Outcomes of Service Quality in Private Banking Business Uncovering a Chain of Effects

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Abstract

This paper analyzes the outcomes of service quality in private banking. Hypotheses are derived from the service quality literature and adapted to the private banking context so that a chain of effects can be uncovered which leads from service quality to financial results of private banking providers. The analysis is based on a unique dataset consisting of customer relationship managers in 124 private banking services providing companies in Germany, Switzerland, Austria, Luxembourg, and Liechtenstein. Based on the sample, differences between private banking services providers inside and outside Germany are detected as well as differences between higher and lower minimum deposit requirements. As a result, it can be shown that an increase in service quality contributes to both, the amount of assets under management and to an improvement of the profit for private banking services providers.

Keywords: Service quality, Private banking, Outcomes of service quality, Financial results, Customer satisfaction, Customer loyalty, Partial least squares

1. Introduction

Outcomes of service quality have received attention in the literature by numerous authors, notably in the service profit chain concept of Heskett, Sasser, and Schlesinger (1997)where a chain of effects is analyzed leading from internal service quality in a company to perceived customer service quality and to customer satisfaction. Subsequently, the chain leads to customer loyalty and to financial results of companies. The outcomes of service quality are particularly interesting because companies often ask themselves whether investments in service quality will finally pay off and generate profits. Rust, Zahorik, and Keiningham (1995) already looked into these relationships and developed a `return on quality´ concept which served to make investments in service quality financially accountable. Although these concepts have been empirically tested successfully in many industries, no study has yet been conducted in the private banking industry. While various studies focus on service quality and analyze the influences of service quality on one or more concepts, a full causal chain of effects leading to financial results is rarely analyzed. Particularly in the high contact service industry of private banking (Lassar, Manolis, & Winsor, 2000), or banking services for high net worth individuals (HNWI), a deeper analysis of the chain of effects leading to financial results can gain interesting insights. Particularly the fact that private banking is a pure service industry(Chase, 1981), where the service is produced almost entirely in the presence of the customer makes private banking very interesting for an analysis of outcomes of service quality. Service quality in private banking has been investigated by Horn and Rudolf (2011). However, here a different view is taken by analyzing the effects of service quality on the financial outcomes of private banking services providers.

Analyzing the chain effects between service quality and outcome requires defining components of the chain,

such as customer satisfaction (note 1) and customer loyalty. Moreover, 'private banking' as a specific service industry needs to be correctly specified. There are only few sources addressing the private banking industry. Among them are Hens and Bachmann (2008) and Rudolf and Baedorf (2011) who address Private Banking as an own discipline in a very fundamental way. Moreover, behavioral finance to explain private banking is used by Pompian (2006). More specifically, Burgstaller and Cocca (2011) compare the private banking efficiency in Switzerland and Liechtenstein. A discussion of the book of Pompian (2006) can be found in Ising (2007), and the book ofHens and Bachmann (2008)is discussed inOesch (2009). For the definition of private banking as a services industry for so called High Net Worth Individuals (HNWI's) as customers with an amount of liquid assets lying between US-$250 000 and US-$1 000 000, we refer toHorn and Rudolf (2011).

The paper is structured as follows. The next section develops five hypotheses plus some sub-hypotheses about the chain which affects the profit of a private banking services provider initiated by service quality. Section three describes the data which has been used in order to test the hypothesis and it makes references to the methodology used. Section four presents the results. In the first paragraph of section four, the measurement model is evaluated. Paragraph two analyzes the hypotheses. Paragraph three provides an analysis of different groups. This allows us to illustrate differences between private banking providers inside and outside Germany and between clients with liquid wealth levels of below and above 250 000 Euro. Finally, section five provides a discussion of the results.

2. Inferring the Hypotheses from the Literature

Reviewing the literature suggests various linkages which can be analyzed in the private banking industry. First, according to Parasuraman, Zeithaml, and Berry (1994), Cronin and Taylor (1992), Loveman (1998) and Zeithaml and Bitner (2003) and others, service quality should be positively related to customer satisfaction. This link is one of the most analyzed relationships and should also hold in private banking.

H1a: Service quality positively influences customer satisfaction

According to Chen, Gupta, and Rom (1994), Cronin, Brady, Brand, Hightower, and Shemwell (1997) and Hallowell and Schlesinger (2000), service quality is also positively related to the service value. For the present study, the service value is modeled as a price/performance ratio which is in line with the view of Rust and Oliver (1994). We assume that:

H1b: Service quality positively influences the perceived price/performance ratio

Furthermore, Rust, Zahorik, and Keiningham (1995) see in their return on quality concept a direct and positive relationship between service quality and revenue. As we analyze banking services, where revenue cannot be easily compared with revenue in the retail sector, an analysis of assets under management seems more promising. Furthermore, according to Loveman (1998), an analysis of the change in revenue measures generates better results than an analysis of their absolute numbers so that we analyze impacts on the growth of assets under management.

