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User Influence in E-Service Evolution: A Case Study of E-Banking

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Abstract:

In this interpretive case study we examine the processes and the related information systems (IS) fostering user influence in a large scale e-banking case. Our focus is user involvement in the IS evolution by enhancing and utilizing unsolicited feedback and initiatives. As a result, we develop a new conceptualization of feedback and initiative management. Organizations may utilize this model and the related patterns of action and interaction for organizing their congruent processes. Our case is an international financial organization which has one of the first e-banks and largest user bases of these systems in the world. E-banking is one of the advanced strategic web application areas where there is already a long history of use by a high number of external, heterogeneous users. Hence, we believe that these results may be applicable to other web-based information systems as well.

Keywords: unsolicited feedback and initiative, user influence, feedback and initiative management processes, evolutionary information systems, e-banking service

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I. INTRODUCTION

Customer orientation is considered vital for staying competitive. Therefore, in addition to internal users, organizations try to actively involve external users in the development of their information systems (IS) and IS-based services [Fundin and Bergman 2003]. To engage customers and users (in this paper used interchangeably), most organizations regularly accomplish formal, usually quantitative, surveys and market researches on pre-set topics. User representatives may even participate in information systems development (ISD) and new product development (NPD) processes, most frequently in the requirements engineering, ideation, prototyping, and testing phases [Hsieh and Chen 2005].

As web-based information systems (WIS) constantly evolve due to changes in business, technology, regulation, and user needs [Cook et al. 2006], continuous user participation is necessary [Ramler et al. 2004]. New web-based feedback channels provide a low barrier for giving unsolicited feedback. The Internet and WIS enable interaction directly with mass users, consumers, and virtual user communities [Hsieh and Chen 2005] that otherwise would be out of the reach of the service provider. In WIS environment, the main feedback and communication channel is the online service itself [Floh and Treiblmaier 2006]. This electronic communication with feedback submitters substitutes the traditional person-to-person interaction.

Fundin and Bergman [2003] maintain that unsolicited feedback on IS and IS-based services gives insights on the opinions of existing and future customers, thus resulting in more satisfied customers and better functioning service. It is also useful for developing new or improved functions and new interface channels to existing IS, as well as being a source of innovative ideas for new IS and even business opportunities [Fundin and Bergman 2003]. This innovation potential from outside the company has become increasingly important for both practice and theory in the past years [Chesbrough 2003].

Unfortunately, the unstructured, textual nature of unsolicited feedback makes it difficult to analyze and utilize [Pavlou and Dimoka 2006]. Organizations should have an effective and efficient feedback management process for gathering, analyzing, communicating, and utilizing user feedback throughout the organization. However, organizations face problems with implementing these processes and aligning them with the related IS. In many cases no formal structure exists for forwarding customer feedback into the ISD or NPD process [Fundin and Bergman 2003; Geib et al. 2005; Wirtz and Tomlin 2000]. Previous research has also focused on numerical feedback ratings, ignoring the role of textual feedback [Pavlou and Dimoka 2006].

Our main research questions are: *What are the processes and the related IS of feedback management and how are they implemented and integrated?* We focus on the processes and related IS that enable continuous user influence in web service evolution in the ongoing use phase as well as patterns of action and interaction related to feedback. In this interpretive case study, our goal is to better understand feedback management processes in a large scale strategic e-banking service. E-banking is one of the advanced strategic web application areas [Ginige and Murugesan 2001] where there is already a long history of use by a considerable number of external and internal users. The employees use the service both at work and as external personal users. Other external users are logged-in personal or corporate customers, or unknown users of open services. Most external users are ordinary people that are heterogeneous in many respects (e.g. education, culture, ethnicity, age, computer skills, financial needs, expectations, and perceptions) [Markus and Mao 2004; Ramler et al. 2004].

As a result of our research, we develop a model of user feedback and initiative management in an e-banking environment. Our case is an international financial organization which has one of the first e-banks and largest user bases of these systems in the world. Thus, we believe that our results may be applicable to other web-based information systems and will help organizations implement a feedback and initiative management system that enables continuous user influence on the total offering of the organization while satisfying their customers.

This paper is structured as follows: In the next section we briefly discuss the ISD and NPD research on user participation, involvement, influence, feedback, and the related processes and methods. Thereafter, we present the methodology of the study and the case description. Finally, the results are discussed and conclusions are drawn.

