highest quartile.

### Precondition from Demographics

	YEARS EMPLOYED	ROLE EXPERIENCE	GENDER	AGE	EDUCATION	FULL-TIME	DEPARTMENT SIZE
YEARS EMPLOYED	1,000						
ROLE EXPERIENCE	0,45	1,000					
GENDER	0,093	0,065	1,000				
AGE	0,636	0,43	0,054	1,000			
EDUCATION	-0,409	-0,29	-0,195	-0,467	1,000		
FULL-TIME	0,122	0,129	0,314	0,12	-0,172	1,000	
DEPARTMENT SIZE	0,041	0,041	0,001	0,035	0,013	0,005	1,000

We find that each correlation in the Precondition from Demographics category is significant at 99,9 % or better, except for Department Size – Years Employed (0,994), Department Size – Role Experience (0,994), Department Size – Gender (0,075), Department Size – Age (0,978), Department Size – Education (0,632) and Department Size – Full-Time (0,253). Two of the correlations are within the highest quartile. Five of the correlations are negative. The mean of the absolute value of correlations is 0,194.

Below, we have displayed relevant information from some of the variables in graphical form.

### Employee Satisfaction

	EMP SATISFACTION % OF TIME	EMP SATISFACTION	EMP WELLNESS
EMP SATISFACTION % OF TIME	1,000		
EMP SATISFACTION	0,527	1,000	
EMP WELLNESS	0,47	0,567	1,000

We find that each correlation in the Employee Satisfaction category is significant at 99,9 % or better. Three of the correlations are within the highest quartile. The mean of the absolute value of correlations is 0,522.

### Employee Loyalty

	EMPLOYEE WORD-OF-MOUTH	INTENTION TO REMAIN	INTENTION TO REMAIN (YEARS)
EMPLOYEE WORD-OF-MOUTH	1,000		
INTENTION TO REMAIN	0,466	1,000	
INTENTION TO REMAIN (YEARS)	0,264	0,228	1,000

We find that each correlation in the Employee Loyalty category is significant at 99,9 % or better. One of the correlations is within the highest quartile. The mean of the absolute value of correlations is 0,319.

### Customer Attitudes

	LOAN PROCESS	AUTHORIZED PRODUCT COMPETENCE	COMMUNICATO RS	TRUST	CITIZENSHIP	SERVICE- MINDED	INDIVIDUALITY	RELATION- BUILDERS	ACCESSIBILITY	INFORMATION	MEETS NEEDS	
LOAN PROCESS	1											
AUTHORIZED	0,157	1										
PRODUCT												
COMPETENCE	0,525	0,271	1									
COMMUNICATORS	0,496	0,205	0,749	1								
TRUST	0,514	0,206	0,656	0,632	1							
CITIZENSHIP	0,467	0,184	0,544	0,545	0,64	1						
SERVICE-MINDED	0,455	0,195	0,611	0,668	0,604	0,56	1					
INDIVIDUALITY	0,491	0,314	0,733	0,723	0,629	0,579	0,618	1				
RELATION-BUILDERS	0,443	0,33	0,627	0,621	0,605	0,571	0,611	0,719	1			
ACCESSIBILITY	0,356	0,136	0,452	0,447	0,454	0,462	0,546	0,461	0,45	1		
INFORMATION	0,421	0,153	0,494	0,484	0,455	0,445	0,428	0,499	0,451	0,407	1	
MEETS NEEDS	0,312	0,211	0,37	0,29	0,32	0,381	0,267	0,358	0,326	0,229	0,286	1

We find that each correlation in the Customer Attitudes category is significant at 99,9 % or better. 40 correlations are within the highest quartile, > 0,45. The mean of the absolute value of correlations is 0,452.

### Employee Attitudes

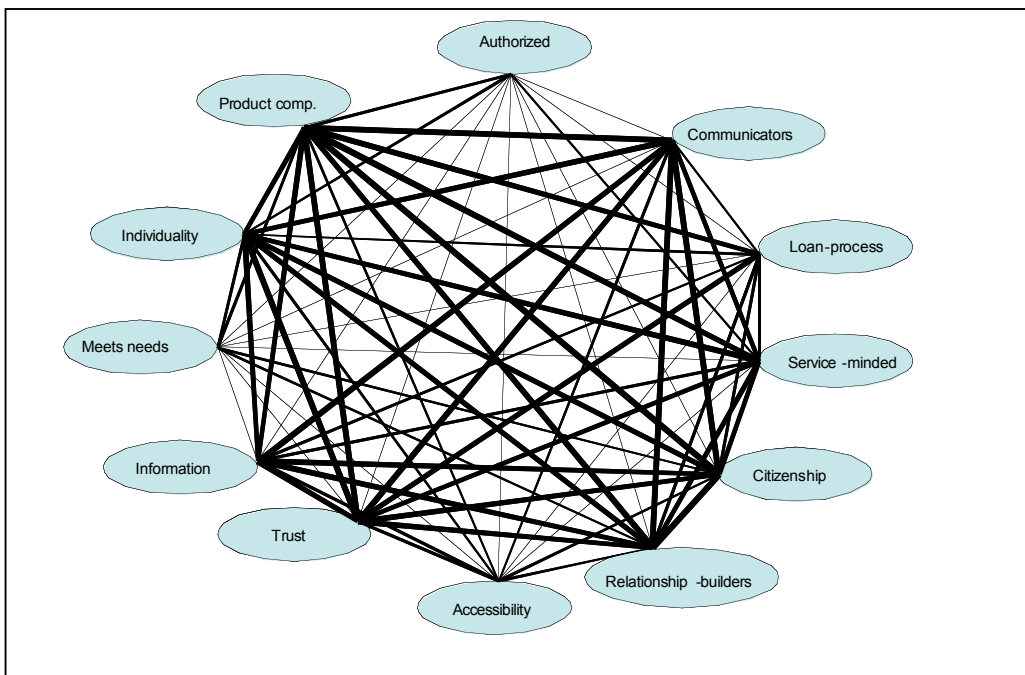
	KNOWLEDGE: SELF	COMPETENCE & DRIVE	TRUST	KNOWLEDGE: CUSTOMERS	KNOWLEDGE: FACTS	EQUAL OPPORTUNITIES	PERSONAL DEVELOPMENT	WORKLOAD	TOOLS	INCLUSION	ORGANIZATION	GOALS
KNOWLEDGE: SELF	1											
COMPETENCE & DRIVE	0,356	1										
TRUST	0,373	0,255	1									
KNOWLEDGE: CUSTOMERS	0,351	0,341	0,309	1								
KNOWLEDGE: FACTS	0,103	0,136	0,085	0,227	1							
EQUAL OPPORTUNITIES	0,159	0,099	0,199	0,041	0,003	1						
PERSONAL DEVELOPMENT	<b>0,59</b>	0,307	<b>0,467</b>	0,342	0,045	0,28	1					
WORKLOAD	0,275	0,264	0,3	0,18	0,141	0,144	0,275	1				
TOOLS	0,398	<b>0,445</b>	0,409	0,385	0,195	0,182	<b>0,446</b>	0,37	1			
INCLUSION	<b>0,581</b>	0,442	<b>0,469</b>	0,396	0,111	0,249	<b>0,736</b>	0,317	<b>0,486</b>	1		
ORGANIZATION	0,427	<b>0,619</b>	0,334	0,369	0,137	0,164	0,421	0,363	<b>0,576</b>	<b>0,547</b>	1	
GOALS	<b>0,492</b>	0,421	0,315	0,424	0,064	0,096	0,427	0,227	0,402	<b>0,485</b>	<b>0,486</b>	1
BELIEF IN COMPANY	0,366	0,253	<b>0,506</b>	0,348	0,119	0,16	<b>0,563</b>	0,265	0,389	<b>0,502</b>	0,317	0,317