H1c: Service quality positively influences growth of assets under management

The service value or the price/performance ratio is generally seen as driver of the customer satisfaction as stated by Zeithaml and Bitner (2003), Cronin, Brady, Brand, Hightower, and Shemwell (1997) and Hallowell and Schlesinger (2000). Therefore, our second hypothesis is:

H2: The perceived price/performance ratio positively influences customer satisfaction

Customer satisfaction is assumed to have positive relationships with customer loyalty as is further analyzed by Hallowell and Schlesinger (2000) and empirically tested by Loveman (1998). Rust, Zahorik, and Keiningham (1995), who do not further distinguish between customer satisfaction and service quality furthermore assume direct relationships between customer satisfaction and financial results in the form of revenue. Also Meyer Goldstein (2003) analyzes influences of customer satisfaction on revenue growth and profits, but finds only positive relationships between customer satisfaction and revenue growth.

H3a: Customer satisfaction positively influences customer loyalty

H3b: Customer satisfaction positively influences growth of assets under management

In the service profit chain related literature, customer loyalty is generally seen as the before last concept in the chain of relationships which influence financial results as is described by Heskett, Sasser, and Schlesinger (1997), Loveman (1998) and Hallowell and Schlesinger (2000). Although Meyer Goldstein (2003) and Gelade and Young (2005) do not model customer loyalty separately, but consider customer satisfaction sufficient to influence financial results, the works of Gupta and Zeithaml (2006), Zeithaml, Berry, and Parasuraman (1996), Pont and McQuilken (2005), Rust, Zahorik, and Keiningham (1995) and Loveman (1998) suggest that a separate

modeling of customer loyalty can add value to the analysis. As Zeithaml, Berry, and Parasuraman (1996) and Peter (1996) suggest, customer loyalty comprises several aspects of loyalty in the form of repeated purchases, additional purchases, cross buying, switching behavior and recommendations. As the present study focuses on a survey among private banking providers, aspects describing other facts than the actual observable behavior of customers cannot be included as representatives of companies can rather not give adequate information about how customers recommend the company to other clients. Therefore, the customer loyalty dimension is operationalized as actual switching behavior of customers. It can be assumed that the customer loyalty has positive impacts on both financial result dimensions growth of asset under management and profits.

H4a: Customer loyalty positively influences growth of assets under management

H4b: Customer loyalty positively influences profits

We assume that there is a direct link between the growth of assets under management and profits by hypothesis 4b. Although most studies such as Hallowell and Schlesinger (2000) or Meyer Goldstein (2003) do not analyze direct relationships between the different financial result constructs, it can be assumed that there are direct relationships. Furthermore, it would be interesting to see how much of the profit of private banking companies is actually caused by the customers' assets under management and how these relationships vary among different provider groups. All hypotheses are illustrated and summarized in figure 1.

H5: The growth of assets under management positively influences profits

As many private banking institutions are privately held institutions and are often managed by personally liable owners, data about the assets under management and particularly profits is difficult to obtain directly. In fact, most of the institutions are reluctant to answer questions about any of these variables. Therefore, both assets under management and profit were operationalized as latent variables where representatives of companies answered questions on the same 5 point Likert scale as all other latent variables.

3. Methodology and Data Description

To test the hypotheses empirically, a questionnaire is designed based on Churchill (1979), Gerbing and Anderson (1988) and Churchill and Iacobucci (2005), which is then mailed to private banking service providers. The study focuses on an empirical survey among private banking providers in German speaking countries (Austria, Germany, Liechtenstein, Luxembourg, and Switzerland). The questionnaire is addressed to client relationship managers which is in accordance with the literature about key informants as reported e.g. in Phillips (1981) and Kumar, Stern, and Anderson (1993). This allows us to generate sample data which is very diverse in terms of the companies offering private banking services. Items have been operationalized based on previous studies and by adapting them to the private banking context. These studies include the works of Cronin and Taylor (1992), Meyer Goldstein (2003), Gelade and Ivery (2003) and Gelade and Young (2005). Furthermore, items from other studies were adapted according to the defined characteristics of the proposed dimension (Loveman, 1998; Silvestro & Cross, 2000). All items of the measurement model are reflective items, which reflect the dimension instead of forming it. The difference between reflective and formative indicators is described in detail by Bagozzi (1994), Chin (1998), Jarvis, MacKenzie, and Podsakoff (2003) and Ringle (2004). All items of the latent variables are furthermore examined thoroughly with the criteria set of Jarvis, MacKenzie, and Podsakoff (2003) in order to prevent a misspecification of formative and reflective indicators which is a common source of misspecification of service quality models (Jarvis et al., 2003). Furthermore, items are operationalized purely performance based as proposed by Cronin and Taylor (1992) and measured on a 5 point Likert scale (Devlin, Dong, & Brown, 2003; Miller, 1956). Content validity is ensured by seven researchers and three practitioners in the private banking sector. Their responses and suggestions led to a number of item eliminations until a consensus about the validity of each item was reached.

