"Innovation management in the German Savings Banks Association – appraisal and perspectives"

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Innovation management in the German savings banks association – appraisal and perspectives

Abstract

In the European public (financial) service industry the innovation management has not been systematically investigated yet, although this sector is highly important for economic growth and employment in Europe. Due to the financial crisis this industry is currently receiving additional attention by European policy makers and researchers. We studied German savings banks using a quantitative survey in order to contribute to a more systematically empirical investigation of the current status of innovation management in one of the most important service industries in Europe. The central result of our empirical study highlights that highly innovative financial service companies differ from less innovative companies in the way the top management supports the innovation development activities and how customer focuses on the companies. Based on these findings we put forward recommendations on how to investigate and plan holistic innovation management in the European financial and (public) service industry in general.

We present evidence relating to the growing need for innovation management in financial institutions by the example of German savings banks. Our survey investigated the innovation activities in German savings banks for the first time. Our study is based on the question "How innovative are German savings banks and their corresponding associations?" The presented findings are based on descriptive and multivariate statistical analyses. The recommended procedures can be transferred to other public welfare companies.

Keywords: innovation management, German savings banks, top management support, customer orientation, knowledge management/ICT, creativity techniques/incentive systems.

Introduction

In the past, especially the public financial service industry acted in a relatively stable environment in Europe (de Brentani, 1993; Storey and Easingwood 1993; Avlonitis et al., 2001). However, this has changed significantly in the last decades because of legal regulations such as Basel II (Gentle, 2007). Furthermore, the European Union deregulated the financial service industry and facilitated access to new markets for financial service companies and thus, new customers. Also the continuing globalization and concomitantly the increasing importance of countries such as Brazil, Russia, India and China increased competition in European financial services significantly (Gentle, 2007; Weimer, 2009). As companies have to deal with these dynamic changes, they have to become more flexible regarding changing market conditions.

Due to the international financial crisis, the prime concern of many companies acting in this industry is to consolidate their business. Nevertheless, nowadays most companies realize in these times that the financial crisis offers a major opportunity for changing directions and prepare themselves more effectively for the future (Gerstlberger and Kreuzkamp, 2010). Focusing on innovation is recognized by the European financial service industry to be highly valuable to face the challenges posed by the highly dynamic economic environment of these days (Haasis, 2009). However, a review of the innovation management literature in general and the service innovation literature in particular highlights that still major gaps in understanding the development of service innovations in the financial service industry exist (Metcalfe, Miles, 2000).

Research on service innovation has investigated the applicability of new product development approaches (Cooper et al., 1999), factors contributing to the success or failure of financial service innovations (Edgett and Jones, 1991; Storey and Easingwood, 1993), or on how customers can be involved into the development process (Blazevic, Lievens, 2004; Oliveira and von Hippel, 2009). All these studies provided important theoretical and practical findings in certain aspects of service innovation but never took a holistic perspective into consideration. Recently, academics revealed this important gap in innovation research (Metcalfe, Miles, 2000; Teboul, 2006). There is a growing need of innovation researchers for a holistic perspective on service innovation because limited theoretical approaches fail more and more meeting the complexity of innovation practices and systems in the service industry. For instance, Andersen et al. (2000) investigated distributed innovation activities in services industries concluding that the holistic economic concept of innovation systems is providing a useful framework for understanding the dynamics of service innovation. Additionally, de Jong and Vermeulen (2003) developed a preliminary holistic framework from a managerial perspective describing innovation in service companies as interaction of internal (top management, employees) and external (e.g. customers or suppliers) stakeholders.

In summary, the holistic perspective on service innovation provides a well-founded basis for innovation management, but external activities, and in particular those of customers, are inadequately considered (Eisenberg and Littkemann, 2005; Reichwald and Piller, 2007). Although existing theoretical studies are highly relevant, hardly any empirical investigations were conducted viewing service innovation as a whole, while, at the same time, taking into account both external and internal factors influencing the company's innovation management. This applies to various services sectors, including that of financial service industry. In this sector, given the ongoing dynamic changes in the economic environment, there is a current need for theoretical and empirical research into holistic service innovation. Given this need, our empirical study contributes to the literature on a holistic perspective on service innovation by providing a more profound understanding of the interactions between the relevant management areas in innovation management. The theoretical goal of our study is to develop this understanding by elaborating on the approach of de Jong and Vermeulen (2003).