We find that each correlation in the Employee Attitudes category is significant at 99,9 % or better, except for Knowledge of Customers – Equal Opportunities (0,994), Knowledge of Facts – Equal Opportunities (0,144) and Knowledge of Facts – Personal Development (0,998). 17 of the correlations are within the highest quartile. The mean of the absolute value of correlations is 0,323.

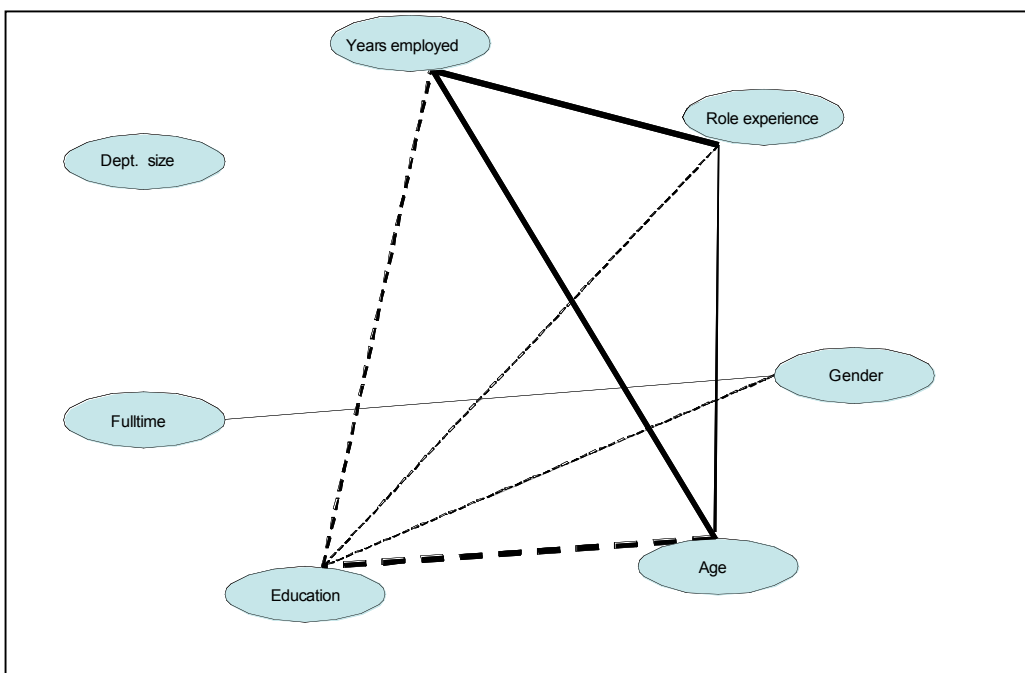
# Appendix D: Graphical representations of intra category correlations

Thicker lines represent stronger higher betas; dotted lines represent negative betas.