For the empirical study, 502 private banking service providers were contacted in Germany, Switzerland, Austria, Luxembourg and Liechtenstein either by phone, email or mail. In every company, the head of private banking was contacted as he or she has the best available information about all relevant aspects for the survey (Phillips, 1981). All companies furthermore received an individual and anonymized benchmark report to prevent positive response biases. Respondents were given the opportunity to provide answers in an online tool or by mail or fax. A screening of the dataset led to the elimination of two responses which were eliminated both for a strong yea saying bias and a high number of missing values. The number of missing values was very low (1.4%). The net response rate was 24.7% with Luxembourg having the highest response rate of 50% and Switzerland having the lowest response rate of 15.6%. The difference can be explained by the fact that most of the Luxembourg companies already took part in a previous study of Meiers, Schilling, and Baedorf (2008) and were thus familiar with the research project. The Swiss sample consisted of many companies which were only contacted by mail

where the response rate was lower. Tables 1 and 2show the response rates by country and by way of contact. In total, 84 respondents replied by online and 40 responded by mail or fax. For the further analysis, missing values were replaced by sample means, which is also recommended by Roth (1994) if the number of missing values is less than 10%. In total, the sample consists of 57 companies from Germany and 67 from all other countries. The median sum of the minimum deposit sums required by the companies is 250,000 Euro with 53 companies having a minimum investment requirement of less than 250,000 Euro and 64 companies with a minimum requirement of 250,000 Euro or more. 7 companies did not reply this question and are excluded from this sample as a replacement of this variable does not make sense.

To test the hypotheses, the structural model has to be estimated and evaluated. To evaluate the structural model, the R^2 values are estimated. Chin (1998) gives some examples which can serve as landmarks to evaluate the quality of the R^2 in a PLS analysis. The analysis of structural equation models is explained in detail by Fornell and Larcker (1981a), Bagozzi (1981), Fornell and Larcker (1981b), Fornell and Bookstein (1982), Jöreskog and Sörbom (1982), Fornell and Larcker (1984), Pedhazur and Pedhazur Schmelkin (1991), Ringle (2004), Bryman (2004), MacKenzie, Podskoff, and Jarvis (2005) and Garson (2008) and is not in the focus of this paper. Generally, there are two commonly used approaches for an analysis of structural equation models: The covariance based approaches of LISREL, Amos and EQS which are also used by Cronin and Taylor (1992) and Brady and Cronin (2001), and the variance based partial least squares (PLS) approach, which is presently rarely used in marketing research. However, the PLS approach has several advantages which make it particularly attractive for the present analysis: First, PLS is likely to provide an advantage when the research goal is either exploratory in nature or an extension of existing theory (Hair, Ringle, & Sarstedt, 2011, p. 144). Second, PLS is less restrictive concerning the sample sizes (Chin, 1998; Chin & Newsted, 1999), and Bearden, Sharma, and Teel (1982) do not recommend to estimate models with less than 200 samples with LISREL. Furthermore, the nonparametric PLS method does not have any assumptions concerning the distribution of the data as Arnett, Laverie, and Meiers (2003) show. Consequently, the PLS method seems more adequate for the present analysis.

4. Results

4.1 Evaluation of the measurement model

For an analysis of the measurement model, a factor analysis is conducted with SPSS 15.0 which shows that all items load on their respective dimension. Only the items of the customer satisfaction variable show rather high loadings on the customer loyalty variable, but a separate factor analysis with both dimensions suggests that both variables are conceptionally different and separate constructs. The further reliability analysis shows good results for all dimensions, which are summarized in table 3. Only one service quality item and one customer satisfaction item had to be excluded from the study because of rather low item-to-total correlations.