German savings banks are the market leading group of universal banks in Europe in 2008 (Deutscher Sparkassenverlag, 2008; DSGV, 2008). In 2007 that group counted 630 institutes including 446 separate savings banks and about 377,000 staff serving roughly 50 million customers at approximately 22,200 administrative agencies, the cumulative balance being around EUR 3,600 billion (Deutscher Sparkassenverlag, 2008; DSGV, 2008). On average, the savings banks taking part in the study have 50 administrative agencies and handle approximately 297,000 customer accounts. On average, in 2008 they had a balance of some EUR 3.5 billion and employed over 720 members of staff. The business district of these savings banks has an average population of about 315,000. German savings banks are currently confronted with demanding challenges due to the global financial crisis. Other aspects for their long-term existence are increasing stakeholder expectations, regulation through banking authorities, competition and sociodemographic change. The German savings banks association, therefore, has identified the necessity to implement innovation management structures within the organization and verbalize some innovation management positions and topics in its basic business strategy. In addition, a nationwide "innovation circle of the savings banks" consisting of top managers was established in 2009 (Schölzel 2009; Gerstlberger et al., 2010). The motivation for our survey was to describe the initial situation of innovation management in the German savings banks organization. Furthermore, recommendations for the implementation of innova-

tion structures within the association should be identified. Starting from this introduction Section 1 contains a literature review. In Section 2 the research methodology and the questionnaire are processed. Section 3 contains the findings of the survey. The paper closes with discussing directions for further research and managerial recommendations.

1. Literature review

Although in the last decade greater economic importance is being placed on the services sector in the western industrialized world and, increasingly, also in emerging markets, this is not yet adequately reflected in research into innovation. Much of the research in innovation management still focuses on product development (Menor et al., 2002). However, there have been recently signs that a growing number of researchers recognize the need for studying innovation management in the services industries more closely (Hipp, 2000; Metcalfe and Miles, 2000; Teboul, 2006). De Jong and Vermeulen (2003) point out that the resulting literature on service innovation is highly fragmented and that most authors focus on specific aspects of innovation management. Despite the important specific findings these studies provide they are not taking a holistic perspective on service innovation into account. This is highly important because management, employees, customers and further external stakeholders of service companies are often co-developing new services (Metcalfe and Miles, 2000). De Jong and Vermeulen (2003) recognized the need for a more holistic perspective on innovation management in the service industry and developed a theoretical model for analyzing and shaping service innovation as a whole. This model provides a well-developed theoretical framework and thus, it represents a distinguished starting point for this study as it aims to examine service innovation from a holistic perspective. In general, the theoretical model of de Jong and Vermeulen (2003) consists of two parts: (1) managing key activities in a targeted manner; and (2) creating a positive climate for innovation. In the following we will describe the model of de Jong and Vermeulen (in greater detail see, de Jong and Vermeulen, 2003, p. 850).

Service companies can develop innovations according to the first part of the model for holistic innovation management of de Jong and Vermeulen (2003) more effectively and efficiently if they are managing key activities in a targeted manner. The first highly important key activity in the model of de Jong and Vermeulen (2003) is the involvement of customer contact employees by the top management. Employees with customer contact are playing an important role in embodying and pushing service

innovations within the company (de Jong and Vermeulen, 2003). Recent studies in this area examined that involving customer contact employees into the service innovation process has a positive effect on successfully developing new services (Martin and Horne, 1995; Sundbo, 1997; Teboul, 2006). Moreover, literature indicates that successful service innovation depends strongly on top management support as one key activity (Harhoff, 1999; Hauschildt and Kirchman, 2001). One of the main roles of top management during the development process is supporting and stimulating knowledge generation (Blazevic et al., 2003). This role implies that the top management needs to encourage staff to exchange knowledge with customers during the service innovation development process. Furthermore, the top management is often adding to the knowledge of the staff involved in this process by contributing managerial experience and a strategic overview (Lubatkin et al., 2006).

The second important key activity in the model of de Jong and Vermeulen (2003) which needs to be taken into consideration when organizing service innovation development is the use of creativity techniques and incentive systems stimulating generation idea within the company (Paulus and Brown, 2003; Dennis and Williams, 2003). Several authors, such as Sowrey (1987) or Parnes (1961), come to the conclusion that using brainstorming techniques and incentive systems increases employees' engagement in service innovation development. Furthermore, creativity techniques and incentive systems are often supporting the solution of technical problems associated with new products or services, problems with production processes and procedures, packaging design and marketing issues connected to new service development (Geschka and Lantelme, 2005). Creating a positive climate for service innovation development represents the second part of the holistic service innovation model of de Jong and Vermeulen (2003). Constantly developing innovative ideas requires a positive company climate (Ekvall, 1996; Anderson and West, 1998). A brick for building this positive innovation climate is a company's customer focus (Johne and Storey, 1998; Alam and Perry, 2002). A strong customer focus and correspondingly a close cooperation between staff and customers during the process of developing new services leads to increased customer trust, shorter development times and more innovative ideas (Lovelock and Young, 1979, Alam and Perry, 2002). Recent empirical studies highlighted that product and service innovations developed jointly with customers are more successfully introduced into the market than others (Kristensson et al., 2004; Teboul, 2006). Some

