

Sales-Supporting E-services

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Abstract

In the ever-increasing number of services offered through the Internet channel, more sophisticated e-services can be found in the business-to-business market. In this paper we describe the selection and pilot of a B2B e-service in the firm GE Plastics Europe (GEP). The practical aim of the research was to get new customers by turning website visitors into commercial leads and to deliver better services to them. The scientific objective of our research was to develop and test an e-services quality model. We reviewed literature and developed an integrated Sales Supporting E-services Quality model (SSEQ model) consisting of the following components: technical reliability, functional reliability, responsiveness, user interface, assurance, customisation, and empathy.

We used the SSEQ model at GE Plastics for generating 36 new e-services (by means of brainstorming sessions and interviews), for pre-selecting e-services, for implementing one new e-service (Web Radar) in detail through a pilot, and finally for evaluating the e-service pilot. The Web Radar service allows a GEP employee to monitor real-time who is visiting the website. The employee can then offer a chat window to the customer in order to provide sales assistance. The chat acceptance rate in the pilot was 40%. GEP and the customers were satisfied with the results from the pilot study and GEP intends to implement the Web Radar company-wide.

Overall, we found that the SSEQ model was very helpful in identifying potentially successful e-services by supporting the company in reviewing 36 e-services thoroughly ex ante. This ex ante evaluation is valuable given numerous failed initiatives related to the use of Internet channels. Evidently, a high rating ex ante does

not guarantee success, but it is expected to give better and more thorough insight into the e-services before implementing them full scale.

1. Introduction

The use of the Internet has developed rapidly with respect to the number of applications available and the quality of service now provided. We can observe a more sophisticated level of web services especially in the business-to-business market. Web services can be organized in different categories like e-infrastructure, e-process, e-markets, e-content, e-communities and e-services. In this last category, e-services are related to managing partners, prospects and customers by creating an integrated online environment [16]. This category of web services (i.e. 'e-services') is the concern of this paper. The common denominator that distinguishes e-services from regular services is the availability of the service via an Internet channel, making it accessible from anywhere and consumable 24 hours a day. We, therefore, use the following definition for an e-service [5,7]:

'An e-service is an activity or series of activities of intangible nature that take place in interaction through an Internet channel between customers and service employees or systems of the service provider, which are provided as solutions to customer problems, add value and create customer satisfaction'.

The customer in this definition, in the context of this research, is an employee of the company who is the client of the service provider. Our main driver for this research was to find out what the opportunities are for new e-services to support the sale of technical products, and how e-services can be assessed, exploited and improved. We conducted our research at the

multinational company GE Plastics Europe, a company that wants to increase further its number of customers. The practical aim of this research was to get new customers by turning website visitors into commercial leads, since this step has been found to be a hitch in the process from developing initial website visitors into customers. Commercial leads are defined as inquiries that are not initiated through existing channels, e.g. phone acquisition, or visits by account managers. Another practical aim of the research was to deliver better service to the potential customers.

The scientific objective of our research was to assess existing e-service quality dimensions for sales supporting e-services. Therefor, we derived a sales-supporting e-services quality model from the literature and applied this in practice. We discuss whether or not the previously defined quality attributes apply to the specific environment of the supporting e-services for tangible products. This application of our e-services quality model is considered to be a valuable contribution to the e-services body of knowledge.

In this paper, we will first elaborate on existing literature and draw conclusions about the availability of general models. This will lead to an integrated e-services quality model. Thereafter, we will explain the research approach and present the results. In the discussion and conclusion section we present the constraints of the project and the effect on the evaluation of the e-services quality model. We wrap up the paper with recommendations for future research and for broader use of our model in other industries.

2. The Sales-Supporting E-services Quality Model

We explored the literature for answers to the questions ‘What distinguishes an e-service from a service?’ ‘What are the opportunities for sales-supporting e-services?’ and ‘What are the imperatives of successful e-services?’ This led to a model consisting of quality dimensions for e-services that we call the sales-supporting e-services quality model.