As all constructs show good values for their reliability statistics, it can be concluded that convergent validity is given. For an assessment of unidimensionality, all cross loadings of all items are analyzed with the result that all items show the highest loading on their respective construct so that unidimensionality is confirmed. This result could already be assumed because of the factor analysis where all items loaded on their respective dimension. Furthermore, the Fornell Larcker criterion is fulfilled for all constructs so that discriminant validity is also confirmed. Finally, predictive validity is analyzed by the Stone-Geisser's Q^2, which shows values higher than 0 for all constructs.

An assessment of measurement model invariance shows that in the present analysis there are no significant differences among the various groups. A comparison of companies which answered by mail or by email shows that not one single indicator is statistically different between the groups and the χ^2 of 17.6 at 32 degrees of freedom is not significant. Also a comparison of different countries shows not one single statistically significant difference among indicators and the χ^2 of 19.1 and 32 degrees of freedom. There is also no statistically significant difference among items and the χ^2 of 18.3 at 32 degrees of freedom for the minimum investment requirement. Consequently, measurement model invariance is given so that the dataset can be treated as one data sample and differences between groups can be interpreted (Carte & Russell, 2003; Deng et al., 2008).

4.2 Analysis of the hypotheses

An analysis of the structural model in figure 2 shows that almost all path weights are positive and significant so that most of the hypothesis can be confirmed. The only exceptions are the loadings from customer loyalty to growth of assets under management and from customer loyalty to profits which are not significant. Most of the R^2values fall in the range between weak and moderate (note 2). Although an interpretation of R^2values can help to identify the importance of a factor, the design of the study already suggests that R^2values are relatively low. The reason is that constructs and linkages were modeled in order to confirm or reject certain hypotheses so that

the significance and the strength of the link are important, whereas R^2values could only be increased by modeling further dimensions which influence the constructs.

Service quality can explain 22.1% of the variance of the price/performance ratio and the path weight is relatively strong and significant. Therefore, hypothesis H1b can be confirmed as was suggested by various other studies. The $R^2$of only 22% shows that various other factors influence this construct. The most important construct is most likely the price of the service, but also other dimensions which increase the perceived value of the service. The link between service quality and customer satisfaction is strong and significant. Also the link between price/performance ratio and customer satisfaction is significant, but less strong than the previous relationships. Consequently, hypothesis H1a and H2 can be confirmed. Both factors can explain 29.1% of the customer satisfaction variable which can still be considered moderate according to Chin (1998). The implications of these results are particularly interesting, because according to the participating companies, customer satisfaction can be increased with an increase in service quality and at the same time, the price of the service can be increased even up to a point where customers consider the price/performance ratio lower than before. The higher path weight of the service quality indicates that customers will still be more satisfied in such a situation than before the increase in price. However, it is not known whether there is a point where a higher price is not tolerated by customers anymore and where customer satisfaction will decline disproportionately. Also the relationship between customer satisfaction and customer loyalty is strong and significant. The $R^2$of almost 55% and the path weight of 0.65 can be considered relatively high so that according to the participating companies, satisfied customers are also loyal customers. The strong relationship was already evident in the factor analysis where the customer satisfaction items already showed strong loadings on the loyalty items. Consequently, hypothesis H3a cannot be rejected. The influence of service quality and customer satisfaction on the growth of assets under management is also significant so that hypotheses H1c and H3b cannot be rejected as well. Particularly customer satisfaction has a strong loading on this financial result variable. However, although both service quality and customer satisfaction directly influence financial results, both variables can only explain 17% of this variable which can be considered rather weak according to Chin (1998). Therefore, other variables explain a big proportion of the variance of growth of assets under management and it can be assumed that besides marketing activities of the companies, particularly the market environment should have a big influence. In a favorable market environment, the sum of the clients' assets will grow although some customers might be dissatisfied with the service of the institution. Furthermore, the relationship between customer loyalty and growth of assets under management is not significant. This is rather surprising, because the results of other studies suggest that there is a positive relationship between these constructs. However, also other studies such as Silvestro and Cross (2000) do not find any positive relationships between these variables. It can be assumed that one of the reasons for the lacking significance is the fact that loyalty was measured as `passive loyalty´, i.e. in the form of the actual switching behavior of customers, whereas other aspects such as recommendations or repeat or additional purchases and cross-buying were not included in the design of the study. The same is true for the relationship between customer loyalty and profits, because also this relationship is not significant. Consequently, H4a and H4b must be rejected. The last relationship, the link between assets under management and profits is relatively strong and significant so that hypothesis H5 cannot be rejected. Furthermore, growth of assets under management can explain 16% of the companies' profits. Although this R^2value is only weak according to Chin (1998), it can still be considered high for the present study as the growth of AuM is the only modeled variable leading to profits. Table 4 and figure 2 illustrate the relationships and summarize the findings.