studies on innovation development examined how customers could contribute to the idea generation. Overall, these studies support the notion that only the ideas proposed by customers become successful innovations. However, the underlying challenge for companies is still that customers are not able to provide specific expectations regarding the service or product innovation (Ulwick, 2002). In the past, companies have tended to use established market research techniques, such as standardized customer surveys or qualitative focus groups, to identify customer needs (Slater and Narver, 1998; Tidd et al., 2005). Due to the changing environmental conditions and the increasing customer demands researchers searched for alternative methods, such as lead user method as key element of a institutionalized customer management system (von Hippel, 1986; von Hippel and Katz, 2002), to involve customers into the development process (Kristensson et al., 2004).

Another important factor influencing the creation of a positive innovation climate is information and Communication Technologies (ICT) used within and outside a company. ICT is important to create a positive innovation climate as it helps to spread information within the innovating company and from the company to its customers and cooperative partners, helping to generate new knowledge and new ideas (Sirilli and Evangelista, 1998; Hipp, 2000). It is an important challenge for innovation researchers to focus in the future more on getting a better understanding of the link between the diffusion of information within and between companies and the generation of new knowledge, new ideas and new products or services yet. Nevertheless, several recent studies show that this link exists, and that the way a company organizes information and knowledge flows influences its performance (Probst et al., 2006). These studies also show that suitable ICT is required to introduce a systematic information, knowledge and innovation management scheme in companies. This also applies to companies in the service industry (Licht and Moch, 1999; Gago and Rubalcaba, 2007) and especially to knowledge-intensive industries such as financial service companies (Hipp, 2000).

As we have highlighted in our literature review the two parts of the theoretical model of de Jong and Vermeulen (2003) have been examined in different research areas separately but never in one joint study. Given this limitation the findings of the previous studies provide highly important theoretical and practical results for themselves. However, as recognized by de Jong and Vermeulen (2003) these findings only provide us with a snapshot of service innovation and do not explain how the different internal and external factors

influencing the innovation management in service companies relate to each other. Our empirical study aims at contributing to this research gap by examining empirically the model of de Jong and Vermeulen (2003). Thus, our first research question aims at examining whether this theoretical model is appropriate to explain a holistic service innovation development perspective. Furthermore, we also aim at identifying if the suggested model is able to provide evidence why specific financial service companies are more innovative than others. In order to gain insights into these questions and to contribute to developing a more holistic understanding of service innovation a population survey in the German savings banks association as the most important segment of the financial service industry in Germany was conducted.

2. Research methodology

A survey research was developed to investigate the constructs of the holistic service innovation model by de Jong and Vermeulen (2003). The mentioned constructs were measured following the suggested approach of Churchill (1979). We build on two different sources of items: (1) instruments published in the literature on innovation management; and (2) proper interviews with 25 managers in the financial and consulting sectors. A five-point Likert scale from (1) "strongly disagree" to (5) "strongly agree" was used to measure relevant key activities and constructs related to the innovation climate of a financial service company as indicated in the model of de Jong and Vermeulen (2003).

A pre-test was employed with ten members of the executive board of German savings banks in order to test the reliability of the constructs and to evaluate and improve the quality of the questionnaire prior to the large scale data collection. This process eliminated a few items but also highlighted the necessity to include further items. Based on the feedback of the executive board members of German savings banks, the outcome of development efforts is measured if new services and new processes in the savings bank have been developed over the past five years. This specification of the questionnaire was recommended due to the unfamiliarity of the potential respondents with the innovation outcome variable. These steps assisted in increasing the content validity of our questionnaire (Hunt et al., 1982).

The questionnaire was mailed to the 446 savings banks located in Germany with a cover letter outlining the objectives of the research. The respondents were also promised to receive an executive summary of our research findings. After two reminders to participate in the study 114 savings banks returned the completed survey. This is a response rate of approximately 26%.

After list wise exclusion of missing cases, 98 questionnaires were retained resulting in an overall response rate of approximately 22%. The questionnaire was completed by 64.5% top managers and 35.5% middle managers. Figure 1 shows the research methodology based on the model of de Jong and Vermeulen (2003).

3. Findings and discussion

Our analysis shows that German savings banks can be classified into three groups: highly innovative, somewhat innovative and non-innovative. 36% of the savings banks in our sample belong to Group 1 – highly innovative – which introduced new services and processes over the previous five years. 31% of the savings banks belong to Group 2 – somewhat innovative – which only introduced new services or processes during the last five years. Finally Group 3 includes all savings banks that did not introduce any new service and process innovation during the last five years. Starting from this descriptive classification we are aiming at analyzing why some financial service companies are more innovative than others conducting appropriate multivariate statistical analyses. A χ^2-test shows insignificant results (0.388; $df = 2$; $p = 0.824$) that prove equal distribution of the three groups in our sample. In the following we will use the mentioned classification for our analysis.