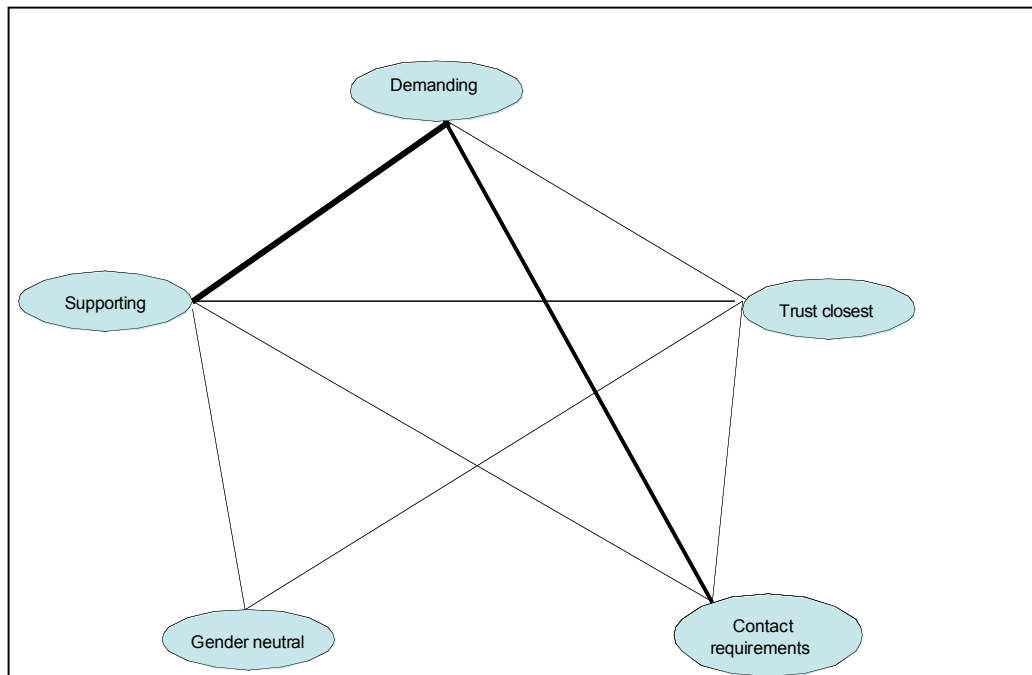
## *Customer Attitudes*



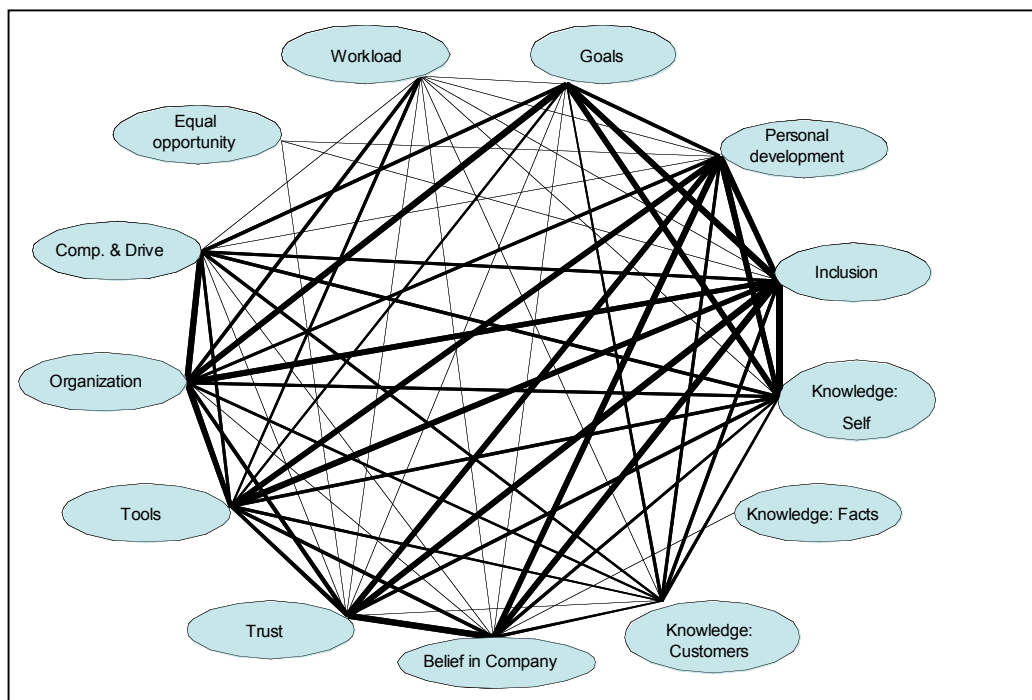
## *Preconditions of Demographics*



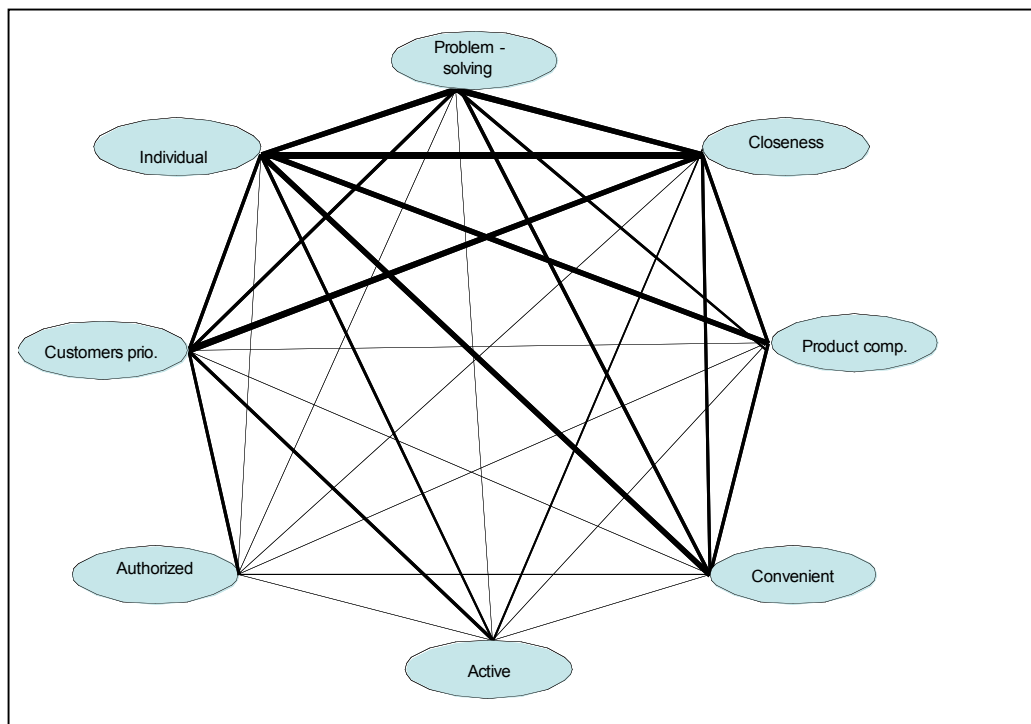
## ***Preconditions of Management***



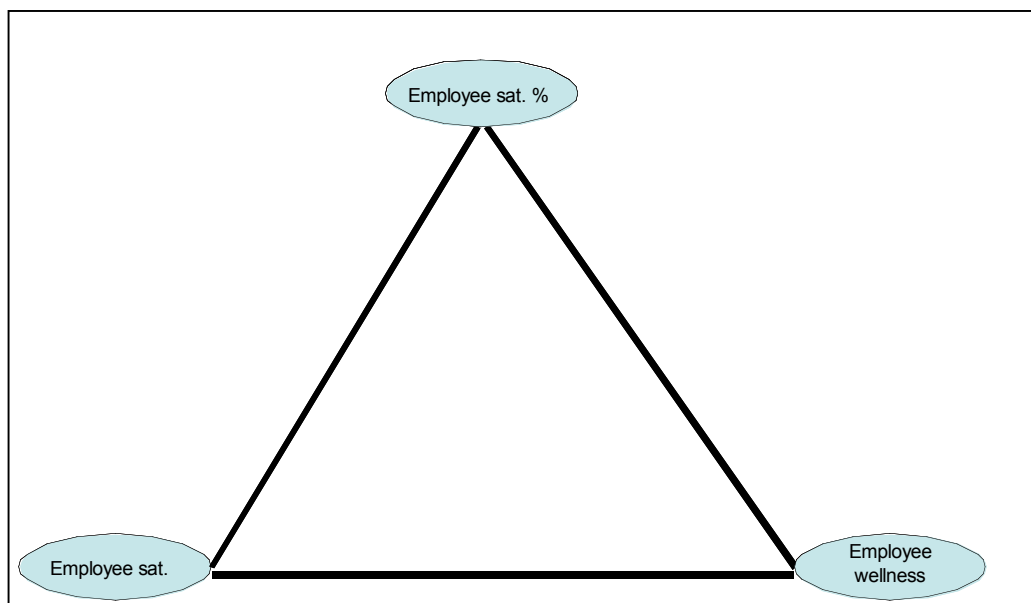
## ***Employee Attitudes***



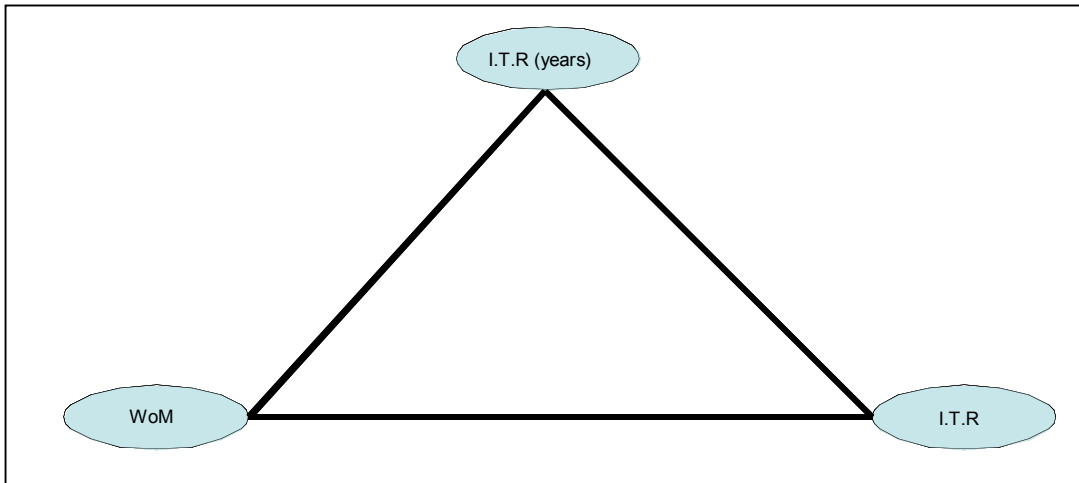
## Employee Behaviour



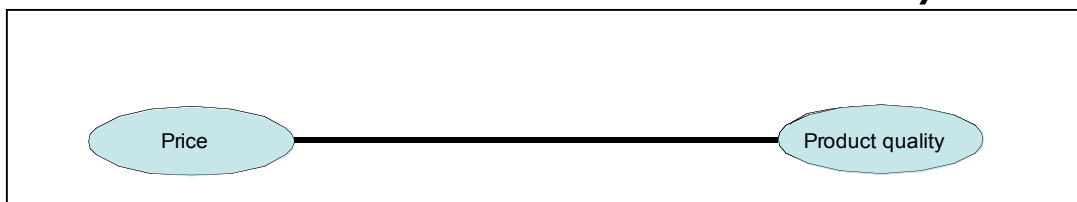
## Employee Satisfaction



### ***Non-Customer Employee Behaviour***

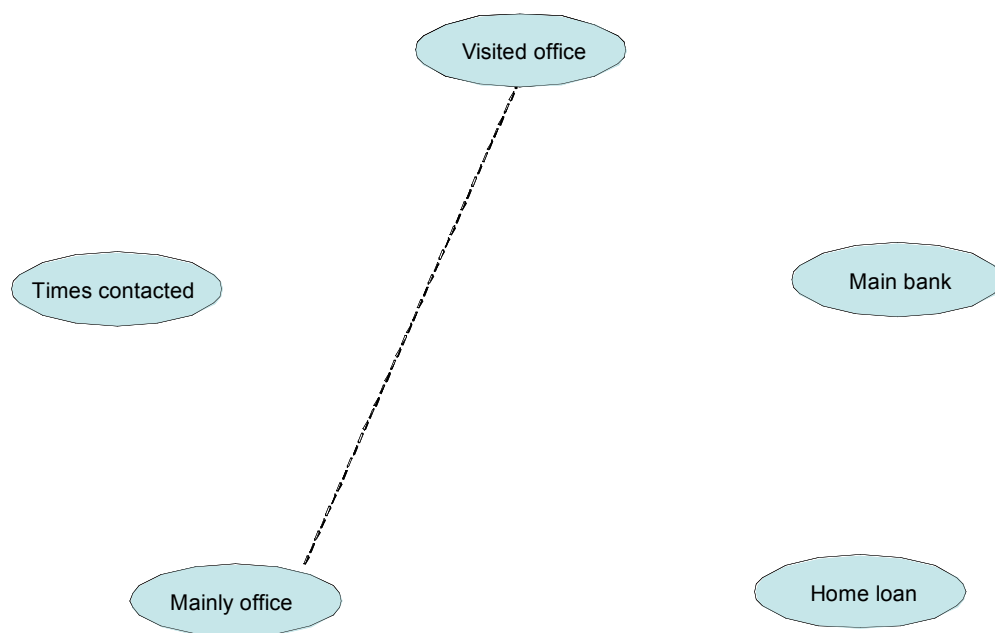


### ***Preconditions of Price and Product Quality***

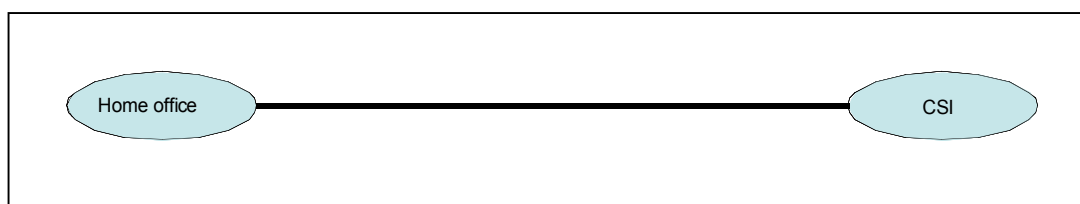


### ***Preconditions of Communication***

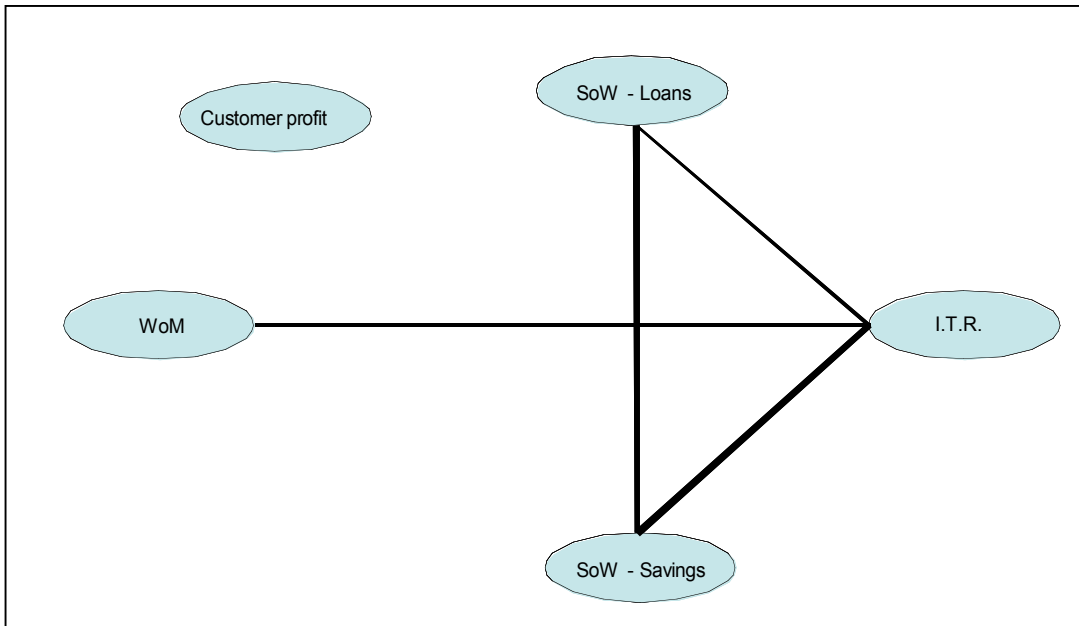




### ***Customer Satisfaction (CSI)***



## ***Customer Behaviour***



# Appendix E: Emp. Results Regressions

PRODUCT COMPETENCE			
Predictors	Standardized beta	Sig.	
EB_TOTQT	0,604	0	
EB_CSPRI	-0,459	0,001	
EB_AUTHO	0,539	0,001	
EA_TRU_1	-0,413	0,002	
EA1_GOAL	-0,256	0,058	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,396	0,354	< 0,000	

AUTHORIZED			