4.3 Group analysis

After the analysis of the proposed structural model, subgroups of the data set are analyzed. In order to analyze group differences, the data set is split into two groups, each comprising approximately half of the sample. The first analysis examines differences between companies within Germany and outside Germany (Austria, Switzerland, and Liechtenstein). Luxembourg is excluded from this sample. Whether Luxembourg is included or not has only a very small impact, however; the results are hardly affected. Differences are interpreted according to the significance of path weights in the groups or - if path weights are significant in both groups - a t-test is conducted to determine whether the strength of the relationship is significantly different.

The analysis of the different groups shows several differences in the R^2values and the path weights as can be seen in table 5 and figure 3. By dividing the dataset between Germany and the other countries, it can be seen that the R^2values of the price/performance ratio and the customer satisfaction are higher in Germany. Furthermore, the relationship between price/performance ratio and customer satisfaction is not significant abroad so that companies in these three countries do not see a relationship between the price paid for the service and satisfaction of customers. Additionally, it can be seen that in Germany, the growth of assets under management is

only directly caused by customer satisfaction but not by service quality, whereas abroad, service quality causes growth of assets under management and not customer satisfaction. Finally, more of the variance of the profit variable can be explained abroad and the difference of the path weights shows a significant difference of the loadings among the two groups. Consequently, the growth of assets under management has a stronger influence on profits outside than inside Germany.

If we now refer to the minimum deposit requirements, it can be seen in table 6 and figure 4 that in the segment below 250000 Euro, the relationship between price/performance ratio and customer satisfaction is not significant, whereas this relationship is strongly significant in the higher segment (minimum 250 000 Euro). Therefore, the satisfaction of customers is caused by other variables than the price/performance relationship in the lower segment and according to the participating companies, the price paid for the service does not seem to have a negative effect on the satisfaction of customers. The path weights between service quality and growth of assets under management are not significant in either segment. Growth of assets under management is caused by customer satisfaction in the higher segment and by customer loyalty in the lower segment. Furthermore, the growth of assets under management variable can explain more of the profit variable in the higher segment than in the lower segment which is illustrated by the R^2values of 6.5% and 29.5%.

5. Discussion

In sum, most of the hypotheses in the present analysis could be confirmed and a relationship between service quality and customer satisfaction on financial results of private banking providers could be verified. It can be seen that an improvement of service quality does finally pay off in private banking, both directly, as an improvement on service quality does lead to a growth of assets under management, and indirectly, as service quality leads to a higher customer satisfaction, which also influences financial results. As growth of assets under management leads to profits, these measures will finally lead to higher profits for companies. Furthermore, also the costs for measures which improve service quality can be passed on to customers. The fact that service quality is more important for customer satisfaction than the price/performance ratio shows that customers will appreciate higher service quality more than they will be dissatisfied from a higher price. It can consequently be concluded that when service quality is increased, the price for the service can even be raised disproportionally, because a decline in the price/performance ratio will affect customer satisfaction less than the rise in service quality. There is however statistical insignificance for both paths reaching from customer loyalty to profit for private banking services providers who require less than 250.000 Euro as minimum deposit. This lacking influence might be attributed to the fact that for the present analysis, only one attribute of customer loyalty was analyzed: the actual observable switching behavior. An additional analysis of recommendations and additional purchases might generate better results so that a link to financial results can be significant.

Also the comparison of the different groups could generate interesting insights. It can be seen that companies in Germany consider the price/performance ratio important for customer satisfaction, whereas companies abroad see no links between these constructs. Consequently, it can be assumed that customers abroad do not consider the price for the service important and are rather indifferent concerning the price. As a higher price will apparently not lead to dissatisfaction, these companies can raise the price without negative effects on customer satisfaction and financial results. However, particularly abroad, customer satisfaction is caused by a number of different factors which have to be identified further. Additionally, it can be seen that companies abroad can directly benefit from a higher service quality in the form of a growth of AuM, whereas this relationship is only indirect over the customer satisfaction variable in Germany.

The comparison between the higher and the lower segment shows that the price/performance ratio is not significant in the lower segment, whereas it explains a big proportion of the variance in the higher segment. Consequently, customers at banks in the lower segment apparently do not consider the price important, as here, a lower perceived price/performance ratio will not reflect in a lower customer satisfaction. However, this relationship is opposite in the higher segment. Here, according to the participating companies, customers consider the price/performance ratio more important for customer satisfaction than the service quality. Therefore, even an improvement of service quality can lead to a declining customer satisfaction in this segment if the price rises at the same time. According to the companies in the higher segment, their customers are more price sensitive and pay attention to a very good price/performance ratio. However, these institutions also see that customer satisfaction directly leads to better financial results. This relationship is not seen in this form by companies in the lower segment which apparently have problems to see impacts on financial results.

