Strategic Design Factors for an Automated Customer Interface

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Abstract

A substantial review of the extant literature, which is not included in the paper, identifies three agents that influence automation of the customer interface in insurance companies. They are (1) intensified competition mainly resulting from deregulation of general insurance markets, (2) changes in the customer base (tendency to individualisation, request for more flexible products), and (3) technological development, in particular the increasingly intensive use of information and communication technologies for business purposes. Despite these new market influences, even today many insurance companies do not consider automating their processes at the customer front end. Critical thinking and awareness of the influencing factors that surround decisions on automating service delivery processes are not on the managers' agenda. Further, it is not especially clear what the criteria are that influence automation of the customer interface in insurance companies. With this in mind a qualitative empirical study, conducted by interviewing experts from a sample of Swiss insurance companies that was representative of the structure of competition in the Swiss insurance market, was undertaken. The relevant question asked was, "What are the critical success factors that enable the automation of the customer interface in insurance companies?".

An outcome of the study is a list of eight topics, namely (A) Market forces, (B) Strategic focus, (C) Company-customer-interaction process, (D) Suitability of products, (E) Multi-channel service delivery, (F) Customer segmentation, (G) Business case, and (H) Technological aspects, that include a total of twenty one design factors considered important when designing an automated customer interface. Discussions centred on these topics and these design factors provided answers to six key questions that facilitated the development of an appropriate managerial model. The study shows that various criteria from many topics are relevant for the design of an automated customer interface. For a company, consequently, designing an automated customer interface is a task that needs to be looked at from various functional areas and that needs interdisciplinary decision making. As such, it requires intention and promotion at a strategic level in order to give it the adequate status and resources that are necessary for a successful implementation.

Keywords

Automated customer interface, insurance companies, competition, customers, technological development

Introduction

The progress in information and communication technologies has changed our daily lives, our consumption behaviour, our work and our leisure time in a crucial way. It has become possible, thanks to the integration of different services through the internet, to establish contacts between

customers of a service and possible suppliers – and this does not depend on where the two parties are located. The consequences of this development are new ways of trading; business is done faster, on a global basis and in a more transparent way.

Nowadays, in company-customer relationships in nearly all industries customers carry out process steps that have previously been performed by company employees (Gebert *et.al.*, 2003). Two classic examples are electronic banking and online shopping. Also check-in for a flight can be executed within one's own four walls at the computer screen (Waser, 2006). From a technical point of view this phenomenon is called 'process automation' or, even more precisely, 'automation of the customer front end'. From a process-related point of view, it is called 'process outsourcing'. As a result of this development, the customer is no longer only a consumer, but a valuable resource that is a part of the service supply chain (Grün and Brunner, 2002).

In many companies, particularly in production and service industries, process automation has already taken place or is at least underway. This process goes along with the development of information technology (IT) in general and of the internet in particular. Therefore, critical thinking and awareness of the influencing design factors that surround decisions on automating service delivery processes are essential for managers (Ragins and Greco, 2003). By seeing and understanding the possibilities and consequences of process automation, managers generate more alternatives in responding to the demands of the market (Yen and Gwinner, 2003).

This paper describes strategic design factors for an automated customer interface. The final objective of the paper is to present a managerial model that supports decision makers to build up and run an automated customer interface in their company. The basis for the paper is a qualitative research performed in 2006 in general insurance companies in Switzerland. However, the findings from the study have a general character and are valuable for all kinds of service delivery companies.

Research Questions

The main research question was constructed in order to explore the interview participants' perspectives (Collis and Hussey, 2003) regarding the internet as delivery channel for general insurance services [56]. Following the aim of the study, it is as follows:

> **What are critical success factors enabling the automation of customer interfaces for service delivery companies?**

Additional research questions, subsequently called 'lead questions', were formulated to allow for flexibility when exploring the phenomenon (Strauss and Corbin, 1990). They were designed to meet the objectives of the research. In addition to this, the lead questions supported the main research question and outlined the comprehensive character of the topic. The lead questions focus on the interview participants' opinions about what the drivers and difficulties of an automated customer interface may be and why it is worth being set up in a company. The six lead questions are described in table 1.

Research Results

The research results are discussed in three parts:

1. A concentration of all the interviewee's answers in eight topics. Within each topic there are relevant strategic design factors. In total, twenty-one design factors have been identified.
2. Distinct answers to the six lead questions.
3. A managerial model that classifies the 21 design factors into three groups and assigns them to the company-customer interaction process.

	Lead Questions	Comments
1	What market forces support the automation of the customer interface in general?	The intention of lead question 1 is to set the scene from a market point of view. In particular the question aims to understand, what the market forces are that demand automation of the customer interface.
2	Does the general trend towards process automation influence the automation of the customer interface in particular? – If yes, how?	The general trend towards process automation that can be observed in different industries is in the focus of lead question 2. Generally, all processes in a company can be automated. This question points in the direction of the process at the interface between company and customer.
3	What are the expected benefits, costs, risks and difficulties when automating the customer interface?	Answers to lead question 3 have great importance in practice. Like every investment, automation of a customer interface will need to be justified by financial benefits. Lead question 3 examines the main elements of a business plan: the expected benefits and costs as well as the expected risks and difficulties.
4	Is an automated customer interface a suitable delivery channel in the context of the whole marketing concept?	An automated customer interface is, next to the process related and the technological aspects, a marketing instrument. This instrument has to be coordinated with other instruments in the context of the marketing concept. Lead question 4 queries this coordination and the suitability of the internet as a sales and service delivery channel.
5	What specific resources and organisational set-up are needed in order to automate the customer interface?	Lead question 5 seeks to understand the resources and organisational structure that are required to set-up and operate an automated customer interface. In particular, it focuses on personnel resources in the form of skills and experience, on infrastructure resources and on organisational prerequisites.
6	What other aspects are to be taken into account when automating customer interfaces?	The last lead question asks about additional aspects that may not have been discussed during earlier questions.