Predictors	Standardized beta	Sig.	
EB_TOTQT	0,28	0,011	
PD_EDUCA	-0,329	0,003	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,175	0,152	< 0,001	

LOAN PROCESS			
Predictors	Standardized beta	Sig.	
EB_ACT_1	0,2	0,105	
PD_EDUCA	-0,276	0,014	
EA_TRU_1	-0,327	0,047	
EA_KNC_1	0,454	0,007	
EA1_GOAL	-0,443	0,006	
EA2_BIC	0,275	0,114	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>

SERVICE MINDED			
Predictors	Standardized beta	Sig.	
EB_CONV	0,265	0,009	
PD_EDUCA	-0,445	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,286	0,267	< 0,000	

ACCESSIBILITY		
Predictors	Standardized beta	Sig.
EB_PRSLV	-0,107	0,506
EB_AUTHO	-0,103	0,557
EB_ACT_1	0,421	0,004
EB2_EWOM	-0,168	0,299
EA_KNF_1	-0,222	0,061
EA_PDE_1	0,515	0,018
PD_FTIME	-0,252	0,025
PD_DPSIZ	0,265	0,021
PM2_QREC	-0,294	0,015

INFORMATION			
Predictors	Standardized beta	Sig.	
EB_PRSLV	-0,198	0,175	
EB_CONV	0,4	0,004	
EB_AUTHO	0,254	0,101	
EA_TRU_1	-0,352	0,018	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,159	0,113	< 0,013	

PM_TRCL	-0,184	0,188
<b>R Square</b>	<b>Adjusted Square</b>	<b>R Sig. Of R Square</b>