What distinguishes an e-service from a service? A lot of existing literature offers definitions of traditional services [1,5,6,8,10,19], providing a set of similar and generally accepted characteristics of traditional services, which become clear when they are related to the equivalent characteristics of products (goods), as reflected in table 1.

In order to look at these characteristics of traditional services in the light of e-services and assess their similarities, we have to make a distinction between hybrid and pure e-services. We label an e-service pure if it can be delivered and consumed without the presence of a service employee, e.g. Internet banking. If the service requires the involvement of a service employee we call it a hybrid service.

All five service characteristics listed in table 1 apply to e-services in their own specific way, both to pure and hybrid e-services. “Perishable” needs some explanation since pure e-services do not seem to be perishable at first glance because they can be considered as being inventoried. A customer can use the e-service at any time without waiting times or

Table 1: Service characteristics

Service characteristics	Product (goods) characteristics
<ul style="list-style-type: none"> • Intangible • Perishable <ul style="list-style-type: none"> <input type="checkbox"/> Physical presence of customer during production <input type="checkbox"/> High degree of customer contact <input type="checkbox"/> Customer-centric <input type="checkbox"/> Simultaneous production and consumption <input type="checkbox"/> Customer is co-producer <input type="checkbox"/> Production and marketing at the same time <input type="checkbox"/> Appearance of production is important • Heterogeneous quality • Quality difficult to measure, perception of customer is critical quality measure • Bundling with products 	<ul style="list-style-type: none"> • Tangible • Non Perishable <ul style="list-style-type: none"> <input type="checkbox"/> No presence of customer during production <input type="checkbox"/> Low degree of customer contact <input type="checkbox"/> Production-centric <input type="checkbox"/> Separate production and consumption <input type="checkbox"/> Customer is only purchaser <input type="checkbox"/> Separate production and marketing <input type="checkbox"/> Appearance of production is not important • Homogeneous quality • Quality is measurable • Bundling with service

queues. Yet since servers and the Internet network vary in operational speed, servers run out of capacity and this capacity is lost when the service is not, or little used, we can conclude that pure e-services are also perishable. This means that there is no black-and-white difference between services and e-services. Services can be purely electronic, personal or in between: hybrid.

What are the opportunities for e-services? We searched the literature for the opportunities for e-services. Evans and Wurster (1999) uncover the power of the Internet channel with their reach and richness model [4]. Other research institutes have published customer interaction costs, comparing self-service web interaction with personal interaction. Every channel has its specific cost-benefit ratio. Simons, Steinfield and Bouwman give the following rough price indication per transaction per channel: Web \$1; Phone Call \$10; Retail \$50; and Personal Sales \$200 [15]. The strong value proposition of e-services is its possibility to cost-effectively reach a large group of recipients with an adequate richness of information. Pure e-services have as main additional strength their inexpensiveness, due to the absence of any service employee and the low variable cost of the systems of the service provider. Compared to hybrid e-services, the pure e-service is inexpensive and might therefore be well equipped for delivering enhanced service and higher level of customer satisfaction at equal cost. Hybrid e-services combine higher richness due to the presence of a service employee (such as flexibility, courtesy and empathy) with the efficiency advantage of not having to spend time to physically visit the customer. The advantages are not only related to costs they are also to customer relationship. By offering customers the choice for channels which has its own special advantages for them, you give them the choices that best build and maintain the relationship [9].

What are the imperatives of successful e-services? The strong value proposition of e-services does not automatically mean that such services are all of a high quality. Specific insight into the imperatives that determine the value of services is needed to derive a general e-service quality model. A widely acknowledged way of looking at service quality is to make a distinction between the outcome quality (what does the service deliver) and the process quality (how is it delivered) [5,14].