In the first stage of our analysis an exploratory factor analysis was carried out for the 18 content-related questions of the questionnaire. Before the factor analysis was carried out the data had been assessed to check whether they are suitable for this method, using the Kaiser-Meyer-Olkin test and Bartlett's test (Backhaus et al., 2008; Hair et al., 2010). The KMO value is 0.699 for the entire savings bank dataset. This confirms that the data is appropriate for factor analysis. In addition, we conducted the Bartlett's Test which resulted in $\chi^2 = 549.148$; $df = 153$; $p < 0.001$. These values also show that the data gathered are suitable for factor analysis (Backhaus et al., 2008; Hair et al., 2010).

The factor analysis identifies six factors with an eigenvalue > 1 which, altogether, explain 64.8% of the observed variance. Based on a closer analysis of the factors two factors were identified consisting only of one question. Furthermore, some questions only had a factor loading < 0.5. To distinguish more clearly between the factors, for the rest of the analysis the decision was made to leave out the factors only represented by one question. Also the questions with factors loadings < 0.5 were removed from the analysis (Backhaus et al., 2008; Hair et al., 2010). The final factor analysis includes eleven questions (KMO = 0.708; $\chi^2 = 332.872$; $df = 55$; $p < 0.001$).
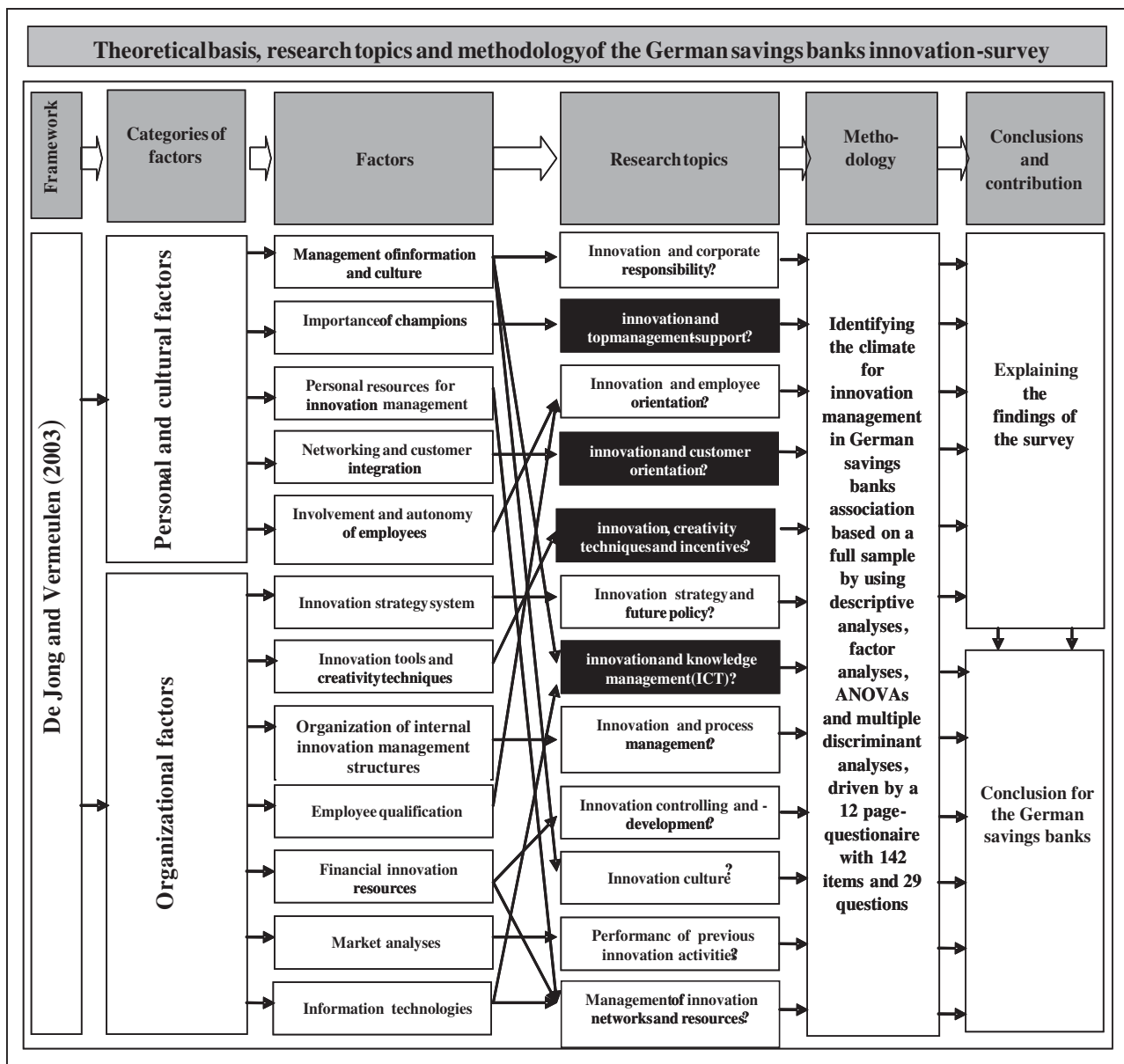
Fig. 1. Theoretical basis, research topics and methodology of the German savings banks innovation-survey