0,305	0,2	< 0,005

<b>TRUST</b>		
Predictors	Standardized beta	Sig.
EB_TOTQT	0,601	0
EB_CSPRI	-0,135	0,332
EB_AUTHO	0,412	0,015
EB2_EWOM	-0,273	0,054
EA_KNF_1	-0,304	0,007
EA1_INCL	-0,336	0,04
<b>R Square</b>	<b>Adjusted Square</b>	<b>R Sig. Of R Square</b>

<b>BELIEF IN COMPANY</b>		
Predictors	Standardized beta	Sig.
AGE	-0,102	0
EDUCATION	0,072	0
IS MANAGER	0,154	0
TRUST CLOSEST CUSTOMER CONTACT REQ.	0,08	0
DEMANDING LEADERSHIP	0,106	0
SUPPORTING LEADERSHIP	0,097	0
	0,193	0
<b>R Square</b>	<b>Adjusted Square</b>	<b>R Sig. Of R Square</b>

<b>GOALS</b>		
Predictors	Standardized beta	Sig.
EDUCATION	-0,069	0
GENDER	0,044	0,001
IS MANAGER	0,08	0
CUSTOMER CONTACT REQUIREMENTS DEMANDING	0,187	0
LEADERSHIP SUPPORTING LEADERSHIP	0,296	0
	0,19	0
<b>R Square</b>	<b>Adjusted Square</b>	<b>R Sig. Of R Square</b>
0,323	0,321	< 0,000

<b>PROBLEM-SOLVING</b>		
Predictors	Standardized beta	Sig.
KNOWLEDGE: CUSTOMERS COMPETENCE & DRIVE TOOLS	0,098	0
	0,509	0
	0,15	0
<b>R Square</b>	<b>Adjusted Square</b>	<b>R Sig. Of R Square</b>
0,405	0,403	< 0,000