Consequently, the present analysis could generate insights in the relationships between service quality, customer satisfaction and financial results in the high contact service environment of private banking. It can be seen that

service quality indeed leads to profits in the end. However, the analysis also illustrates that the relationships are not always straight forward, but often work in an indirect way. Also differences between countries and between different provider groups can be identified and it can be seen that there are indeed differences in the strengths of the relationships.

For the future research, it has to be mentioned that although several significant and non significant relationships could be identified, it is not yet clear in which limits the relationships work, i.e. where are the limits of the price/performance ratio where a customer is not satisfied anymore no matter how good the service quality is. Future research should furthermore focus on further factors which impact the various variables. The present analysis shows partly low R^2values which can be attributed to the fact that a high explanation of the various variables was not in the focus of the study. However, the factors influencing customer satisfaction in private banking would be interesting to identify. It would also be interesting to see, which variables influence financial results besides the modeled variables in the present study.

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Notes

Note 1. This was often modeled in the form of the disconfirmation paradigm (Grönroos, 1984) where service quality is evaluated as a difference between customer's expectations about a service and its actual performance (Grönroos, 1984; Parasuraman, Zeithaml, & Berry, 1988).

Note 2. Chin (1998) states that an R^2 of 0.15 shows only weak explanatory power, whereas 0.35 is considered moderate and 0.67 is considered substantial.

Table 1. Response rate by country

Country	contacted	replied	response rate in %
Germany	214	57	26.6%
Switzerland	224	35	15.6%
Austria	32	19	59.4%
Luxembourg	20	10	50.0%
Liechtenstein	12	3	25.0%
Total	502	124	24.7%

Table 2. Response rate according to contact

Contact	contacted	replied	response rate in %
Telephone	290	96	33.1%
Letter	164	18	11.0%
Email	48	10	20.8%
Total	502	124	24.7%

Table 3. Measurement model service quality outcomes

Dimensions	Item	Item-Scale corr.	Indicator reliability	t-value	AVE	Factor reliability	Cronbach's Alpha
Service Quality	A01	0.739	0.798	42.80	0.7362	0.8932	0.8205
	A02	0.667	0.738	28.09			
	A03	0.632	0.672	16.77			
Price/ performance ratio	V01	0.806	0.828	20.06	0.8212	0.9323	0.8914
	V02	0.794	0.820	31.21			
	V03	0.762	0.815	45.28			
Customer satisfaction	W01	0.571	0.802	48.55	0.7852	0.8796	0.7268
	W02	0.571	0.768	31.29			
Customer loyalty	X01	0.665	0.789	44.43	0.6627	0.8544	0.7486
	X02	0.566	0.584	9.27			
	X03	0.509	0.615	18.08			
Growth AuM	Y01	0.659	0.765	22.87	0.8251	0.9041	0.7941
	Y02	0.659	0.885	70.96			
Profit	Z01	0.812	0.858	55.74	0.8186	0.9311	0.8895
	Z02	0.799	0.853	53.90			
	Z03	0.738	0.745	19.13			

Table 4. Hypotheses summary

	Hypothesis	Confirmed
H1a	Service quality positively influences customer satisfaction	yes
H1b	Service quality positively influences the perceived price/performance ratio	yes
H1c	Service quality positively influences growth of assets under management	yes
H2	The perceived price/performance ratio positively influences customer satisfaction	yes
H3a	Customer satisfaction positively influences customer loyalty	yes
H3b	Customer satisfaction positively influences growth of assets under management	yes
H4a	Customer loyalty positively influences growth of assets under management	no
H4b	Customer loyalty positively influences profits	no
H5	The growth of assets under management positively influences profits	yes

Table 5. Analysis of group differences between countries

	Germany			Outside Germany			Diff.
	Path	t-value	R^2	Path	t-value	R^2	t-value
	on price/ performance ratio			on price/ performance ratio			
Service quality	0.627	6.11***		0.412	2.73***		1.18
	on customer satisfaction			on customer satisfaction			
Service quality	0.485	3.47***		0.351	2.61**		0.69
Price/ performance ratio	0.244	2.08**		0.141	1.10		0.59
	on customer loyalty			on customer loyalty			
Customer satisfaction	0.691	11.20***		0.609	10.75***		0.97
	on growth AuM			on growth AuM			
Service quality	0.111	0.89		0.276	2.59**		1.00
Customer satisfaction	0.446	2.12**		0.217	1.53		0.90
Customer loyalty	0.073	0.48		0.060	0.56		0.07
	on profit			on profit			
Customer loyalty	0.191	1.59		0.038	0.39		0.98
Growth AuM	0.208	1.71*		0.511	4.77***		1.81*
Price/ performance ratio			0.393			0.169	
Customer satisfaction			0.449			0.184	
Customer loyalty			0.625			0.503	
Growth AuM			0.218			0.148	
Profit			0.107			0.270	
Abroad: Switzerland, Austria and Liechtenstein ***/ **/ * significant at the 99%/ 95%/ 90% level							