Table 1. Rotated component matrix of factor analysis

Final factor solution established	Factor loading	Mean values for the three savings bank groups Five-point Likert scale from		
		Group 1 highly innovative	Group 2 somewhat innovative	Group 3 non-innovative
Top management support				
The innovation strategy of the savings bank is regularly updated according to instructions of the top management.	.888	3.257	2.909	2.533
The savings bank top management has appropriate methods for recognizing any need to rework the innovation strategy.	.907	2.857	2.455	2.367
Resource-allocating decisions made by the savings bank top management reflect the innovation strategy.	.833	3.286	2.667	2.600
The top management helps to communicate the savings bank's innovation strategy within the bank, in person.	.661	4.000	3.273	3.267
Customer focus				
The savings bank carries out customer satisfaction surveys regularly.	.828	4.000	3.697	3.867

Table 1 (cont.). Rotated component matrix of factor analysis

Final factor solution established	Factor loading	Mean values for the three savings bank groups Five-point Likert scale from		
		Group 1 highly innovative	Group 2 somewhat innovative	Group 3 non-innovative
The savings bank operates an institutionalized customer service and complaints management system.	.664	3.857	3.121	3.400
The results of the customer satisfaction surveys are used in medium-term corporate planning of the savings bank.	.774	3.686	3.212	3.500
Knowledge management				
Appropriate ICT applications for internal information exchange are used in the savings bank.	.864	4.171	4.091	3.933
Appropriate ICT applications for external information exchange are used in the savings bank.	.857	4.057	4.152	3.933
Creativity techniques and incentive systems				
Appropriate incentive systems to generate new ideas from the staff are used in the savings bank.	.818	2.543	2.788	2.600
Appropriate creativity techniques to generate new ideas from the staff are used in the savings bank.	.776	2.971	3.394	3.267

Table 1 shows the loadings for the final factor solution established, including the means of all factors for the three groups of savings banks. Altogether the factor analysis explains 69.86% of variance in the data investigated. The four factors identified have eigenvalues between 1.254 and 3.355.

To determine the difference between the identified groups of savings banks a one-way univariate analysis of variance (ANOVA) was carried out. Using a one-way ANOVA various predefined groups in a dataset can be compared with multiple conditions regarding an independent variable (Hair et al., 2010). First, the homogeneity of variance was tested. A Levene's test produces non-significant results for the three factors of top management support ($p = 0.084$), customer focus ($p = 0.844$), and knowledge management ($p = 0.053$). Non-significant results in a Levene's test show that the variances between the groups investigated are similar (Backhaus et al., 2008; Hair et al., 2010). Thus, it was possible to use the factors top-management support, customer focus, and knowledge management in the ANOVA. The factor creativity techniques and incentive systems show a significant result ($p = 0.048$). In addition, the Welch's test (Hair et al., 2010) shows for creativity and incentive systems a non-significant value of $p = 0.097$, thus, it was not possible to include this factor in the ANOVA.

3.1. Top management support. Based on the results of the factor analysis top management support makes up approximately 30% of all the variance. Studying this most important factor more closely it can be concluded that the relevance of top management support differs significantly (LSD $p = 0.003$) between the first and the third group. Furthermore, a significant difference (LSD $p = 0.014$) is found for

the factor top management support and for the savings banks in the first and second group. The mean values in Table 1 illustrate these factor-related differences for the questions included in the factor analysis. For the highly innovative savings banks, the mean values of all variables allocated to the factor top management support are above the comparative values for the somewhat innovative savings banks, and even more so for the non-innovative savings banks.

3.2. Customer orientation. The factor analysis identifies customer focus as the second most important factor that explains 13% of the variance observed. Based on the ANOVA results we conclude also that there is a significant difference (LSD $p = 0.005$) between Group 1 and Group 2 regarding the factor customer focus. Another interesting result, and a surprising one, is that the Group 3 savings banks tend to be more customer-focused than that in Group 2 (Table 1). One explanation for this finding could be that the topic customer focus has a relatively lower priority for the somewhat innovative than for the non-innovative savings banks. This lower priority of the topic customer focus for Group 2 savings banks can, for example, result from a stronger focus on internal processes or shareholders' satisfaction (e.g. Harhoff, 1999; Gerstlberger and Kreuzkamp, 2010).