The service outcome quality, also defined as technical quality, can be measured more or less objectively both by producer and consumer. This aspect of service quality is mostly measured by accessing the specific benefits for the context in which

the service is delivered, in other words 'is the service useful?' People will tend to use or not use an application to the extent they believe it will help them perform their job better [2,3]. This will also count for e-services offered by service providers to create efficiency and or higher effectiveness for their customers. We call the service outcome quality functionality.

The service process quality cannot be measured as objectively as the elements of technical quality because the customers' presence affects the delivery process. Quality regarding the production process is widely defined as meeting customers' expectations. Although extensive research has been done into the drivers behind process quality, there is no literature specifically aimed at e-services that supports the sales of tangible products. The best known quality dimensions are proposed, and improved on later versions, in the SERVQUAL model [12,13,14]; i.e. tangibility, responsiveness, reliability, assurance and empathy. Kaymana and Black, Zeithalm et al and Liljander et al have published quality dimensions of pure e-services based on the dimensions of the SERVQUAL model [8,18,11]. We found that e-services can be pure or hybrid services and therefore we chose for descriptions that best fitted within our distinction between pure and hybrid services. To demarcate the project we chose to focus on the pre-sales phase since it is expected to contribute most to the generation of new sales. Therefore we selected descriptions of the quality dimensions such that they fit for pre-sales e-services. An overview of the formerly published quality dimensions and the process quality definitions we derived is provided in appendix 1. In short, the dimensions for both pure and hybrid services are:

- Technical reliability: availability, correct technical functioning, explanation of purpose and accuracy of implementation of service promises
- Functional reliability: feeling of confidence and trust when using e-services (regarding privacy, security and risk), accuracy of product information
- Responsiveness: promptness, availability of assistance
- User interface: overall design, ease of navigation and search, overall usability and aesthetics.

We took the dimension customisation from Liljander et al. [11], meaning presenting the information in a adequate and tailored format for pure services, and this can be done both by and for the customer. We define personalisation as the maximum level of customisation and therefore as a category within customisation. With hybrid e-services the way

information is presented to the customer has to have dimensions that deal with the human aspect. We took the dimensions Assurance and Empathy directly from Parasuraman et al. [14]. Assurance is the use of knowledge and courtesy by employees and their ability to convey trust and confidence. Empathy deals with the level of caring and individualized attention the firm provides to its customer.

All the quality dimensions we found are summarized in table 2 and we call this the Sales-Supporting E-services Quality model (SSEQ model).

Table 2: Sales-Supporting E-services Quality model (SSEQ model)

	Quality dimensions 'pure e-services'	Quality dimensions hybrid e-services
Outcome	Functionality	Functionality
Process	Reliability (technical and functional)	Reliability (technical and functional)
	Responsiveness	Responsiveness
	User Interface	User Interface
	Customisation	Assurance
		Empathy

3. Project Approach and Methods

The results of our literature search gave rise to the quality model presented in Table 2. This quality model was used as a basis for the selection of new e-services for GE Plastics Europe. We used action research since this is the type of investigation combining practice and theory that is designed to both cooperate with as well as support enfranchised actors and groups in a system of study [17]. We did this in the following steps:

1. Generation of concrete new e-services
2. Selection of e-services using the quality dimensions model
3. Implementation of one new e-service in detail through a pilot
4. Evaluation of the e-service pilot

Three different qualitative approaches were used to generate new e-services,. First, thirteen interviews were conducted with front office employees from various departments throughout the international company. These interviews were unstructured, 1,5 hour sessions, in which the interviewee was asked to share as many different e-service ideas as possible. In order to stimulate the creativity of the interviewees, we used key words concerning various business processes or various sources of e-services.

Second, a brainstorming session was conducted with eight employees of the Customer Technical Solution Centre, who are also front-office employees. This

brainstorming session was done in a very structured way, using 'attributed listing'. Attributed listing is a brainstorm method focused at combining different variables from two dimensions. To structure this brainstorm we developed a 'morphological matrix' consisting of seven process steps (rows) and five design variables (columns). These design variables are reach, interaction, richness, application, and device. Within the matrix the design variables can be combined with the process steps to generate ideas.