Table 1 – Lead questions

Eight topics containing 21 strategic design factors

The interview participants generally see the internet as a technical tool that supports the company's business processes that, within this context, may be used as a service delivery channel. The research questions concentrated on the use of the internet as a service delivery channel. The interview transcripts show varied statements, which were combined and structured into eight topics (A-H) as a means of analysing the research findings. These eight topics are:

A. Market forces
B. Strategic focus
C. Company-customer interaction process
D. Suitability of products
E. Multi-channel service delivery
F. Customer segmentation
G. Business case
H. Technological aspects.

The eight topics do not contain direct answers to the lead questions. The reason for this is that the semi-structured interviews had the character of a discussion but direct answers to the lead questions are formulated in the next section of this paper. An analysis of the discussions into the eight topics follows.

Topic A – Market forces

Topic A discussed the consequences of deregulation, the saturation of the market as a consequence of deregulation and technological developments in the market. These aspects formed the main discussion points in answering lead question 1. Two criteria derived from the discussion of topic A were important in the development of an appropriate managerial model:

A1 Deregulation of the general insurance market asks for an increased **organisational flexibility** with regards to the organisational and employee development, with regards to product, product portfolio and risk management and with regards to pricing. This flexibility is required in order to follow up the dynamics and the increased speed of the market development, in order to stand out against the competitors and in order to answer to the individualised customer needs.

One negative consequence of the deregulation is that the products have become less transparent and less comparable to the customers. As a result, customers need to have more knowledge about general insurance services in order to grasp their complexity. This situation represents a key difficulty in automating the customer interface. Therefore, companies must find flexible solutions that, on the one hand, differentiate them from other companies and, on the other hand, meet the needs of various individual customers and customer segments.

A2 The saturated market results in an increased cost pressure, which can be relieved to a certain degree by **automating processes**. In the course of this, the development of the internet as a technology is seen as an ideal vehicle for the automation process. Of course, companies must be ready to make the inevitable financial investments.

The criteria organisational flexibility (A1) and process automation (A2) are the first design criteria that will be used in defining the managerial model. The next topic, topic B, looks at the strategic focus a company needs to have when starting delivery of services through an automated customer interface.

Topic B – Strategic focus

When discussing topic B, the interviewees identified three significant themes: strategic positioning, hesitation and customer needs. Three criteria were derived from these discussions:

B1 The set-up and operation of the internet as a sales channel needs organisational decisions and a dedicated budget. In order to give it the right standing within the organisation a **clear strategic positioning** of automated service delivery is required. As the strategy formulation and relevant decisions on it are senior management tasks, this needs to be done at the highest possible organisational level.

B2 There is a lot of irritation in companies regarding the internet as a sales channel. Possibilities of this channel are generally unknown and information and communication about it are missing. In order to overcome the hesitation and to learn how to **manage the internet** it needs some organisational processes that support the learning process within the company.

B3 Companies seem to know only little of what customers need and want. The market is still very oriented toward supply. In order to position the internet clearly as a marketing instrument, it will be essential to know what the **customers' needs and behaviour** are. Therefore, market studies and customer surveys will be increasingly important.

The three criteria B1, B2, and B3 will also be used when defining the managerial model. The next topic, topic C, considers the company-customer interaction process.

Topic C – Company-customer interaction process

Topic C encompassed discussion of elements of the company-customer interaction process. As a result of these discussions, two relevant criteria were established:

C1 The interviewed experts were in disagreement. The differences centred on whether customers should be able to carry out all possible **customer scenarios** from the very beginning or follow a rational step-by-step approach introducing the six processes progressively. Clearly it seems to be essential to be absolutely sure of the chosen path at the very beginning. For effective communication with the customer and for the organisational learning process it will be essential to have no conflict on this point.

C2 On the other hand there is agreement among the interviewees on two **major challenges**. Both are inherent in the nature of the general insurance business and are that insurance companies are considered to be somewhat disreputable and there is a low contact frequency with customers. However, neither challenge is seen as a reason for not being active on the internet. On the contrary, it is necessary to answer these challenges by defining and using appropriate marketing instruments.

Along with topics A and B, the criteria C1 and C2 will be used when defining the managerial model. The next topic, topic D, discusses the suitability of products for delivery through an automated customer interface.