3.3. Knowledge management and ICT. Using factor analysis it is determined that the third important factor knowledge management makes up approximately 13% of variance in the data analyzed. Based on the ANOVA no significant differences between the three examined groups could be identified. In general, for all three groups the mean values of the variables forming the factor knowledge management are relatively high (see Table 1). This

can be attributed to the fact that the German financial service companies we have investigated are already very well furnished with ICT needed to support their innovation management. Our results regarding the factor knowledge management are supported by a study conducted in the financial service industry in Europe recently (Engstler, 2009).

3.4. Creativity techniques and incentive systems.

Approximately 11% of the variance in our data is finally explained by the factor creativity techniques and incentive systems. Our analysis of this factor highlights that highly innovative, somewhat innovative and non-innovative savings banks do not differ significantly regarding the use of creativity techniques and incentive systems.

Finally, a multiple discriminant analysis was carried out to find the extent to which different discriminant functions differ between predefined groups (Malhotra, 2007; Backhaus et al., 2008). Unlike ANOVA, discriminant analysis does not only enable differences to be found between defined groups, it

also provides possible explanations for group-related variance differences. The discriminant functions, of which at least two are assessed and compared in a multivariate statistical analysis, are based on various combinations of independent variables. These functions must always be interpreted in context, not separately (Malhotra, 2007; Backhaus et al., 2008). In our discriminant analysis, the dependent variable was the innovation outcome of the savings banks in the survey, divided into the three Groups highly innovative, somewhat innovative and non-innovative. The independent variables were the four factors determined by factor analysis. A test for differences between the group mean values based on Wilks' Lambda (Malhotra, 2007) shows that the group mean values differ significantly for the factors top management support and customer focus (Table 2). The factors knowledge management and creativity techniques and incentive systems do not show any significant differences in this test.

Table 2. Results of the test for differences between group mean values

Factor	Wilks' lambda	F ratio	P
Top management support	0.897	5.459	0.006
Customer focus	0.919	4.208	0.018
Creativity techniques and incentive systems	0.961	1.905	0.154
Knowledge management	0.982	0.864	0.425

The results of discriminant analysis (Table 3), show that the first discriminant function (DF 1) explains 82.5% of observed variation. An evaluation of coefficients to estimate standardized DF 1 confirms that the factor top management is the most important variable to split the savings banks investigated into three groups. It also confirms that savings banks in Group 1 and those in Groups 2 and 3 (both groups showing a negative correlation coefficient) differ significantly regarding the factor top management support. Savings banks in which top management support of the innovation management is practiced intensely are more innovative than those with weaker top management support. The second most important factor customer focus is also significantly correlated with DF 1. We can characterize the savings banks in Group 1 as having a strongly customer focused innovation management. The savings banks in Group 2 and Group 3 are significantly different from the first group and are lacking a strong customer focus regarding their innovation management. Further-

more, the third important factor creativity techniques and incentive systems is also significantly correlated with the first discriminant function. But, the strength of this correlation is rather weak.

About another 17.5% of variance is accounted by the second discriminant function (DF 2) which is not statistically significant. However, as it provides important explanations why some savings banks are more innovative than other we will shortly highlight our findings regarding DF 2. The central variable to differentiate the three groups using DF 2 is the factor knowledge management. Customer focus is negatively correlated with DF 2. Furthermore, the loading for Group 3 savings banks is especially clear for DF 2. On the one hand, this supports the central proposition of the first discriminant function: non-innovative or somewhat innovative savings banks do not yet show sufficient customer focus. On the other hand, these findings indicate the important role of the top management in promoting innovation.

Table 3. Summary of discriminant functions' results

	Discriminant function 1	Discriminant function 2
Eigenvalue	0.239	0.051
Significance level ($p <$)	0.005	0.202
% of variance	82.5	17.5
% of cumulative variance	82,5	100

Table 3 (cont.). Summary of discriminant functions' results

	Discriminant function 1	Discriminant function 2
Structure matrix		
Top management support	0.643*	0.562
Customer focus	0.583*	- 0.382
Creativity techniques & incentive systems	0.394*	0.243
Knowledge management	0.079	0.574*
Functions at group centroids		
Group 1 highly innovative	0.634	0.057
Group 2 somewhat innovative	- 0.463	0.227
Group 3 non-innovative	- 0.231	0.316

Note: * = significant value.