II. RELATED RESEARCH ON USER ORIENTATION

Customer orientation (vs. product orientation) is the company's ability to "identify, analyze, understand, and answer user needs" [Gatignon and Xuereb 1997] on the company level. According to Zhu and Nakata [2007], customer orientation is achieved by consistent, efficient, organization-wide gathering, sharing, and use of intelligence and information about customers, and coordinated actions based on that intelligence. They continue that structural and managerial actions, as well as IS support are the necessary enablers of customer orientation.

User participation, involvement, and influence

The terms *user participation* and *user involvement* are often, also in this paper, used interchangeably, although they do have a difference. *User participation* refers to behaviors and activities that users accomplish during the IS development process, whereas *user involvement* is the subjective psychological state, i.e. the importance and personal relevance that users attach to a system [Barki and Hartwick 1989]. McKeen et al. [1994] maintain that effective communication between users and developers regardless of the level of user participation is essential in achieving *user influence*, i.e. the real effect of user participation on the decisions in the development process. They continue that users' perceptions on their significant influence or effective communication with the system developers implicate high *user satisfaction*. Thus, organizations should foster an environment where users feel that they are being heard and that they can make a difference [McKeen et al. 1994]. It is better to provide thin participation than no participation opportunities at all in order to get information about users' needs [Markus and Mao 2004].

User participation theories address questions related to successfully involving users in ISD and NPD. The traditional participation theory [McKeen et al. 1994] has merely focused on the early involvement of internal hands-on users in the internal ISD process. However, most stakeholders of WIS come from outside of the organization and cannot be directly involved in ISD or NPD [Markus and Mao 2004; Ramler et al. 2004]. Markus and Mao [2004] and Alam [2002] have presented guidelines on issues that need to be considered when planning user involvement, including how to choose the participants and involve them in the ISD or NPD process.

"In the IS area, user involvement and participation in information technology related processes have been studied predominantly from the requirements analysis and implementation perspectives while the role of users in the initiation of IT innovation has received limited attention." [Nambisan et al. 1999] When users are actively involved in the ISD (and NPD), their role varies from informative in the requirements elicitation (RE) or ideation phase to consultative or participative in the design phase [Kujala 2003]. Users may be regarded as experts in the RE or ideation phase, resources in the design and testing phases or integral participants throughout the ISD lifecycle [Isomäki and Pekkola 2005; Ramler et al. 2004; Magnusson et al. 2003].

Traditional ISD processes and methods regard RE and testing as "one-shot efforts", not ongoing tasks. Notable exceptions are the Scandinavian approach to ISD [Iivari and Lyytinen 1998] and Participatory Design [Bjerknes and Bratteteig 1995; Grudin 1991], where users and developers are equals in cooperation [Dittrich 2006]. Agile ISD methods [Abrahamsson et al. 2003] like Extreme Programming [Beck 1999] are iterative and support evolutionary IS development with continuous user involvement throughout the IS lifecycle [Ambler 2002; Ramler et al. 2004].

User feedback

Organizations seek feedback for customer care, improving current products and product development processes, and acquiring information for NPD [Fundin and Bergman 2003]. In addition to customers and even unknown external users, internal users, i.e. employees, are also a valuable source of feedback. Communication with users can be either *company-controlled* or *customer-controlled* [Floh and Treiblmaier 2006].

Based on the role the user plays in the communication process, contact channels or technologies are classified as *passive* (e.g. cookies and mailing lists), *active* (e.g. chat rooms and Internet surveys) or *interactive* (e.g. email and survey panels) [Romano and Fjermestad 2003]. In addition to *solicited feedback* companies receive *unsolicited, customer-initiated feedback*. In passively solicited and unsolicited feedback the respondents are self-selected and initiate the response or feedback submission themselves. The organization has no control over the sample frame or non-response bias, because all who are willing to participate may do so. Extreme response bias is expected (i.e. extremely satisfied and dissatisfied respondents are inherently motivated enough to initiate the response). Unlike active solicitation, the administration of passively solicited and unsolicited feedback is a continuous, day-to-day task [Sampson 1996; Sampson 1998].