Topics		Design Factors		Factor Groups
A	**Market forces**	A1	Organisational Flexibility The flexibility of a company's organisation is crucial in order to follow up with the dynamic environment.	1
		A2	Automation of Processes The cost pressure requires decisions to optimize processes. One starting point is the automation of processes.	2
B	**Strategic focus**	B1	Positioning of Automated Service Delivery The delivery of general insurance services through the internet needs a clear strategic positioning.	1
		B2	Manage the Internet The company must learn to manage the internet in order to serve the customer appropriately.	3
		B3	Customers' Needs and Behaviour The company needs to improve its understanding of the customers' needs as the contact to the customer through the internet is not so close.	3
C	**Company-customer interaction process**	C1	Customer Scenarios The company needs to decide which customer scenarios it wants to reflect on the internet delivery channel.	2
		C2	Major Challenges The company needs to find ways to overcome the two major challenges (disreputability, low contact frequency) of the general insurance business model.	3
D	**Suitability of products**	D1	Market Segmentation The company needs to clearly distinguish between the processing of the mass market with standard products and the carrying out of individual customer needs.	2
		D2	Specific Internet Products The company needs to decide whether it wants to offer specific internet products.	2
E	**Multi-channel service delivery**	E1	Overall Multi-Channel Management Concept The company needs to clearly position the delivery of general insurance services through the internet within an overall multi-channel management concept.	1
		E2	Customers' Choice The company needs to accept the choice of the customer regarding the delivery channel.	1
		E3	Product-Channel Allocation The company needs to assign products to different delivery channels based on the degree of advice required by the purchaser.	2
F	**Customer segmentation**	F1	Understand Young People's Behaviour The company needs to be prepared to answer the needs of today's internet generation as soon as it comes into the age of legal capacity.	3
		F2	Customer Data Records The company needs to start analysing and learn to interpret customer data records.	3
		F3	Market Research The company needs to perform standardized and regular market research and to interpret its results.	3

G	**Business case**	G1	Senior Management Support The company needs to ensure the strategic and senior management support for the delivery of general insurance services through the internet.	1
		G2	Organisational Set-Up The company needs to prepare an adequate organisational set-up.	1
		G3	IT Resources The company needs, due to the shortcomings in IT resources, to prepare for this situation.	1
		G4	Brand Awareness The company needs to ensure high brand awareness, as this is important to connect the real and the virtual world.	1
H	**Technological aspects**	H1	IT Landscape The company needs to prepare its IT landscape and architecture by harmonising it.	1
		H2	Lead with Business Department The company needs to ensure the responsibility of the delivery of general insurance services through the internet is with the business department.	1

Table 2 – Topics and design factors

Topic D – Suitability of products

Topic D considers the fact that products offered by many companies today often have a structure that is too complex to be reflected in an understandable way on the internet. Therefore, a company is required to make some decisions regarding their product structure. From the identified decisions, two have the character of criteria for the design of the customer interface:

D1 The often complicated product structure is a child of deregulation that allowed companies to service customers with individual products. Individualisation leads to a higher complexity in the structure of the product and richness in variants. There is a limit when a product can be presented on the internet and still be understood by the customer. Companies must find a middle course between standardisation (with simple structures) and individualisation (with more complicated product structures), which may be best achieved by **segmenting the market**.

D2 One possible way of answering the question regarding standardisation vs. individualisation is to create specific **internet products**. From the interviews there is evidence that this is a very common topic requiring a decision. A positive response would have influence on the whole product portfolio of the company.

Criteria D1 and D2 will be further used in the definition of the managerial model. The next topic, topic E, discusses the aspects of multi-channel service delivery.

Topic E – Multi-channel service delivery

Discussions on topic E considered the multi-channel service delivery aspects that require central decisions and, as a part of this, examined delivery via the internet. The discussions provided criteria E1, E2, and E3 that will become part of the managerial model.

E1 In many companies the delivery of services via the internet will constitute a delivery channel that will compete with existing delivery channels. Therefore, it is important that the delivery of services is coordinated in an **overall multi-channel management concept**. As such, a project to set-up and operate an internet delivery channel must never be planned and executed in an isolated way. The other, existing, channels need to be included.

E2 Should a company choose to offer products through several different channels, the customer would have the opportunity to contact the company in different ways. Deciding on the channel is the **customer's choice**. Generally, customers will expect the same level of service from all of the channels. If the company does not plan to meet this expectation, for whatever reason, customers need to be informed about the differences. It is crucial that customers know what to expect from which channel.

E3 For some products a higher degree of advice is required by the customer than for others. The extent depends on the structure of the product. The simpler the product structure, the easier it is for a customer to understand and make a decision. It follows then that a product with a rather simple structure is easier to present on the internet and, as such, more suitable for sale via this channel. **Product-channel allocation**, therefore, is an important decision to be taken. However, each company will have to decide, based on clear criteria, which of their products are best suited for each of their delivery channels. Also, because of the strength of the sales agent delivery channel, the interviewees considered that any decision as to which products should be chosen for sale over the internet may have to be taken in conjunction with sales agents.

The next topic, topic F, will discuss the aspects of customer segmentation.

Topic F – Customer segmentation

Discussions on topic F, customer segmentation, examined criteria that might ideally structure the customer base and looked at how, based on market research, an organisation's customer base might be better understood. From these discussions, three criteria can be derived and provide input for the managerial model:

F1 It is acknowledged that the youth segment of the market has a remarkably high affinity for the internet. This segment, therefore, is a suitable target group to which general insurance services can be delivered via an automated interface. Even so, the requirements of this segment need to be comprehensively analysed within the context of an internet delivery project. A company needs to **understand young people's behaviour**. This will help to design customer oriented future internet projects.