Third, we searched the Internet and the literature for 'best practices' within other related and non-related companies. We selected well-known successful (Internet) companies, such as Amazon, Gator, Yahoo, Dell, ICQ, Bayer and BASF, and researched their web sites and annual reports for their collection of e-services and best practices.

After we had developed an aggregate list of possible e-services, we asked service employees within the company to assign weights, on a scale from 1 to 10, to each e-services on the quality aspects. We asked them to weigh the aspects as if they were customers, so that we were able to select the best e-service from a customer's point of view. Following the weight assignment to the quality aspects, the service employees were asked to rate each e-service from the aggregate list for each quality aspect on a scale from 1 to 10. The hybrid and pure e-services were rated separately as their respective quality models differ slightly. The e-services with the highest scores were further assessed for their possibility to be piloted within a short period of time, and within budget limits.

The pilot project, step 3, was set up according to the six sigma approach, which is commonly used for implementing projects within the company, and comprises a structured, well-defined six phase implementation plan (Definition and Strategy; Baseline; Analyse; Improve & Design; Build & Test; and Transition & Control). The software required to implement the pilot was obtained from a carefully selected commercial supplier (based upon the six sigma 'vendor rating' approach with criteria such as product features, price and reliability), and experts from within the company did some additional software programming. The service employees ran the pilot project for seven days, after which we carried out an evaluation of the study.

The pilot project was evaluated using quantitative data, concerning numbers of new inquiries and commercial sales leads, and then qualitatively using a questionnaire. We asked the customers who had been in touch with the new e-service to fill out a

questionnaire, containing questions based upon the quality aspects from our SSEQ model.

4. Results: selection and pilot of an e-service¹

The generation of new e-services (step 1) yielded a total number of 36 new e-services that were not yet implemented within GE Plastics Europe. Most of the ideas were generated in the brainstorming session, which yielded 21 new e-services in two hours. The interviews produced 12 new ideas and took roughly 20 hours, while the 'best practices' approach took around three hours and resulted in another three new e-services.

Out of the 36 e-services, 24 e-services were pure e-services and 12 of them had a hybrid character. Table 3 gives an overview of the various e-services that were generated. As mentioned in the introduction, all these services are aimed at engaging e-business customers.

Of the 36 e-services generated, one had to be selected for piloting (step 2). The weight factors to the quality dimensions given by the service employees are shown in table 4. There are no reasons identified for the differences in the weight factors.

Next, the service employees were asked to rate each of the 36 e-services on each quality aspect. After this the top three of e-service for pure e-services and hybrid e-services was obtained, by multiplying the score for each dimension by its weight factor and then adding the dimensions to obtain a total score, see table 5.

Both e-services rated highest, the pop-up service and the web radar service, were further assessed to determine the one to be piloted. A pop-up service is a service that offers special selected information to the visitor, when the behavior and profile of a web visitor meets a predefined profile. This can be in the form of a pop-up window, or in the form of a dynamic part of the website. The information provided could be, for example, to call the hotline of the company. A web radar is a service for which a service provider employee monitors real-time who is visiting the website and can offer a chat window to provide assistance. The website visitor can accept or refuse the chat. The service employee has information about the time spent on the website by the visitor, which pages s/he has visited, which e-services already have been used and the sales and contacts history of the customer.

The results of the second tier assessment of the pop-up and the web radar e-services are shown in table 6. In

this assessment the aspects are not related to the quality dimensions of the service but to the ease of implementation from a service provider's point of view.

In summary, after thoroughly assessing the 36 e-services, the Web Radar was selected as the new e-service to be piloted in the next phase of the research.

4.1 The pilot project

The first phase of the six sigma approach, definition and strategy, comprised setting the goals for the web radar pilot. These goals were generated in collaboration with the company service employees, and were based upon experiences with other means of contacting potential clients. The objectives are shown in table 7.