Feedback can also be classified as proactive or reactive. *Proactive feedback* gathering is analogous to solicited feedback. *Reactive feedback* refers to unsolicited complaints that require unplanned and often immediate corrective actions from the organization. Findings about customer dissatisfaction reveal hidden needs of customers and this information should be utilized proactively. [Fundin and Bergman 2003]

Traditionally, unsolicited internal and external feedback has been received in frequent direct personal contacts or indirectly via instruments like a printed feedback form [see methods, tools, and instruments in e.g. Berry and Parasuraman 1997; Bragge et al. 2005; Sampson 1998; Wirtz and Tomlin 2000; Maquire et al. 2007; Romano and Fjermestad 2003]. This feedback has mostly related to errors and faults in the physical service and the offered products, whereas open-ended, unsolicited feedback also includes new ideas and suggestions for improvement. With the emergence of online services, human interaction has diminished and the main feedback channel is the online service itself [Floh and Treiblmaier 2006] enabling interaction with mass users, consumers, and virtual user communities [Hsieh and Chen 2005]. In the e-banking context, the most common customer feedback mechanism is an address/email area on the web site or a form-based reply. Personal contacts, although electronic, and incentives are needed and wished for in the Internet age as well [Floh and Treiblmaier 2006]. Helpdesks provide a proactive and valuable channel for close and frequent interaction with grassroots level users. In addition to complaints, many new ideas are first expressed and explored in helpdesks [Nambisan et al. 1999]. “Listening to the customer” [Berry and Parasuraman 1997] or “the voice of the customer” [Griffin and Hauser 1993] has become a central means for retaining customers and staying competitive.

Feedback management systems (FMS)

The objective of an institutionalized, integrated feedback management system (FMS) is to enable continuous learning, improvement, and process redesign by systematically collecting, analyzing, and disseminating various types of user feedback [Fundin and Bergman 2003]. According to Wirtz and Tomlin [2000], a feedback collection tool portfolio should support multi-level measurement (what and why), actionability (where and how to improve), representativeness and reliability (benchmarking and staff assessing), service recovery potential (which user, organizational unit, or employee affected), first-hand learning, and cost-effectiveness. They suggest tools for centralized and decentralized data entry, service recovery, databases for registering continuous feedback and monitoring open and closed cases, as well as analysis and reporting of feedback. Examples of FMS systems are presented in Table 1. Frameworks for FMS have been suggested, e.g. to analyze CRM on system and process levels [Geib et al. 2005] and to guide future research on CRM and e-CRM [Romano and Fjermestad 2003].

Table 1. Examples of Feedback Management Systems (FMS)

FMS System	Study
Issue handling system integrated into a WIS	[Ramler et al. 2004]
Customer complaint system for product service functions	[Fundin and Bergman 2003]
Customer feedback system of a management consultancy	[Wirtz and Tomlin 2000]
Customer satisfaction program	[Maquire et al. 2007]
CRM architecture for banking industry	[Liu 2007]
Idea capture and handling system for NPD	[Cooper et al. 2002a; Cooper et al. 2002b]

Geib et al. [2005] regard complaint management as an essential part of CRM. They continue that knowledge management (KM) should be employed in CRM processes. The process level incorporates the business processes where customers are involved. Operational, analytical, and collaborative CRM systems process well-structured customer information, whereas KM systems support the collection, sharing, and use of less-structured information such as documents and employees’ implicit knowledge.

In most cases no formal structure exists to transfer customer complaints into the ISD and NPD processes [Fundin and Bergman 2003; Geib et al. 2005]. When offering multiple channels and tools for feedback, organizations expose themselves to huge amounts of unstructured data that is useless without scalable KM methods, processes, IS, and people [Romano and Fjermestad 2003]. Wishes and needs for new solutions and attractive products for both current and future customers should be found in the feedback and further transferred throughout the organization [Fundin and Bergman 2003]. This open-ended, unsolicited feedback may provide an explanation why a user is unsatisfied and what to improve [Wirtz and Tomlin 2000]. Yet, according to Romano and Fjermestad [2003] and Pavlou and Dimoka [2006], the role of textual feedback comments is mostly ignored in the literature. Thus, the problem is how to design and run a completely integrated FMS that ensures continuous learning and improvement in service quality and productivity [Wirtz and Tomlin 2000], while taking into regard unsolicited, open-ended, textual feedback.