F2 Each company has a lot of information about their customers available in their computer databases. According to the interviewees, only a few companies consistently analyse and evaluate these **customer data records**. Within the framework of the implementation of an automated delivery service and in the context of a consolidated multi-channel marketing system it would make sense to work more effectively with these databases.

F3 Interviewees indicated that, as a rule, insurance companies do not seem to make standardised and regular **market research**. As a consequence, there is no structured information available about the needs and wishes of their customers. It has already been suggested (see discussion of criterion F1) that the needs of customers must be known and structured. Otherwise it will be difficult to have a customer-oriented multi-channel product delivery system.

The three criteria F1, F2, and F3 will flow into the managerial model. The next topic, topic G, discusses four aspects of a business case for investments in the automation of the customer interface.

Topic G – Business plan

Topic G examines the four main elements of a business plan. Issues that arose when discussing benefits and costs are not necessarily directly related to the set-up of an automated customer interface but rather aspects that need to be considered when planning the development of a project. In contrast, risks and difficulties include success factors particularly related to an automation project. For the managerial model to be developed the following criteria seem to be necessary:

G1 **Senior management support** is necessary. A project needs a good organisational set-up and senior management support in order to be successful. Project success critically depends on decisions that, due to challenges and difficulties that will occur, can only be taken by top management representatives. From the beginning, a company's management has to provide unwavering support for an e-insurance project.

G2 **Organisational structure** is also crucial for the success of an e-insurance project. The hierarchical positioning of the project's sponsor needs to be as high as possible and connected to extensive areas of authority (in congruence with the tasks to be performed and the responsibility to be taken). Further, a senior manager needs to take the leading role and vouch for the project at all times.

G3 The success of a project depends on the adequate supply of **IT resources**, whether internal or external to the company, and they need to be available at the beginning of a project. Employees need to be hired or contracts with external companies need to be concluded in good time.

G4 A well-known brand name makes the implementation and operation of an e-insurance solution easier. A company needs to consider its **brand awareness** in order to be able to make a judgement about its effectiveness. If it is not perceived as effective, this could make such a project difficult. Measures may need to be taken in order to increase brand awareness.

The last topic, topic H, discusses technological aspects of automated service delivery over the internet.

Topic H – Technological aspects

This topic was not originally in the focus of this study. Nevertheless, for the interviewees it seemed to be an important topic as all of them mentioned aspects of technology during the interviews. Discussion centred mainly on the present technological situation and which approach would be best to initiate an internet delivery project. Two aspects seemed to be relevant criteria when designing the customer interface:

H1 Many companies do not seem to have a homogeneous **IT landscape** and architecture. This is a bad technological perspective from which to start automating the customer interface. It is advisable to harmonize and standardize the IT landscape first and only start an internet delivery project once this has been achieved. This will give the company the necessary flexibility.

H2 The delivery of general insurance services via the internet is generally considered a business task, namely a marketing task, and not a technological task. As a result, even though technology is an unavoidable and critical aspect of such a project, it must be emphasised that responsibility for the installation project and the ongoing operations of an automated customer interface must remain with a **business department**.

Criteria H1 and H2 are the last criteria that will be used in the definition of a managerial model.

Table 2 summarizes the eight topics and the twenty-one design factors. It further assigns the design factors to one of three category factor groups. This will be relevant for the development of the managerial model that will be presented later in this paper.

Answers to the Lead Questions

Introduction

As stated earlier, the eight topics do not contain comprehensive answers to the six lead questions discussed with the interviewees. Therefore, it would seem appropriate to provide a summary of their answers to each lead question. Within each answer, the design factors that were derived from the eight topics are included. Figure 1 gives a schematic overview of how the eight topics are related to the six lead questions.

Answering LQ 1: Influence of Market Forces

What market forces support the automation of the customer interface in general?

The answer to lead question one contains statements assigned to topic A, 'Market Forces', and topic F, 'Customer Segmentation'.

In general, the context of the interviews indicates that three groups of market forces influence the automation of the customer interface. They are (1) the consequences of deregulation, (2) the degree of market saturation and (3) technological development. Each of these aspects affects the operation of the internet as a sales channel. The main effect is that it will be possible to decrease operational costs by automating the process at the customer front end. However, interviewees suggested that technological prerequisites within their companies as well as customer behaviour at the present time are hindering this automation. Nevertheless, it was expected that this will change sometime in the future.

Even though the interviewees did not thoroughly and systematically explore the rationale for internet use, it was their opinion, as experts, that there is considerable pressure towards use of the internet as a sales channel. This pressure is created mainly by the expectations of the market itself as well as by the three market forces mentioned previously. The interviewees' views are even more valuable as they have all faced the change from regulated to deregulated markets and have experienced the advance of technology in the last few years.