CLOSENESS			
Predictors	Standardized beta	Sig.	
COMPETENCE & DRIVE	0,367	0	
KNOWLEDGE: CUSTOMERS	0,179	0	
TOOLS	0,135	0	
AGE	0,069	0	
DEPARTMENT SIZE	-0,167	0	
ROLE EXPERIENCE	0,061	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,351	0,349	< 0,000	

PRODUCT COMPETENCE			
Predictors	Standardized beta	Sig.	
COMPETENCE & DRIVE	0,343	0	
KNOWLEDGE: CUSTOMERS	0,121	0	
TOOLS	0,143	0	
CUSTOMER CONTACT REQUIREMENTS	0,08	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,269	0,266	< 0,000	

CONVENIENT			
Predictors	Standardized beta	Sig.	
COMPETENCE & DRIVE	0,194	0	
KNOWLEDGE: CUSTOMERS	0,098	0	
KNOWLEDGE: SELF	0,093	0	
TOOLS	0,118	0	
TRUST	0,084	0	
WORKLOAD	0,084	0	
DEPARTMENT SIZE	-0,065	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,215	0,211	< 0,000	

ACTIVE			
Predictors	Standardized beta	Sig.	
COMPETENCE & DRIVE	0,257	0	
KNOWLEDGE: CUSTOMERS	0,133	0	
KNOWLEDGE: FACTS	0,058	0	
WORKLOAD	0,096	0	
AGE	0,019	0,18	
GENDER	-0,097	0	
IS MANAGER	-0,029	0,046	
TRUST CLOSEST	-0,055	0,004	
CUSTOMER CONTACT REQUIREMENTS	0,113	0	
DEMANDING LEADERSHIP	0,12	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,236	0,233	< 0,000	

AUTHORIZED			
Predictors	Standardized beta	Sig.	
COMPETENCE & DRIVE	0,088	0	
KNOWLEDGE: FACTS	0,086	0	
KNOWLEDGE: SELF	0,141	0	
PERSONAL DEVELOPMENT	0,122	0	
TOOLS	0,184	0	
CUSTOMER CONTACT REQUIREMENTS	0,069	0	
DEMANDING LEADERSHIP	-0,035	0,056	
EMPLOYEE SATISFACTION	0,136	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,295	0,293	< 0,000	

CUSTOMERS PRIORITIZED			
Predictors	Standardized beta	Sig.	
COMPETENCE & DRIVE	0,3	0	
KNOWLEDGE: FACTS	0,058	0	
TOOLS	0,128	0	
WORKLOAD GOALS	0,11	0	
	0,1	0	
GENDER	0,062	0	
CUSTOMER CONTACT REQUIREMENTS	0,159	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,329	0,327	< 0,000	

EMPLOYEE WORD-OF-MOUTH			
Prioritized	Standardized beta	Sig.	
PERSONAL DEVELOPMENT	0,08	0	
TRUST BELIEF IN COMPANY	0,132	0	
EMPLOYEE	0,307	0	
SATISFACTION	0,347	0	
TRUST CLOSEST	0,061	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,549	0,548	< 0,000	

INTENTION TO REMAIN			
Prioritized	Standardized beta	Sig.	
REGION 8 EMPLOYEE	-0,001	0,934	
SATISFACTION	0,274	0	
TRUST	0,172	0	
BELIEF IN COMPANY	0,168	0	
AGE	0,164	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,279	0,278	< 0,000	

<b>EMPLOYEE SATISFACTION</b>			
<b>Predictors</b>	<b>Standardized beta</b>	<b>Sig.</b>	
EDUCATION	-0,068	0	
ROLE EXPERIENCE	0,053	0	
AGE	0,062	0	
COMPETENCE & DRIVE	0,061	0	
KNOWLEDGE: SELF PERSONAL	0,042	0,006	
DEVELOPMENT TOOLS	0,443	0	
	0,058	0	
TRUST	0,106	0	
WORKLOAD	0,15	0	
BELIEF IN COMPANY	0,127	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,542	0,54		< 0,000

<b>PROFIT INTENSITY</b>			
<b>Predictors</b>	<b>Standardized beta</b>	<b>Sig.</b>	
AUTHORIZED	0,04	0	
PRODUCT COMPETENCE	-0,125	0	
RELATIONSHIP-BUILDERS	0,085	0	
MAIN BANK	0,027	0	
USED OFFICE	-0,031	0	
TIMES CONTACTED	0,051	0	
AGE	0,164	0	
CUSTOMER GENDER	-0,187	0	
HOME LOANS	-0,197	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,145	0,144		< 0,000

<b>SHARE OF WALLET LOANS</b>			
<b>Predictors</b>	<b>Standardized beta</b>	<b>Sig.</b>	
LOAN PROCESS	0,089	0	
RELATIONSHIP-BUILDERS	0,064	0	
INFORMATION	-0,081	0	
MEETS NEEDS	0,074	0	
CSI	0,081	0	
MAIN BANK	0,112	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,064	0,064		< 0,000

<b>SHARE OF WALLET SAVINGS</b>			
<b>Predictors</b>	<b>Standardized beta</b>	<b>Sig.</b>	
PRODUCT COMPETENCE	0,053	0	
COMMUNICATORS	-0,046	0	
INDIVIDUALITY	0,12	0	
INFORMATION	-0,09	0	
MEETS NEEDS	0,091	0	
CSI	0,142	0	
MAIN BANK	0,354	0	
AGE	-0,074	0	
HOME LOANS	-0,064	0	

Selecting only cases for which  
HOME LOANS = 1,00

CUSTOMER GENDER	0,05	0
<b>R Square</b>	<b>Adjusted Square</b>	<b>R Square</b>
0,265	0,264	< 0,000

<b>WORD OF MOUTH</b>			
<b>Predictor</b>	<b>Standardized beta</b>	<b>Sig.</b>	
AUTHORIZED RELATIONSHIP	0,08	0	
#NAMN?	0,128	0	
INFORMATION	-0,067	0	
MEETS NEEDS	0,044	0	
CSI	0,249	0	
AGE	-0,107	0	
PRICE	0,172	0	
TIMES CONTACTED	0,055	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,265006561	0,264533475	< 0,000	