3.5. Self assessment of German savings banks regarding innovation performance. 55.3% of German savings banks accord to the opinion that the topic innovation management gets a higher meaning due to the financial crisis. 76.2% consider innovation management as strategically important for savings banks, even though only 20.3% argue that innovation management can be seen as an established topic in the German savings banks association. The self evaluation shows that savings banks are of the opinion to have a structured approach in innovation management activities. Insofar willingness to implement a systematic innovation management can be deduced from this fact (top-box 43.6%). 84.7% of the savings banks hold a corporate strategy document as a basis for the verbalization of an innovation strategy, which is accessible to the whole staff. But up to now only a minority group of savings banks has begun to formulate (33.3%) and revise an innovation strategy in a systematical way (36.4%). Relating to the measurement of innovation performance 82.9% of the savings banks argue that they don't know any key performance indicators to use for a specific innovation controlling.

As far as 76.2% of the savings banks' management boards appreciate that innovation management will become an important topic in the future more and more. The most important team cooperation partners for innovation purposes during the last few years were consultancies (47.6%), followed by several local savings banks associations (37.9%), service providers (31.5%), other companies also belonging to the German savings banks association (25.8%), other savings banks (24.2 %), the German savings banks association itself (17.7%), universities (12.9%) and customers (10.5%). Relating to the fact that the collaboration with customers was identified as an important fact in reference to innovation management activities in savings banks the multivariate statistical analyses of the study shows that customer orientation offers the most potential for improvement. This result corresponds with the descriptive finding, that the majority of

German savings banks has not yet started functional implementation of innovation management structures such as cooperation, networking, target agreements, processes and creativity tools.

A minority of German savings banks (19%) has implemented an overall innovation developing and management process. None of them employs a full-time innovation manager, only 6.6% are in line with a ISO-certified management system. Figure 2 contains the most important findings of our descriptive analyses.

Conclusion and managerial recommendations

Overall, our study presents empirical evidence highlighting that the theoretical framework developed by de Jong and Vermeulen (2003) is suitable to analyze service innovation development from a holistic perspective. Further-more, we could test empirically the importance of the two parts (managing key activities and creating a positive climate for innovation) and four relating factors described in the model of Jong and Vermeulen (2003). Finally, we can highlight the facts why some German savings banks are more innovative than others. The results of our survey enable the role of the customer as the most important external stakeholder in financial service industry innovation management to be put in more concrete terms. The results of our multivariate analyses highlight that companies in the finance service industry have to take top management support and customer focus to the some extent into consideration if they want to improve their innovation development performance. Further-more, our empirical findings show that the use of ICT is considered a relevant prerequisite for innovation management at financial services companies. However, our findings also show that there is no statistically significant difference between the three groups of financial service companies investigated in our study regarding the factors knowledge management and creativity techniques and incentive systems.

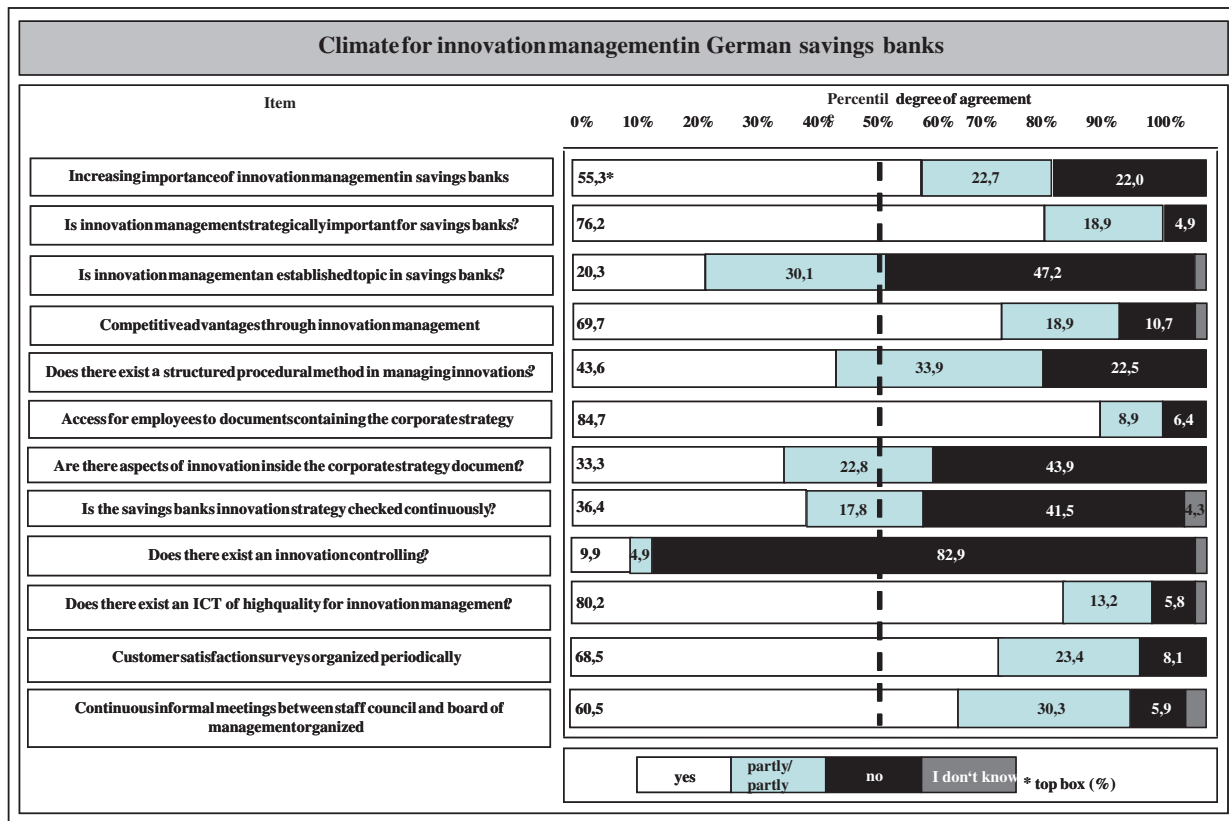| Climate for innovation management in German savings banks			
Item	Percentil degree of agreement		
	yes	partly/partly	no