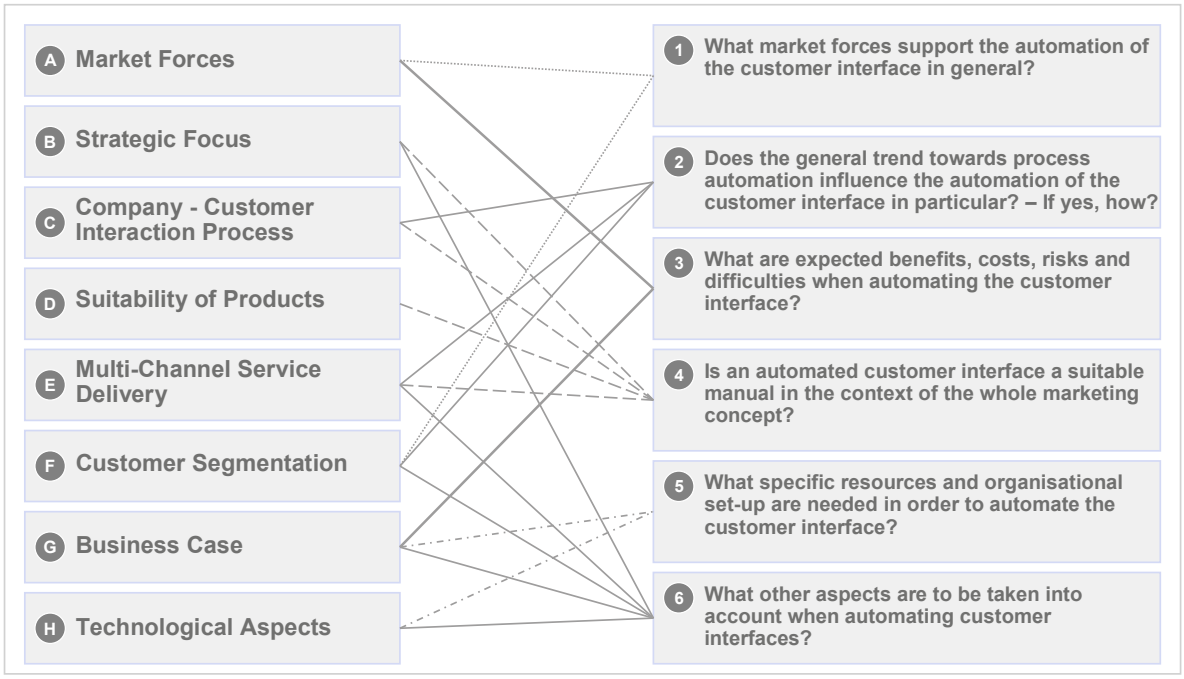

Figure 1 – Relation between the topics and the answers to the lead questions

Answering LQ 2: Trend towards Process Automation

Does the general trend towards process automation influence the automation of the customer interface in general?

The answer to lead question two contains statements assigned to the topics C, E, and F. Most of the interviewees see the general trend towards process automation as a major influence on the automation of the customer interface. However, they were unable to provide any specific examples to support their views because they do not systematically examine this general trend towards process automation. As such, the interview dialogue allows only restricted conclusions as to whether the general trend toward process automation actually influences automation of the customer interface.

At this point it should be emphasised that the interviewees are of the opinion that it is only a matter of time before the customer interface will be increasingly automated. The reason for this is not so much to

do with the general trend towards process automation but in the wider availability of technology. Customers are becoming more used to dealing with technology in general and they will, in future, expect an automated interface to their insurance company. However, it is unclear when automation of an interface will take place and what exactly the customers' expectations will be. This uncertainty regarding the timeframe of automation underpins a considerable degree of disorientation concerning this issue. The interviewees have few proactive statements regarding the automation of the customer interface yet they continue to build, somewhat explicitly, on the protection of conventional delivery channels, in particular the sales agent channel.

Answering LQ 3: Benefits, Costs, Risks & Difficulties

What are the expected benefits, costs, risks and difficulties when automating the customer interface?

The answer to lead question three contains statements that can be assigned to topic A, 'Market Forces' and topic G, 'Business Case'. As with answers to the previous lead question, the responses to lead question three are somewhat vague. This is probably because only a few of the companies have a solid and detailed business case. Most of the companies are only going through a learning process at this point of time in the course of which they are gaining experience with internet use as a probable means of automation. Nevertheless, the interviewees were prepared to provide their insights into the four business case categories mentioned in the question.

For prospective benefits, the interviewees identified market capability, reach of more customers and productivity increases. Where actual business cases for investments in e-insurance projects exist, it was surprising that each of those three categories were described only in a qualitative way thereby making it difficult to use them in an evaluation of the possible investment.

Concerning costs, two categories were mentioned. On the one hand, there is not only the investment that must be made in the area of IT but also the marketing expenditures that needs to be taken into account. On the other hand, only operational costs were taken into consideration. In general, the interviewed experts would expect some savings in human resources due to the automation of processes through technology. The final business case will have to balance the IT investments with the automation potential based on these IT investments. For confidentiality reasons, there was no discussion about precise financial figures during the interviews.

The expected risks were distributed into three categories, all market related. First, there is the risk that a product, including the pricing, may be copied easily because of the transparency that is made possible by the internet. Although this point is mentioned as a risk it was considered extremely difficult to estimate its effect. Second, there is the risk of losing connection with the market if a company does not adapt to current technological developments. This risk was also considered inestimable. Third, customers' expectation is seen as a risk. What does the customer want today, in five years, in ten years? For many companies, this uncertainty seems to be a risk that forces them to act on assumptions. It is surprising then that structured customer surveys are only very rarely undertaken. An increased number of effective surveys would reduce this uncertainty and, therefore, the risk related to it.