III. METHODOLOGY OF THE STUDY

The nature of our research problem, human behavior and interaction, led us to use a qualitative research approach [Seaman 1999; Klein and Myers 1999]. We chose the case study approach [Wynn 2001], and adopted the principles of interpretive case studies [Walsham 1995; Klein and Myers 1999]. Our case, a financial organization’s e-banking

service, is revealing since it is one of the first e-banking services having one of the largest user bases of these systems in the world.

As the main data collection method, we applied semi-structured thematic interviews. We also reviewed written documents and the organization's web site for complementary information on the IS development process, systems, and services of the case organization. One of the researchers works in the company and is able to reflect on the organizational context. We also have a long history of research cooperation with the case organization.

During the data collection, the sample was extended and focused based on emerging needs, according to the principles of *theoretical sampling* [Strauss and Corbin 1990; Glaser and Strauss 1967]. *Memoing*, the process of making notes on ideas, questions, statements, and hypotheses emerging during the analysis, was an essential part of the process [Sarker et al. 2001]. We conducted eight semi-structured thematic interviews with seven interviewees (the business IT – project manager was interviewed twice) between June 2002 and April 2004. A summary of the interviews is presented in Table 2.

Data set	Interview topic	Interviewee	BU/IT	Level
1. Getting the “big picture” Summer 2002 – Fall 2003	Strategic ISD project	Business IT – project manager (BIM)	IT	Tact.
	Investment lifecycle, evolution of ICT processes and tools	IT departmental director	IT	Strat.
	Web-based services development	BIM	IT	Tact.
2. Drilling down to feedback Fall 2003	Techniques and technologies of the e-banking service and CRM	Technical IT-expert	IT	Oper.
	Corporate-wide Contact Center (CC) technologies	IT departmental director	IT	Strat.
3. From IT to business Spring 2004	Corporate-wide Internet and mobile banking	Departmental director	BU	Strat.
	Feedback and initiative management	Specialist-team leader	BU	Oper.
	E-bank system	Product manager	BU	Tact.

We categorized the interviews into three data sets describing the three specific phases of the data collection and analysis process: Getting the “big picture”, Drilling down to feedback, and From IT to business. The interviewees were key company representatives with a long work experience in several organizational units and phases of the strategic IT and business planning processes, ISD or both. We used multiple methods in selecting the interviewees. The researchers and the contact person in the organization selected the next interviewees together amongst the potential specialists brought forth by the interviewees or the contact person. The agendas of the semi-structured interviews are available from the authors on request. All interviews were recorded and transcribed immediately after the interview, and the interviewees also validated the memoranda. Later, the data were complemented by telephone discussions and emails if necessary.

We applied the principles of open and axial coding to analyze our data. In open coding, the data is interpreted and broken down into units of meaning (or categories/sub-categories) that are given codes. In axial coding, sub-categories are connected with categories or themes. [Strauss and Corbin 1990]

The data collection and analysis (i.e. open coding and memoing) were conducted simultaneously. Open coding started immediately after the first interview with transcript writing and analysis of the information received. It ended after the last interview was analyzed. We marked up the original interview transcripts one by one. We defined titles (labels, topics) and rearranged the transcripts according to them. Below each title we arranged the transcript quotations, juxtaposing them with received documents. By memoing we defined the preliminary key concepts or constructs of each interview and described the properties of these concepts. We also conducted a content analysis of the interview documents with a text mining tool (DR-TextMiner 1.3.4., www.datarangers.fi/en) designed for the



analysis of unstructured textual data. The statistics and graphs produced on the frequency and relations of the key words that the interviewees used supported our manual open coding analysis.

The identification of the key categories and their relationships from the data is documented in Appendix 1 (the data set, preliminary key concepts identified in each interview, and preliminary sub-categories, preliminary key category, and final key category related to the preliminary key concepts). The properties of the final categories are depicted in detail in the section Feedback and initiative management in an e-banking context below.

IV. CASE DESCRIPTION

The case organization is a multinational portfolio type of company in the financial services field. The company has experienced many structural changes over the last decade. The number of employees has grown to well over 30,000. The company is a leading financial services group in its operating area with over 10 million customers internationally. Our research was conducted in one operating country that leads the development of group-wide IS and processes. The case country also represents a "test lab", where novelties are first implemented.