<b>INTENT TO REMAIN</b>			
<b>Predictors</b>	<b>Standardized beta</b>	<b>Sig.</b>	
AUTHORIZED PRODUCT	-0,057	0	
COMPETENCE	0,088	0	
TRUST	0,095	0	
SERVICE			
MINDED	0,028	0,001	
INDIVIDUALITY	0,082	0	
RELATIONSHIP- BUILDERS	0,053	0	
INFORMATION	-0,111	0	
MEETS NEEDS	0,032	0	
CSI	0,38	0	
MAIN BANK	0,109	0	
PRICE	0,083	0	
QUALITY	0,063	0	
HOME LOANS	-0,039	0	
AGE	-0,029	0	
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,512	0,512	< 0,000	

<b>WORKLOAD</b>		
<b>Predictors</b>	<b>Standardized beta</b>	<b>Sig.</b>
IS MANAGER	0,036	0,012
ROLE		
EXPERIENCE	-0,049	0,001
GENDER- NEUTRAL	0,055	0
LEADERSHIP		

<b>EQUAL OPPORTUNITIES NON- DIRECTIONAL</b>		
<b>Predictors</b>	<b>Standardized beta</b>	<b>Sig.</b>
AGE	-0,056	0
GENDER	-0,194	0
IS MANAGER	0,052	0

NON-DIRECTIONAL			
DEMANDING LEADERSHIP			
	0,173	0	
SUPPORTING LEADERSHIP	0,147	0	
			<b>Sig. Of</b>
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>R Square</b>
0,105	0,103		< 0,000

GENDER-NEUTRAL LEADERSHIP			
NON-DIRECTIONAL			
SUPPORTING LEADERSHIP	0,225	0	
	0,137	0	
			<b>Sig. Of</b>
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>R Square</b>
0,145	0,143		< 0,000

KNOWLEDGE: FACTS			
Predictors	Standardized beta	Sig.	
AGE	0,07	0	
EDUCATION	0,092	0	
GENDER	-0,133	0	
ROLE			
EXPERIENCE	0,076	0	
DEMANDING LEADERSHIP	0,075	0	
			<b>Sig. Of</b>
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>R Square</b>
0,043	0,041		< 0,000

KNOWLEDGE: CUSTOMERS			
Predictors	Standardized beta	Sig.	
AGE	0,076	0	
IS MANAGER	0,21	0	
CUSTOMER CONTACT			
REQUIREMENTS	0,165	0	
DEMANDING LEADERSHIP	0,126	0	
SUPPORTING LEADERSHIP	0,139	0	
			<b>Sig. Of</b>
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>R Square</b>
0,188	0,186		< 0,000

KNOWLEDGE: SELF			
Predictors	Standardized beta	Sig.	
GENDER	0,047	0	
CUSTOMER CONTACT			
REQUIREMENTS	0,115	0	
DEMANDING LEADERSHIP	0,183	0	
SUPPORTING LEADERSHIP	0,571	0	

PERSONAL DEVELOPMENT			
Predictors	Standardized beta	Sig.	
AGE	-0,146	0	
FULLTIME	-0,05	0	
IS MANAGER	0,176	0	
ROLE			
EXPERIENCE	-0,079	0	
GENDER-NEUTRAL	0,036	0,001	

			<b>Sig. Of R Square</b>
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	
0,559	0,558		< 0,000

LEADERSHIP			
NON-DIRECTIONAL CUSTOMER CONTACT			
REQUIREMENTS	0,065		0
DEMANDING			
LEADERSHIP	0,086		0
SUPPORTING			
LEADERSHIP	0,602		0
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,566	0,565		< 0,000

<b>COMPETENCE &amp; DRIVE</b>			
<b>Predictors</b>	<b>Standardized beta</b>		<b>Sig.</b>
DEPARTMENT SIZE	-0,088		0
GENDER	0,086		0
IS MANAGER	0,056		0
ROLE			
EXPERIENCE	0,087		0
CUSTOMER CONTACT			
REQUIREMENTS	0,12		0
DEMANDING			
LEADERSHIP	0,263		0
SUPPORTING			
LEADERSHIP	0,136		0
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,204	0,202		< 0,000

<b>TOOLS</b>			
<b>Predictors</b>	<b>Standardized beta</b>		<b>Sig.</b>
IS MANAGER	0,129		0
GENDER- NEUTRAL LEADERSHIP			
NON-DIRECTIONAL CUSTOMER CONTACT	0,045		0,001
REQUIREMENTS	0,106		0
DEMANDING			
LEADERSHIP	0,195		0
SUPPORTING			
LEADERSHIP	0,195		0
<b>R Square</b>	<b>Adjusted Square</b>	<b>R</b>	<b>Sig. Of R Square</b>
0,214	0,212		< 0,000

		TRUST				
Predictors		Standardized beta	Sig.			
IS MANAGER		0,103			0	
TRUST CLOSEST		0,209			0	
CUSTOMER REQUIREMENTS	CONTACT	0,059			0	
DEMANDING LEADERSHIP		0,14			0	
SUPPORTING LEADERSHIP		0,123			0	
R Square		Adjusted Square	R	Sig. Square	Of	R
0,226		0,225	< 0,000			

# Appendix F: Factor analysis

While keeping the individual questions as separate variables would have our results contain the most information in statistical terms, the large number of variables would hamper the analysis and overview in conceptual terms. The aim of the factorization step, is to find the number of factors that best combine the effort to maximize overview and analyzability, while minimizing the loss of information.

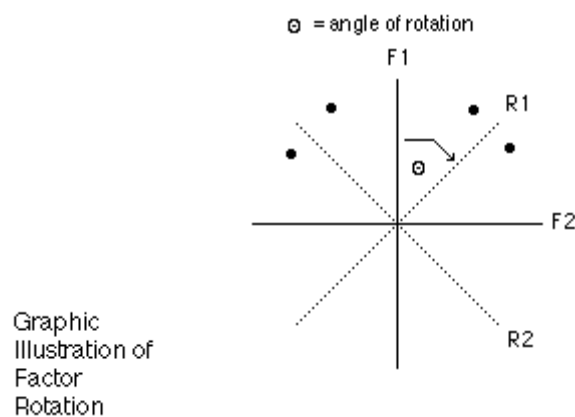
Factor analysis is a statistical method for reducing the number of random variables in quantitative data, by grouping the questions that seem to target the same underlying phenomenon or concept. Factor analysis uses the correlations between the variables – the questions – to find underlying random variables – factors – that best explain their common characteristics. Suppose that one poses four different questions that all try to measure and understand one concept, in our case a part of the customer meeting, let us say the perceived quality of loan advice. Factor analysis uses the idea that the four questions that target this single concept will be likely to render the same answer. If respondent A has answered 4 on question 1, he will answer 4 on question 2, 3 and 4 as well, because the questions measure the same thing. By grouping observable random variables together that correlate statistically, factor analysis can reduce the number of variables needed to explain the variability among all the observable variables, while minimizing the loss of information.