The financial implications and prospects for the e-service were worked out in detail to get insight into the financial performance of the pilot and of the possible future full implementation. The exact financial data cannot be conveyed, for reasons of confidentiality. The final aspect of the first phase was to address the management and communication issues within the company, as the pilot would imply changing work processes and changing relations with the front office. The software would have to be maintained by the computer department. After a thorough stakeholder analysis it was clear that the key people within the organization were supportive of the pilot project. Finally, legal compliance was sought and obtained.

The second phase of the pilot comprised getting the suitable software and getting the right IT-support to adapt the software to the specific needs of the company. The vendor selection process led to the selection of the Canada-based company 'CS-live' to supply the software, and a one-month free test license was obtained. The software had to be adapted slightly, which took the local programmers roughly 14 hours of programming. The next phases of the six sigma approach were dedicated to adapt the software further and to expand the number of 'active' or useable web pages.

The quantitative results of the pilot are shown in table 8. The number of realized chats is far lower than targeted. The reason is that only 35% of the chat invitations actually reached the web site visitor, mainly due to technical troubles. Considering the percentage of chats accepted, which was 40%, the invitation process was still successful. The number of inquiries resulting from the chats is similar to the success rate of phone calls (33%).

The quantitative results of the questionnaire issued to the customers after they had been in contact with the

¹ The tables mentioned in this section are in appendix 2.

Web Radar are shown in table 9. 14 out of 33 customers (42%) filled out the questionnaire. Some qualitative feedback comprised quotes like 'I appreciate your help with my project. Thank you.'

Based upon these pilot results we calculated the investments, yearly costs and expected extra profit that could be achieved by implementing the Web Radar on a full scale, it was expected that the investments would have a pay off time of approximately two months. Unfortunately, more in-depth financial information about the case are company confidential, and cannot be discussed in this paper.

5. Discussions and conclusions

We derived a quality model from literature and used this Sales-supporting E-services Quality (SSEQ) model for rating potential new e-services and for asking the users of the Web Radar to share their experiences. The model was helpful in both situations. The company was satisfied with the pilot study and wants to implement the new e-service on a full scale.

Did the given project constraints and the extensive empirical analysis affect the evaluation of the quality model adversely? These constraints had three effects. First, service employees weighted the quality aspects of the 36 identified services instead of real customers, as it is very difficult to ask customers to rate something they do not know. Afterwards, we compared the actual customer ratings with the earlier ratings the employees gave to the Web Radar (not stated in this article) and the similarities were striking. So, this solution worked well. However, more services should be piloted and rated for a validated judgement of having service employees rating e-services on customers' quality aspects. Secondly, technical constraints made that only 35% of the chat invitations actually reached the website visitors. Fortunately, the invitation process was still successful because a high percentage of chat invitations were accepted. Thirdly, the choice for web radar was influenced by the availability of a one-month free test license and very little need for additional programming. From this we can see that in choosing a service it is not only quality dimensions related to customers that count but also criteria related to service provider needs for efficiency and effectiveness. In this pilot the efficiency and effectiveness of the implementation was important due to the availability of resources. In case of a full scale market launch, other service provider needs will surface. This model is only useful for identifying and evaluating e-services from a customer's point of view.

Is this application of the e-services quality model a valuable contribution to the e-services body of

knowledge? We found that the model was very helpful in identifying an e-service and it helped us to review e-services thoroughly ex ante from a customer's perspective. This is necessary when one takes into account the numerous failed initiatives related to the use of Internet channels. Evidently, a high rating ex ante does not guarantee success, but it will give better and more thorough insight into the e-services before they are implemented on a full scale. It is important to point out that an e-service's quality - and thus its success - is ultimately determined by the customer. The expectations and experiences of customers evolve and the quality standards vary accordingly.