Table 6. Analysis of group differences between minimum deposit requirements

	below 250T EUR			min 250T EUR			Diff.
	Path	t-value	R^2	Path	t-value	R^2	t-value
	on price/ performance ratio			on price/ performance ratio			
Service quality	0.462	3.04***		0.481	4.91***		0.11
	on customer satisfaction			on customer satisfaction			
Service quality	0.530	3.76***		0.256	2.27**		1.52
Price/ performance ratio	0.075	0.29		0.477	3.94***		2.09**
	on customer loyalty			on customer loyalty			
Customer satisfaction	0.669	9.68***		0.617	12.94***		0.61
	on growth AuM			on growth AuM			
Service quality	0.162	1.33		0.158	1.52		0.02
Customer satisfaction	0.085	0.16		0.534	3.11***		2.02**
Customer loyalty	0.260	1.75*		0.094	1.39		2.00**
	on profit			on profit			
Customer loyalty	0.009	0.07		0.149	1.50		0.84
Growth AuM	0.251	1.80*		0.486	4.56***		1.34
Price/ performance ratio			0.213			0.232	
Customer satisfaction			0.294			0.411	
Customer loyalty			0.592			0.514	
Growth AuM			0.141			0.257	
Profit			0.065			0.295	
***/ **/ * significant at the 99%/ 95%/ 90% level							