The case organization's portal allows access to several cutting edge financial services within banking, asset management, and insurance. It is a combination of many integrated front-end, back-office, and legacy software applications seen by users as a single system providing full e-banking functionality. These systems are in different phases of their lifecycle, and the portal is under continuous major and minor renewal. At the time of the field research the software tool for content provision and the actual content with the layout and structure had just been renewed, and a major effort for renewing the e-bank was ongoing.

The case organization has started systematic management of unsolicited feedback and initiatives in 1990. The contemporary feedback management process was introduced in 1996, whereafter it has continuously evolved to meet changes e.g. in the organization and technology. The process and the supporting IS implementations started as a one-country prototype which has been gradually implemented in other countries.

Feedback and initiatives originate either from business or information technology domain, but they often relate to both simultaneously. Users with various expertise backgrounds may give extremely profound feedback. A major part of the feedback and initiatives concerns the e-bank. Other frequent topics of external feedback are service quality in branch offices and Contact Centers as well as the open web pages. In addition to the e-bank the initiatives concern funding, customer service and marketing, and internal support services. Statistics on unsolicited external feedback and employee initiatives are shown in Table 3.

The total volume of feedback received has been rather stable. Occasional peaks emerge, typically when major changes have been introduced or new features launched. The feedback volume, however, is regarded as rather small compared to the number of customers and users. Most external feedback is received from identified personal users, and it is mainly comprised of complaints and problems. Less than 500 items may be regarded as new development ideas. Employee initiatives present explicit development ideas with a draft for a solution and benefits expected. Approximately 100 employee ideas were rewarded, whereof approximately 40 were granted extra pay.

Table 3. Facts about Unsolicited Feedback and Initiatives		
Year 2002	Feedback	Initiatives
Total	10,000	1,500
Personal user	9,500	-
Corporate user (mostly SMEs)	500	-
Anonymous	< 2,000	-
Mediated (by employee)	800	-
Complaints	7,000	-
Development ideas	< 500	1,300
New submitters	N/A	300

V. FEEDBACK AND INITIATIVE MANAGEMENT IN AN E-BANKING CONTEXT

In the first interview our objective was to understand how a strategic ISD project is organized and managed. From this interview with a BIM, (the manager of a project developing a strategic, corporate-wide web content management

system), we found seven preliminary key topics or concepts. In the second interview with an IT departmental director, our goal was to gain understanding of the corporate-wide investment lifecycle and its management, and how the working procedures and supporting information systems have evolved over time. From this retrospective corporate-wide view we identified six new concepts. In fall 2003, we again interviewed the BIM-project manager. This time our focus was on the development processes of web-based services. From this interview we found five new concepts.

In fall 2003 we wanted to drill down into feedback. The next two interviewees represented the IT organization on the operational and strategic levels. From the interview with an IT-expert in charge of the technologies of the e-banking service and CRM, seven new concepts were identified. In addition, a new phenomenon of internal initiative emerged. The interview with a departmental director responsible for the corporate-wide Contact Center technologies gave us three new concepts. This interviewee also gave us concrete examples of how intertwined the various IS and business functions are.