Fig. 2. Climate for innovation management in German savings banks

Based on these findings our study makes two theoretical contributions. First, it highlights that there should be closer links between the different approaches discussed in the literature for studying and planning innovation management in the service industry and by companies in this industry in the future and how these links should look like. The conclusions of our study for linking different strings of the existing literature from a holistic perspective on service innovation can be summarized as follows. The first conclusion is that customer-focused approaches dealing with the interactions between employees and customers (Teboul, 2006) or the integration of customers into corporate innovation management (von Hippel, 1986, 1994, 2005) and approaches which focus on formalized types of innovation management like stage gate models (Cooper and de Brentani, 1991; Cooper et al., 1994; Edgett, 1996) should be systematically examined for complementarities. The second conclusion refers to the different theoretical perspectives of institutions, on the one hand, and actors respectively stakeholders, on the other. While innovation systems approaches (e.g. Metcalfe and Miles, 2000) focus on the institutional role of service innovation management, e.g. associations, networks and regulation authorities, stakeholder approaches emphasize interactions between individuals. The findings of our survey point to the fact that both perspectives are similarly

important for service innovation development. Furthermore, we can draw the conclusion that interactions between institutions and individuals are fruitful for the development of new services. Individual members of the top management of (especially public) service companies, for example, have to communicate the relevance of customer focus for corporate innovation management in the intra- and inter-organizational management bodies and networks. These interactions are hardly considered in the literature on service innovation management so far.

The second theoretical contribution of our study is that ICT and creativity techniques are necessary but insufficient preconditions for successful service innovation management. The use of these instrumental factors by service companies must be accompanied by important soft factors. These soft factors include especially a positive innovation climate both inside the company and between employees and customers and effective informal communication within the company and between its internal and external stakeholders. Existing theoretical approaches usually focus either on hard, instrumental or soft factors of innovation management (e.g. Hauschildt and Kirchman, 2001; Eisenberg and Littkemann, 2005; Engstler, 2009). The few existing multidimensional approaches (e.g. Gago and Rubalcaba, 2007) rely on qualitative results of case study research. But,

these qualitative findings highlighting the necessary interaction of hard and soft factors of service innovation management are highly compatible with our quantitative survey results.

For future research further qualitative analyses should be conducted to get deeper insight into the specific characteristics of the dynamics of management support and customer focus regarding holistic innovation management approaches to European public and private service companies in Europe.

The managerial implications of the results of our empirical study for managers of (public savings) banks and similar service providers can be summarized as follows. In non-innovative service companies the top management needs in the short term to be proactive and assert itself within the bank, if necessary facing up to resistance by stakeholders inside and outside the bank, to set up a holistic innovation management system which

methodically integrates customers. In the long term, however, a holistic innovation management system of this type can only be established by means of co-ordinated customer and staff participation. For somewhat innovative service companies the management's main task is to pick up on existing initiatives aiming at customer-focused, holistic innovation management, to put them together and to support them openly in corporate communications and by allocating necessary resources. One common starting point of this type is project groups working within a bank on innovation-related topics (e.g. quality management, process management or corporate suggestion schemes). In highly innovative service companies the management role is more that of an all-in-one promoter, reformer and custodian. Managers need to ensure that existing strengths of their holistic innovation management system are maintained and systematically developed.

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