Finally then to the mention of difficulties. Only a minority of the interviewees even raised the issue of difficulties and so it is not really possible to generalise. Nevertheless, three points seem to be important in respect of an automated customer interface: the availability of strategic support, the necessity of an adequate organisational set-up and the availability of IT resources and skills. Furthermore, the effect of a strong brand must not be underestimated. A strong brand is seen as an important element in the bridge between the real world and the virtual world of the internet. If brand strength was weak it may provide a significant difficulty in any e-insurance project.

Answering LQ 4: Suitability as Delivery Channel

Is an automated customer interface a suitable delivery channel in the context of the whole marketing concept?

The answer to lead question four is influenced by aspects that were discussed in many topics: topic B, 'Strategic Focus', topic C, 'Company-Customer Interaction Process', topic D, 'Suitability of Products' and topic E, 'Multi-Channel Delivery'.

Even though the answers to this question seem to be rather positive, they are made with reservations. As a consequence some conditions need to be fulfilled and several restrictions need to be made in order to achieve an unconditionally positive answer to this question. Under conditions, the following two points provide a summary:

1. If there is an intention to utilise the internet as a sales channel, it requires a clear positioning: on the one hand in the context of marketing strategy and on the other hand in the context of the multi-channel concept. If this is achieved the status of the topic within the company will be strengthened and this will have two consequences:
   - Allocation of appropriate financial and other resources within the framework of an organisation's overall strategy and inclusion in the company's hierarchy of objectives.
   - Clear demarcation of tasks, competencies and responsibilities from other delivery channels.
2. Consideration must be given to the potentially complex product structure and, connected to this, the varying amount of advice required by the purchaser. This requires decisions to be taken in answer to the following two questions:
   - Which customer scenarios shall be offered over the internet? Should the complete process chain be introduced progressively or all at once?
   - Should products be created exclusively for the internet service channel? A positive answer to this question could easily be justified by lower delivery costs for this channel. However, all of the costs associated with this specific delivery channel need to be determined first and only then will it be possible to propose a sound business case.

In addition to these conditions, there are restrictions that were identified by the interviewees when discussing the company-customer interface and were identified as very real challenges to the general insurance business model. First, there is the disreputability of insurance companies and second, the low frequency of customer contact. These two factors seem to have a core character in the general insurance business, which means they are likely to have a limiting effect on the delivery of general insurance services on the internet. However, this effect may be averted with appropriate marketing activities and must not be used as a reason to avoid moving in this direction.

Answering LQ 5: Need for Specific Resources

What specific resources and organisational set-up are needed in order to automate the customer interface?

The answers to lead question five are based on aspects that were discussed in topic G, 'Business Case' and topic H, 'Technological Aspects'. The question focuses on issues that are preliminary to automating the customer interface concerning the resources and the organisational set-up that will be needed for an effective e-insurance project.

The main focus of the interviewees was narrow in respect of the resources that need to be available, concentrating almost entirely on those required by a company's IT department. With regard to the organisational set-up, it was the degree of management attention that was deemed critical. Even if these resources are not considered specific for the setting up of an automated customer interface, they are nevertheless important to the interviewees.

In connection with available resources, technical infrastructure is listed as well as human resources and technical skills. Combined, these three factors constitute the internal framework on which an automated customer interface is founded and any deficiency is likely to negatively impact on a successful e-insurance project. There was one particular aspect that constituted the main focus: all groups from within and outside of the company that are allowed to access data (e.g. customer data, product data) need to have access to the same data. This presupposes that all data are centrally stored and filed in a structured way. However, this does not seem to be the case in many companies at present. Consequently, data storage and its associated protocols must be harmonised before a company starts working on a project on customer automation. Such a technically harmonised IT infrastructure seems to be a fundamental requirement for automation of the customer interface.

The availability of human resources with the relevant technical skills is considered paramount to the successful conclusion of such a project. If there are many on-going technological projects within a company, the availability of staff with the relevant skills is often difficult to guarantee. A similar situation would exist if there were no other projects being undertaken inside a company at the time. As such, the early planning of technological projects as well as the consultation of external specialists might help solve this problem.

The importance of senior management support for such a project has already been discussed. Management attention is crucial as such a project requires many interdisciplinary decisions that need to be taken and supported by the management. After a project is finished and the result is handed over to the line organisation, the responsibility for multi-channel service delivery needs to be embedded into the organisational structure.

Answering LQ 6: Other Aspects to be Considered

What other aspects are to be taken into account when automating the customer interface?

From the conceptual set-up of the study, lead question six was intended to be a vessel for any statements that could not be assigned clearly to any other question. Indeed, there were numerous aspects discussed with no clear association to any of the other questions. The answers to lead question six may be assigned to the topics B, E, F, G, and H.

If one wants to establish the internet as a delivery channel, it is absolutely crucial to know the tool one intends to work with. Unfortunately, in most companies the required experience has not yet been acquired. Every company that intents to take the course towards internet delivery has to learn how to deal with this instrument. In this context, optimizing the delivery process is as important as preparing and optimizing the technological base. Optimization requires feedback. However, feedback needs to be given not only from within the company but also from outside, namely from the customers. This requires the establishment of internal and customer feedback processes.

Another factor is the principle that the choice of delivery channel lies with the customer. As a consequence, the company's product offerings must be the same on all delivery channels. Nevertheless, a company will not be able to lead the customer as closely and directly on the internet channel as it may on other channels simply because the customer is directly involved in a large part of the delivery process. Therefore, it is even the more important to have feedback processes in place that allow a company to understand the customers' wishes and to be able to answer them.