6. Further research

We found that SSEQ model is helpful to identify and assess web services supporting the sales of goods. The project approach we followed can be replicated in other B2B industries where designers, looking for information to help them design their products, use the web. The nature of this research was exploratory, and the results need to be validated further using empirical studies, since we had no means to validate the model itself. There is a need to examine whether the identified service quality dimensions are correct and what other variables may have an impact on the e-service quality. More attention should be paid to the correlation of the identified dimensions with the perceived quality. Finally, the weight factors of the dimensions need to be determined using quantitative research.

The experiences of the suppliers also count when attempting to identify service needs and this perspective requires further input.

We would encourage other companies that sell technical products in the business-to-business area to use and test this SSEQ model for exploiting sales supporting e-services, so that they will be able to build upon the successful experience of our 'Web Radar' pilot study.

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Appendix 1

<i>SSE Process Quality Dimensions</i>		<i>Sources</i>	
		<i>Parasuraman et al. (1988)</i> <i>SERVQUAL</i>	<i>Kaymana and Black (2000)</i> <i>E-QUAL</i>
		<i>Parasuraman et al. (1988)</i> <i>SERVQUAL</i>	<i>Zeithaml et al. (2000)</i> <i>categorized according Liljander</i>
<p>Technical Reliability: functioning of e-Service (availability), correct technical functioning of e-Service, explanation of purpose and accuracy of execution of service promises.</p> <p>Functional Reliability: feeling of confidence and trust when using e-Service (regarding privacy and security -freedom of risk), currency and accuracy of product information.</p>	<p>Reliability: ability to perform the promised service dependably and accurately.</p> <p>Content and Purpose: content as promised, explanation of its purpose.</p>	<p>Reliability: correct technical functioning of the site and the accuracy of service promises (having items in stock, delivering when promised), billing, and product information.</p> <p>Reliability: currency and accuracy of product information, technical functioning of the site and accuracy of execution of service promises. Delivering correct goods, in accurate amounts, in good condition and within promised time frame.</p>	<p>Reliability: correct technical functioning of the site and the accuracy of service promises (having items in stock, delivering when promised), billing, and product information.</p> <p>Reliability: currency and accuracy of product information, technical functioning of the site and accuracy of execution of service promises. Delivering correct goods, in accurate amounts, in good condition and within promised time frame.</p>
<p>Responsiveness: providing prompt service (quickly functioning e-Service), help available (meaning without human intervention) directly providing the information the customer wants to address his inquiry (elimination of look-up tasks of service employee, change to self service for customer).</p>	<p>Responsiveness: willingness to help customers and provide prompt service.</p> <p>Responsiveness: e-mail responses.</p>	<p>Responsiveness: quick response and ability to get help if there is a problem or question.</p> <p>Responsiveness: sending a timely response to e-mail requests or complaints, and confirmations of orders.</p>	<p>Responsiveness: quick response and ability to get help if there is a problem or question.</p> <p>Responsiveness: sending a timely response to e-mail requests or complaints, and confirmations of orders.</p>
<p>User Interface: overall design, ease of navigation (help customer find without difficulty), overall ease of use/efficiency, and aesthetics (design of site and quality of presentation).</p>	<p>Tangibles: appearance of physical facilities, equipment, personnel, and communication materials.</p> <p>Accessibility: not explained.</p> <p>Navigation: idem.</p> <p>Design and presentation: design of site and quality of presentation.</p>	<p>Access: ability to get on the site quickly and to reach the company when needed.</p> <p>Ease of navigation: functions to help customer find without difficulty, good search engine, easy and quickly manoeuvre through pages.</p> <p>Site aesthetics: site appearance.</p>	<p>User interface: overall design, ease of navigation, overall ease of use/efficiency, aesthetics, access (=customers having access to the internet and trouble free connection, also depending on marketing efforts to make site known).</p>
<p>Assurance (only for hybrid e-service): knowledge and courtesy of employees and their ability to convey trust and confidence. Include competence, courtesy, credibility and security</p>	<p>Assurance: knowledge and courtesy of employees and their ability to convey trust and confidence. Include competence, courtesy, credibility and security.</p> <p>Background: includes elements borrowed from assurance, unclear which.</p>	<p>Assurance/trust: confidence when dealing with the site, due to its reputation and the products or services sold and presentation of clear and truthful information.</p> <p>Security/Privacy: degree the customer believes the site is safe from intrusion and protection of personal information.</p>	<p>Trust: assurance (customer having confidence in the company, site is well known, sells reputable brands, offers guarantees and posts ratings by other customers) and security/privacy.</p>
<p>Customisation (only for pure e-service) Customising service to individual preferences, also customising without customer knowing it.</p> <p>Empathy (only for hybrid e-service): caring, individualised attention. Include access, communication and understanding the customer.</p>	<p>Empathy: caring, individualised attention. Include access, communication and understanding the customer.</p> <p>Personalisation and Customisation.</p>	<p>Customisation / personalisation: how much and how easily the site can be tailored to individual customers; preferences, histories, and ways of shopping.</p>	<p>Customisation / personalisation: equivalent to empathy (first column) Customising service to individual preferences, also customising without customer knowing it.</p>
		<p>Remaining dimensions: Flexibility, Efficiency, Price Knowledge</p>	