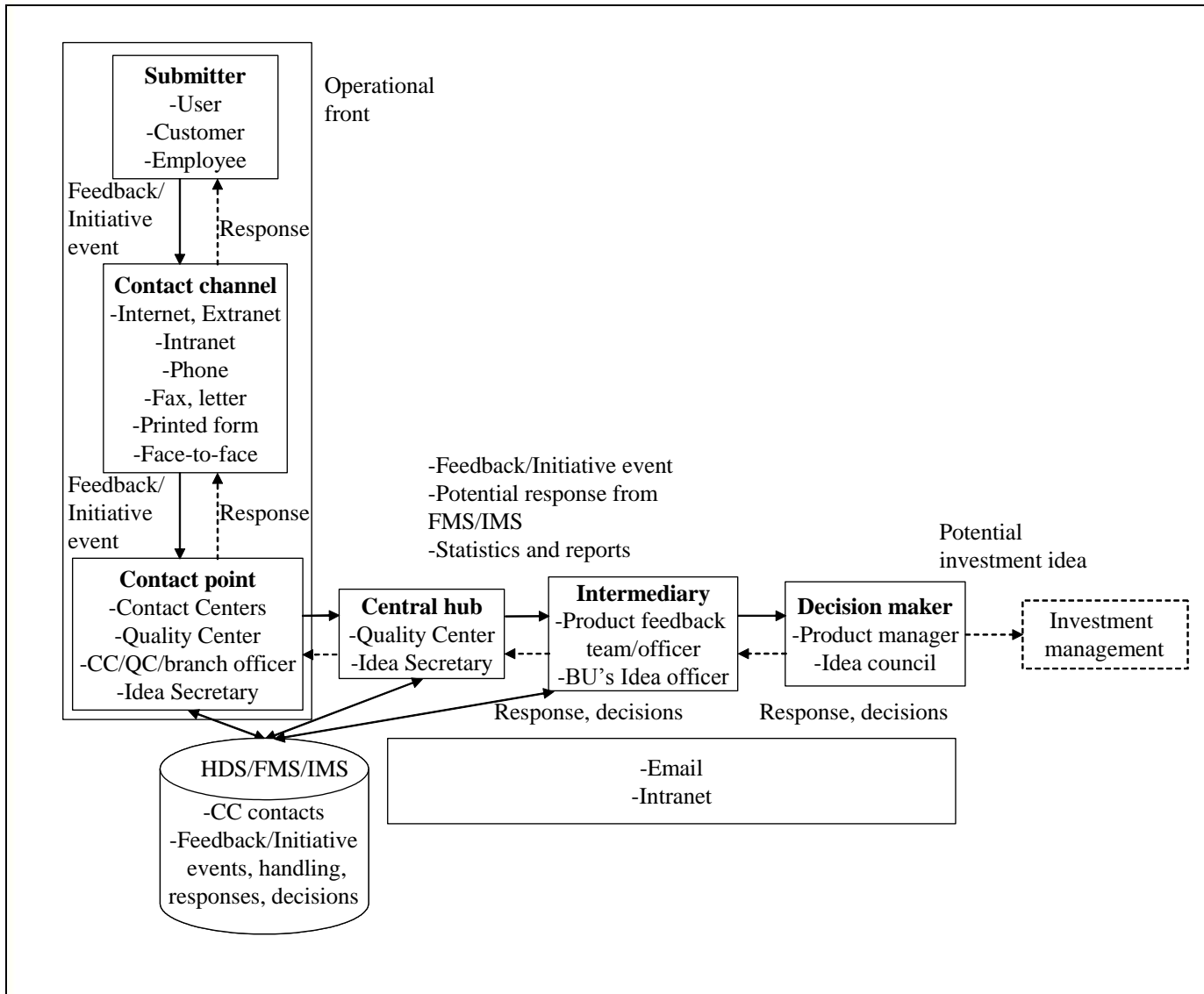


Figure 1. Feedback and Initiative Management Model

At this point, we started the preliminary axial coding in parallel with open coding. We drafted the preliminary categories or themes and early conceptual models started to emerge. The last three interviewees in spring 2004 were selected from all three levels of the business domain. From the interview with a departmental director responsible for corporate-wide Internet and mobile banking we found two new concepts. The next interviewee was a specialist-team leader in charge of the operational level of the external feedback management. No new concepts were found, but the level of detail of the defined concepts increased. From the last interview with a product manager

responsible for the e-bank system no new concepts were identified. Hence, we decided to end the data collection process.

We continued axial coding by identifying concepts, which were exactly the same or which had different wording but the same meaning. We also scanned for constructs related to the same context (e.g. information systems). Some subcategories were collated into the main categories and new main categories were defined (see Appendix 1). The following final key categories with their relations were defined: 1) Information systems, 2) Operational front, 3) Central hub, 4) Intermediary, 5) Decision maker, and 6) Investment management (outside the scope of this study). The resulting Feedback and initiative management model is delineated in Figure 1.

The categories of the model depict the actors and information systems of the feedback and initiative management processes with their relations. The responsibility for feedback and initiative management is centralized into one country-level operational business unit that is also the internal owner of the processes and the related IS. In this unit, Quality Center (QC) is a team of two officers responsible for the processing of unsolicited external feedback from various channels and stakeholders, and one officer, an Idea Secretary (IDS), for employee initiatives. The handling of feedback and initiatives is decentralized into business product units.