As described in the discussion of topic F, one way to acquire a more explicit understanding of customers is to analyse data records. It may have to do with the relatively high technological complexity that only a few companies analyse their customer data in a structured way in order to get information on customer behaviour. Nonetheless, this process is seen as an important task in the design of an automated customer interface.

Another important aspect can be derived from the fact that technology plays a crucial role when setting up the delivery of general insurance services through the internet. This leads to a wide influence by the IT department. However, it must be made very clear that setting up an automated customer interface is

a business project that needs to be managed and led by a business department, preferably the marketing department. Within an insurance company, the IT department can only be a service department providing certain core competencies. This constitutes an aspect that, due to the importance of IT in such a project, is often not given sufficient consideration.

In summary answers provided to the six lead questions provide different perspectives. For lead questions one, three, five, and six tangible and positive answers may be formulated. In contrast, with lead questions two and four it is not possible to draw positive conclusions and those that have been established are bounded by reservations.

The Managerial Model

The main objective of this paper is to make a contribution to practice in the area of automated service delivery for service delivery companies by providing a managerial model. This objective has been achieved by identifying and discussing eight topics, each containing several design factors, and by answering the six topical lead questions. The outcome is a model comprising four aspects: the three groups of design factors with the company-customer interaction process as the central element. The company-customer interaction process characterizes a company's customer interface.

The managerial model presented in this section is based on the design factors that were described earlier. The factors cover issues that an organisation must address to successfully deliver services by way of an automated customer interface. In order to better understand and effectively manage the factors, they are further structured into three groups (see table 2): pre-conditions, decision taking, and learning process:

1. **Pre-conditions**: Before even starting delivery of services through the internet, some pre-conditions must be established in order to be prepared for live operations. Creating the pre-conditions often takes a lot of time and resources. The point in time when a company is ready to deliver through the internet is dependent on meeting these pre-conditions.
2. **Decision taking**: There are decisions that need to be taken in order to meet the requirements of delivery through an automated customer interface. Some of the decisions have a long-reaching character and therefore need careful consideration. It would be unhelpful for decisions to be revisited again and again but there needs to be elements of constancy during the set-up phase as well as during operations. Decisions of this kind need to be taken and supported by the company's senior management.
3. **Learning process**: As it is with everything new, service delivery using the internet has to be learned and, over the time, optimised. Delivery through the internet is an initiative that affects more or less the whole company. Therefore, the whole company has to learn and optimise itself in order to effectively serve the customer.

Structuring the design factors into three groups constitutes an essential element of the managerial model. Figure 2 presents the managerial model showing the connection of its elements. These design factors are the main strategic issues organisations face when designing an automated customer interface. The groups, as well as the design factors themselves, influence not only each other but also customer activities and the company's process and technological landscape. In the centre of the model is the company-customer interaction process with the six main process steps.

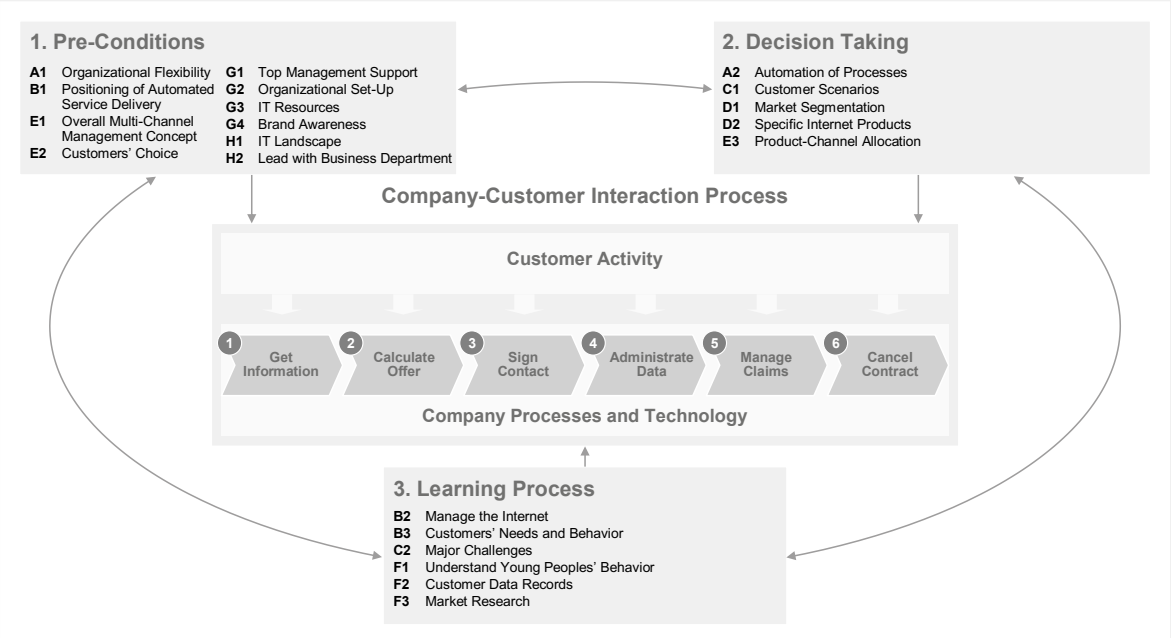

Figure 2 – Managerial model

Automation is characterised by the technological development that underpins the six process steps. Importantly, it should be remembered that the customer participates directly in the each of the six process steps, perhaps with the exception of step two. Indeed, the customer is a part of the interface itself. In order to satisfactorily complete an automation project such as this several steps need to be completed. Pre-conditions need to be fulfilled, key decisions need to be taken and an organisational learning process needs to be initiated. Depending on how an organisation weights the design factors in each of these steps, the journey to automate the company-customer interface may take a different road.