Appendix 2

Table 3: Generated new e-services

- Pre-customized website	- Folder corner	- Distant trouble shooting
- Marketing through customers	- Voice over IP + screen sharing	- Visual Feedback on parts
- Self service portal	- 'Share my screen' button	- Web cam at design company
- Customised web information (pop-up)	- Free Moldflow Analysis	- Chat room to share customer experiences
- Customisation by login	- Harmful characteristics wizard	- Virtual plastics fair
- Electronic Customer Needs Mapping	- Meta wizard	- Web radar
- Remind for prototyping	- Gluing Wizard	- Automatic email
- Education by film	- Long-term declaration wizard	- Log in assistance
- Explanation of after sales service	- Low-level entry wizard	- 'Contact me now' button
- Library with previous applications	- Web cam conference	- 'Call me back' button
- Library of pictures	- Web cam assistance	- Call back after abandoning
- Film clips of material tests	- Portable field web cam	- Remote diagnostics

Table 4: Results of weight assignment to quality dimensions by service employees

Pure e-services	Weight	Hybrid e-services	Weight
Functionality	10	Functionality	10
Reliability	3	Reliability	6
Responsiveness	6	Responsiveness	6
User Interface	8	User Interface	8
Customisation	6	Assurance	8
		Empathy	9

Table 5: Top three for pure and hybrid e-services

Pure e-services	Score (% of max. score)	Hybrid e-services	Score (% of max. score)
Pop up	86%	Web radar	86%
Self service portal	83%	Call back after abandoning	84%
Customer needs mapping	77%	Portable field web cam	79%

Table 6: Evaluation of the e-service to be piloted

Aspect	Pop-up	Web radar
Attracts new prospects	Probably	Probably
Can be piloted in short period of time	Requires dedicated programming	Commercial software easily available
Within available budget constraints	Requires human resources	Free software license

Table 7: Objectives of the Web Radar pilot project

	Objective	Way of measuring
# days of inviting chats	10	Manually
# hours of inviting chats	40 (4 hrs/day)	Manually
# chats	200 (20 per day)	From software
# actual commercial inquiries	70 (7 per day)	From company database

Table 8: Results of the Web Radar pilot project

	Objective	Actual
# days of inviting chats	10	7
# hours of inviting chats	40 (4 hrs/day)	49 (7 hrs/day)
# chats (*)	200 (20 per day)	33
# actual commercial inquiries	70 (7 per day)	11

Table 9: Results of the questionnaire in terms of quality dimensions

Quality Dimension	Average Rating (1-5, n=14)
Functionality	4.6
Technical Reliability	3.8
Functional Reliability	3.7
Responsiveness	4.1
User Interface	3.5
Assurance	4.1
Empathy	3.7