Internal information systems

In the case country a centralized CRM system was implemented in 1998 and is used throughout the feedback and initiative management. There are three applications: helpdesk system (HDS), feedback management system (FMS), and initiative management system (IMS). HDS is used at Contact Centers (CCs) and internal IT and Branch Office Helpdesks for contact management.

FMS is used at Contact Centers for feedback registration as well as at Quality Center also for feedback management and control. The most significant benefit gained from FMS is the feedback database consisting of about 50,000-60,000 issues with information on measures taken and decisions made, whereby most of the incoming queries can be resolved at CCs or QC.

IMS is utilized by the Idea Secretary and the Idea Officers in the business product units for initiative management and handling. IMS initiative database contains about 5,000 initiatives with decision information. This idea bank is available in the Intranet for all employees to read, whereby double initiatives can be avoided and registered ideas communicated throughout the organization.

Operational front

The operational front consists of feedback and initiative submitters, contact channels, and contact points, that are summarized in Table 4.

The main part of unsolicited feedback is received from personal customers and other external users, either identified or anonymous. The most important contact channels for external feedback are the electronic feedback form in the Internet and the email function in the Extranet (together about 55 percent in 2002, 80 percent in 2005). Country-specific Contact Centers, one for personal and one for corporate customers, are units of hundreds of employees. They receive about 15 percent while officers in branch offices about 5 percent of the feedback. Feedback in writing is scarce in this day and age.

The contact point officer decides whether a contact is feedback or not. All unsolicited feedback is registered into FMS. Feedback submitted using the electronic feedback form in the Internet is registered automatically. Otherwise, the officer receiving the feedback fills in a feedback form in the Intranet. This mediated feedback delivery makes the analysis easier, but the officer may affect the feedback contents. An automatic notification of new entries in FMS is sent via email to Quality Center.

The most important feedback channel for employees is an initiative form in the Intranet which is automatically saved into IMS. The product unit or Quality Center may also draft an initiative based on customer feedback. An initiative must include descriptions of the problem, solution, and expected benefits. The submitter selects the topic from the predefined list (e.g. a product or general). The Idea Secretary is the contact point for initiatives and receives an automatic email notification of new entries in IMS. A decision request to the responsible Idea Officer (predefined in IMS) and a receipt notification to the submitter are sent automatically via email.

Table 4. Feedback and Initiative Submitters, Contact Channels, and Contact Points

Submitter	Contact channel	Contact point
All users	Internet: open web Feedback form	-Quality Center (QC)
Logged-in users	Extranet: closed interactive email (communication channel)	-Contact Centers (CCs) for personal or corporate customers
All users and customers	Phone: Intranet Feedback form (mediated feedback)	-Contact Centers for personal or corporate customers -Any branch officer or personal service advisor (personal customers) or contact person (companies)
All users and customers	Face-to-face: Intranet Feedback form (mediated feedback)	-Any branch officer or personal service advisor (personal customers) or contact person (companies)
All users and customers	Printed feedback form: Intranet Feedback form (mediated feedback)	-Quality Center
All users and customers	Letter: Intranet Feedback form (mediated feedback)	-Quality Center
All users and customers	Fax: Intranet Feedback form (mediated feedback)	-Quality Center
Employees	Intranet: Feedback form	-Quality Center
Employees	Intranet: Initiative form	-Idea Secretary

Central hub

Quality Center receives all unsolicited feedback, either directly or mediated from other contact points, and the Idea Secretary all initiatives, respectively. Standard forms help guide and standardize the registration.

Feedback and initiative classification

A feedback entry is first classified in Quality Center as positive, negative or neutral. Neutral means a development idea or a wish. QC makes an overall inspection of the feedback and completes it if necessary. The title of the feedback must give an unambiguous and accurate idea of the topic (e.g. a specific product or general) because it is utilized in reporting and statistics. The Idea Secretary checks the initiative's completeness and topic.

Feedback and initiative appraisal

Quality Center and Contact Centers handle about 40 percent of feedback themselves. They first check if a similar item is already registered in the FMS feedback database and if a response is available. If no response can be found, the feedback or initiative is transferred via email from QC to the responsible business unit's product feedback team or Feedback Officer and his/her substitutes. Distinctly technical feedback is transferred directly to the internal IT Helpdesk. Transfer information is registered into FMS for follow-up.