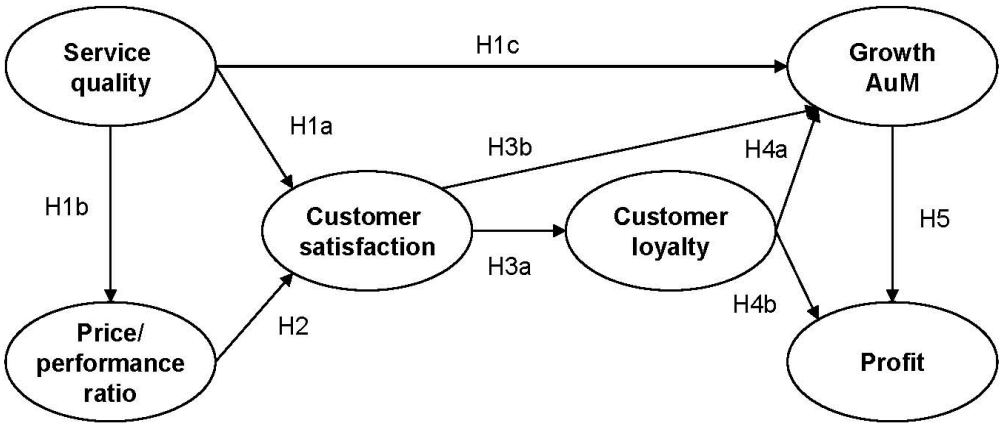

Figure 1. Hypotheses overview

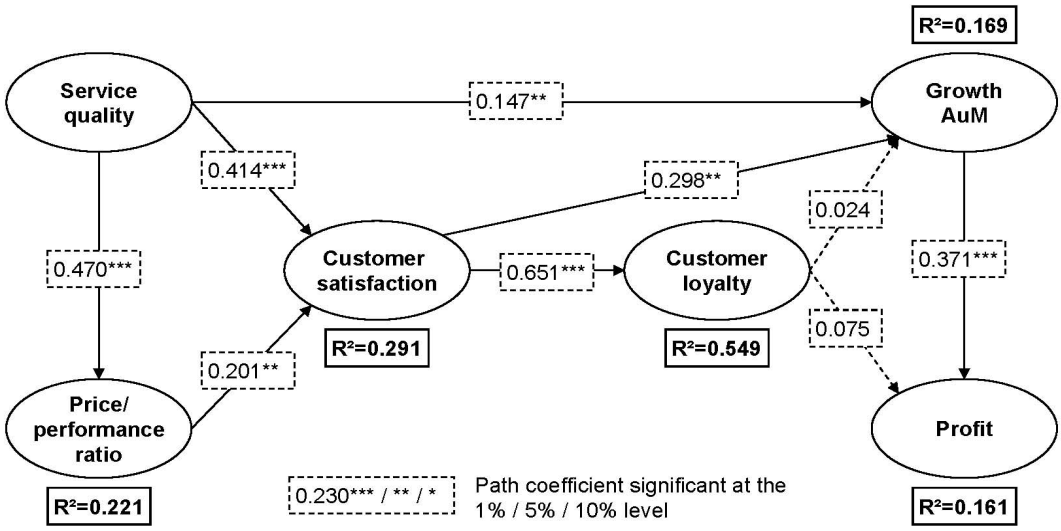

Figure 2. Structural model evaluation

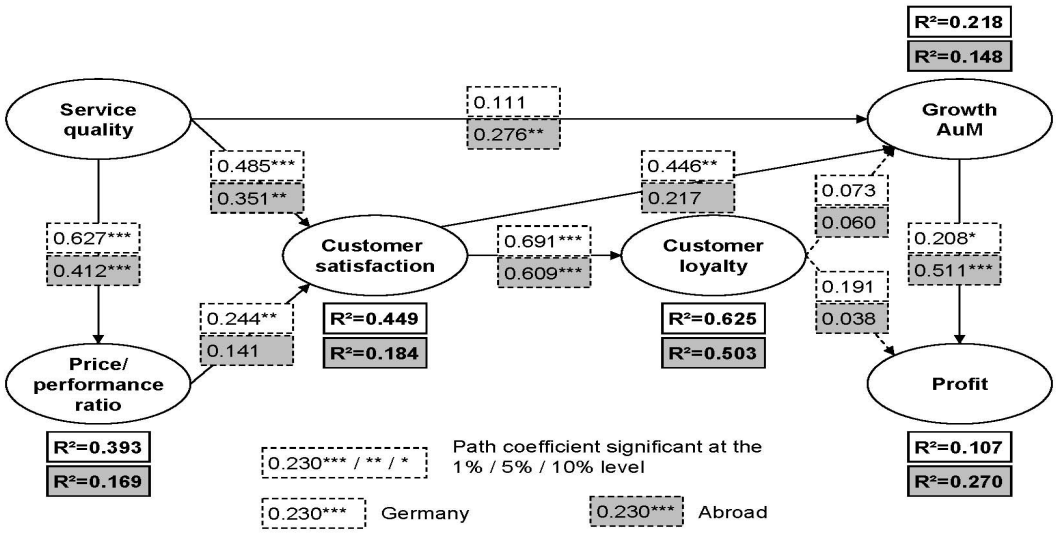

Figure 3. Structural model countries

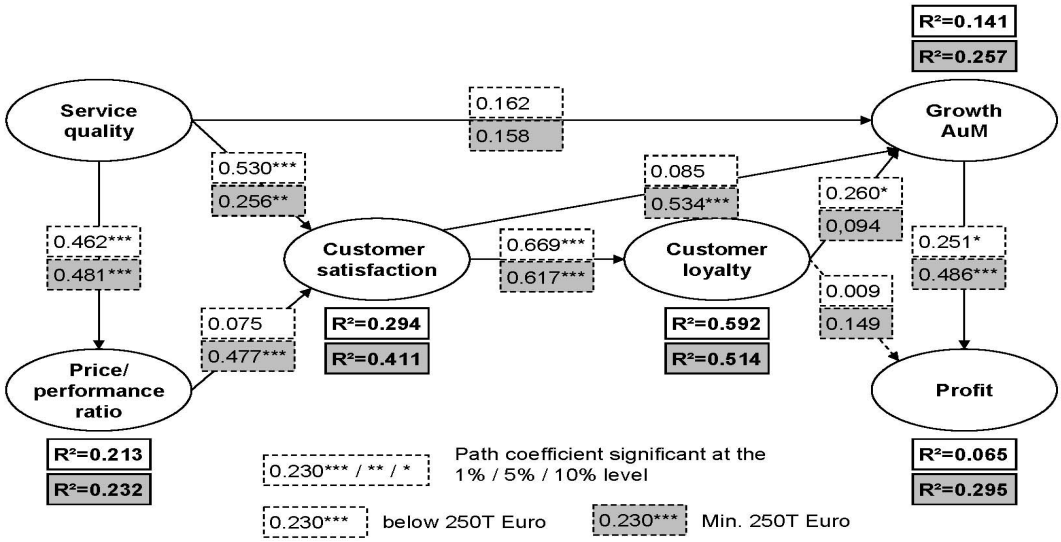

Figure 4. Structural model minimum deposit requirement