The observable random variables are shown as linear combinations of the underlying variable, plus a term representing the error.

## ***Performing factor analysis***

Factor analysis can be divided into three steps. First, the observable random variables are captured in a correlation matrix containing the correlation coefficients between all the variables. Second, the underlying factors are extracted based on the correlation coefficients of the variables. The factors are created so that the random variables that are assigned to a certain factor are best explained by that factor. It is important to note that it is the factor that explains the variables, not the other way around. Third, the factors are rotated in order to maximize the explanatory power of the factor to the respective variables.

Factor analysis can be performed using a number of software programs, SPSS being one of the most common. In this program, the three different steps of the factor analysis can easily be followed and the results are presented in a clear manner. The figure below shows the correlation matrix produced in step one of the factor analysis.



In the next step, the variables have been assigned to certain factors. As shown in the figure, an observable variable can appear in more than one factor. An observable variable will generally be assigned to the factor in which it has the largest factor loading. The factor loading tells us how much of the variable is explained by a certain factor. Consequently, a variable will be assigned to the factor in which it is best explained. As long as the observable random variables have a correlation coefficient larger than 0 to all the other variables, each factor will contain every observable variable, be it to a very small degree. In our example, we have chosen only to display the factors that has a factor loading larger than 0,5

The variance of the factors is measured with its eigenvalue – the variances **extracted** by the factors – as shown in the above figure. The sum of the eigenvalues equals the total number of factors in the analysis, and the factor eigenvalue can be better understood if expressed as a percentage of the total variance.

In the third and final step, the initial factors are transformed, or rotated, in order to create a better fit or greater explanatory power to each variable. The reason for rotating the factors is that sometimes certain observable factors have a large loading to several factors, something that can make the factors difficult to interpret. The aim of rotation is to reduce the number of factors in which a variable has a large loading, preferably to just one.

In order to illustrate factor rotation, one can plot the factor loadings in a scree plot. As shown below, the different variable vectors – the loading in factor F1 and F2 – are here represented by a

black dot. The initial factors F1 and F2 are illustrated with the two solid lines, and the rotated factors with the dotted lines. The rotation was done 45 degrees clockwise in this example. Notice that by rotating the axes, the relative position of the variables are not altered. However, the actual coordinates of the variable is changed as the axes are positioned to fit the existing variables better, and the factor loading is therefore increased.

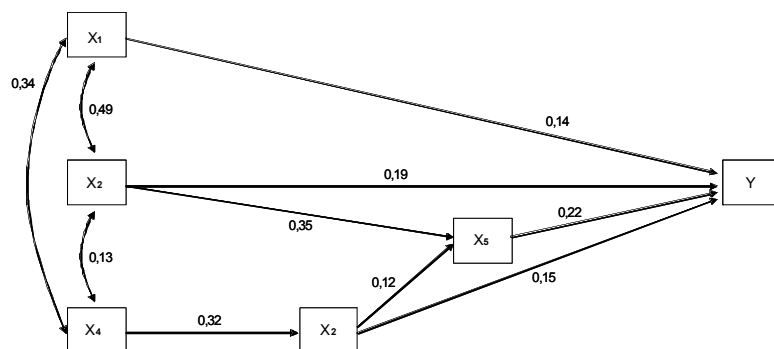
# Appendix G: Path analysis

If there are only two variables in a model, a simple correlation or regression is enough to measure the connection between them. If one variable is explained by several others, the closely related methods of partial correlations or multiple regressions serve the same purpose. But consider the case where one set of variables explains another set, and this in turn explain a third – a three step causal chain. Ordinary multiple regression analysis can provide an understanding of each step separately, but what if we wish to know the effect of a variable in the first set on one in the third, without removing the ones in between? Or what if we suspect that in some cases, not all the information in the first set is captured in the second, and so there might be some effects directly from the first to the third? This is where the method called path analysis can be used.

Path analysis is an advanced variety of multiple regression analysis, which basically is performed as follows.

1. All variables in the model are standardized.
2. For each dependant variable, a multiple regression is run with all *directly* influencing variables included as independents.
3. The standardized regression coefficients resulting from this regression are now called path coefficients, and have the following properties:
  - a. Following a single path from variable A to B to C (...) to X, the effect of A on X through this specific path can be calculated by multiplying the path coefficients along the path.
  - b. Once the effect of A on X has been calculated through every path connecting the two, the total effect of A on X can be calculated by adding the path-specific effects to a sum.

For connections that are not thought to be causal, connections are considered in terms of their simple correlations, and paths can flow along these lines as well, with certain restrictions. The method is most suited for being presented graphically, as in the following example:



The single-headed arrows symbolize the causal connections and the numbers on them are the path coefficients, which are equal to the regression coefficients once the variables are standardized. The double-headed arrows represent non-causal connections, and the numbers on them are standardized correlation coefficients.

The direct effect of  $x_2$  on  $y$  in this example is

0,19

The indirect effects of  $x_2$  on  $y$  are:

$$0,49 \times 0,14 = 0,069 \quad \text{via } x_1$$

$$0,35 \times 0,22 = 0,080 \quad \text{via } x_5$$

$$0,13 \times 0,32 \times 0,15 = 0,0062 \quad \text{via } x_4 \text{ and } x_3$$

$$0,13 \times 0,32 \times 0,12 \times 0,22 = 0,0011 \quad \text{via } x_4, x_3 \text{ and } x_5$$

The total effect of  $x_2$  on  $y$  is:

$$0,19 + 0,069 + 0,080 + 0,0062 + 0,0011 = 0,34$$