This managerial model links, summarises and consolidates this situation with three key points making the contribution to practice:

- The integrated approach of the model: the model takes into account not only each single design factor but integrates them according to three groups of activities (pre-conditions, decision taking, learning process) and aligns them to the company-customer interface. As a result a practitioner can understand which aspects are important and what their effects are. This managerial model provides a blueprint for planning the implementation of an automated customer interface.
- The orientation towards the company-customer interface: the company-customer interface stands in the centre of the model. It represents something virtual and often difficult to understand. Indeed, in many organisations many of the unanswered questions relate to the automated company-customer interface. This model makes the virtual interface more visible and comprehensible.
- From practitioners for practitioners: an important aspect of the research was to listen to the voice of practitioners and to conduct a study relevant not only to theoreticians but also to practitioners. The fact that the findings of the study are based on the views and understanding of practitioners gives the outcome more credibility. Nevertheless, this managerial model still needs to be thoroughly tested in practice.

Main Lessons Learned

There were several outcomes intended from the study. The first was to identify the general insurance products for which an internet delivery channel would be suitable. The second was to identify the

different process steps and customer scenarios that might emanate from such a delivery channel. The third was to develop a managerial model that could be used by general insurance companies when designing an automated customer interface.

Interestingly, the first expected outcome was barely addressed by the interviewees. There was some discussion on the structure of the delivery channel and on the degree of advice required for the customer but little about product modelling. While some elements of the second expected outcome have been included in gaining an understanding of the environment in which the model will be used, this paper focuses almost exclusively on the third intended outcome only. This outcome was fully achieved. The managerial model presented in this paper contains all the factors that the contributors to this study considered relevant when designing an automated customer interface.

As the managerial model is derived from the experts' answers to the lead questions, the design factors used to portray the model have varying degrees of detail. Based on discussions with the interviewees, some of the factors are more expansive while others are not as detailed. Nevertheless, this does not influence the quality of the model. It is a practical model and as such it will be of help to practitioners during the concept phase of creating an automated customer interface. Details will have to be worked out specifically for each case. The advantage of the model at hand is that it includes not only very particular design elements but also external factors delineated by the environment.

What is presented in this paper is a managerial model built on the input of a range of experts in the field of general insurance. The model is yet to been tested. This is a task for the future with the aim of proving its validity and effectiveness.

Recommendations for the future

The design of an automated customer interface in general insurance companies was the focus of this paper. This assignment was undertaken by a series of interviews with experts in the field of general insurance based on six lead questions. From specific answers to these questions as well as from the summarised research results and from the managerial model, different areas for future investigation can be identified.

- A first area in which additional research would be interesting is in the area of process automation more generally. From the answers to lead question two it was not absolutely clear if the general trend towards process automation would also apply to automation of the customer interface as well. However, one might have to concede that process orientation in service delivery companies has not progressed very far. Therefore, a general study into process orientation in service delivery companies would be beneficial.
- With regard to lead question three, it would be interesting to better understand the business planning model for specific projects in insurance companies. The focus would be on benefit expectations and how these are formulated and quantified. This would provide a deeper insight into this area and make a comparison between the internet and other service delivery channels easier. In this context it would also be interesting to know how the benefit realisation will be measured and managed: an objective that, due to the lack of clear criteria, may possibly remain difficult to answer.
- A third aspect that is derived directly from the study is the question of whether the factors that were identified to be important for the design of an automated customer interface would survive in practice or not. This means that the managerial model described in this paper has to be tested. A rigorous practical testing project would identify whether the criteria are the right criteria and whether the list of criteria is complete. Both questions affect the practicability of the model. Furthermore, it needs to be determined whether the allocation of the criteria into one of the three groups - pre-conditions, decision taking and learning process - are realistic in practice.

In addition to the points that have a direct relation to this study, there are some additional questions that may add more substance to the suitability of an automated delivery channel for general insurance services.

- One question focuses on the behaviour of young people using the internet. In this context it would be interesting to understand their approach to, and acceptance of, business dealings over the internet on the one hand and regarding internet insurance delivery on the other hand.
- A second question only loosely related to the topic touches on the competition between different delivery channels, particularly between sales agents, brokers, the internet and other channels (e.g. associations, clubs, and unions). It would be interesting to understand whether there really is the intense competition that the interviewees saw and how the parties involved perceive it. Additionally, it would be useful to understand what needs to be done to soften this competition.
- The question of how e-strategies are defined and realized in companies and how they are synchronized with other functional strategies (e.g. marketing strategy, IT strategy, and sales strategy) is also related to this research. In connection with this question it would be interesting to know not only the management's perspective but also how employees and customers understand the development and implementation of a strategy.
- The aspect of partnering with other companies is important when delivering services on the internet. It would therefore be useful to know how such partnerships should be evaluated, implemented and, finally, how their success can be measured.

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