The Idea Secretary checks the novelty of a submitted initiative from IMS. She also transfers it to the responsible business unit's Idea Officer for decision making and informs the submitter of the handling status.

Intermediary

A feedback intermediary is a product feedback team or Feedback Officer and his/her substitutes. One product unit may receive 5-10 feedback entries daily. An email titled "for further action" requires further investigation of its novelty and innovativeness, in addition to a response draft to the submitter. The responsible product unit may further transfer the feedback via Quality Center to a contact person in IT production or some other product unit that should be involved. Finally, all feedback with their responses are delivered via email to the responsible product manager for control purposes under the email subject "for information".

Likewise, a business product unit's Idea Officer receives all initiatives. He/she is responsible for the evaluation of the originality and innovativeness of an initiative. He/she also informs the Idea Secretary of the initiative's handling status. The responsible product manager receives a notification of all initiatives for control purposes.

Decision maker

The business product manager is responsible for the development of his/her product and prioritizing the investment ideas. Product managers gather up development ideas and needs from every possible source. A development idea may originate from anywhere, although the main source of new major innovations is the systematic R&D work. Furthermore, continuous and abundant negative feedback may raise a new development idea.

The product manager decides whether an idea is worth further investigation. If the idea is interesting, the business unit starts the investment planning process. The product unit also makes decisions on the rewarding for the best initiatives, a larger sum for those ideas that will be implemented and smaller for good ones that are not pursued further. The responsible Idea Officer updates the decision and reward information into IMS. The Idea Secretary informs both the submitter and his/her superior on decisions via email and handles the reward payment.

Feedback response

A product officer or a specialist drafts a response to feedback and submits it to Quality Center for finishing and submission. The contents, style, and language of the response are essential in the feedback process. The original contact channel and point are used for responding. Neither business nor IT units have direct contacts with customers. Feedback is always responded to if the contact information is sufficient.

Control and follow-up

Quality Center and the Idea Secretary control the feedback and initiative processes according to predefined quality standards and metrics. They may request a response or decision from a product unit. They are also in charge of drafting and analyzing reports and statistics that are regularly dealt with in management meetings. Country-specific Idea Councils are the highest controlling organs and ensure the adoption of the best ideas in other operating countries.

Motivation and training

Quality Center and the Idea Secretary are responsible for offering general information and training concerning the feedback and initiative management. Feedback is responded to whenever possible, and always quickly. Rewards are granted for the best initiatives and short stories of them are published in internal publications. Feedback and initiative reports and statistics, as well as the idea database are available in the Intranet. Idea Councils, together with other initiative stakeholders, are responsible for the motivation and training regarding initiative activities.

A country-specific Service Ombudsman equivalent to the Idea Council has been recently introduced in each country. His/her task is to take over user feedback and make a suggestion for solving it in case the customer/user is not satisfied with the handling of his/her feedback. Service Ombudsman may also intervene on his/her own initiative in defects and deficiencies that he/she observes in the customer service.

VI. FINDINGS AND DISCUSSION

In this interpretive case study our goal was to better understand the processes and the related IS for managing unsolicited, open-ended, textual user feedback, a research area that has gained too little attention [Pavlou and Dimoka 2006; Romano and Fjermestad 2003]. Marketing literature was used as a reference discipline as proposed by e.g. Nambisan [2003] and Nambisan and Wilemon [2000]. We studied the involvement of internal users, external users, and consumers in the IS evolution in an e-banking context. As far as we know, there are only a few studies [e.g. Ramler et al. 2004] on user involvement in the post-implementation phase. Our research adds to the discussion on feedback management, as well as user involvement in ISD, NPD, and NSD literature. Our results provide actionable guidance for organizing feedback and initiative management to enhance customer influence in e-service development.

The model resulting from the study depicts the key concepts and their relations in feedback and initiative management. The model is solidified by describing the processes, patterns of action and interaction, work and information flows, key actors and their roles, communication channels, and supporting IS and databases. The properties of our model, such as the need for a filtering mechanism, the importance of high quality interaction with the feedback submitters, proactivity in searching for new ideas, centralized information systems and databases, and the variety of feedback channels, could be considered as general principles for feedback and initiative management processes. Previous research is often limited to a specific type of feedback, IS, product, service or stakeholder

utilizing the feedback [e.g. Ramler et al. 2004; Fundin and Bergman 2003; Wirtz and Tomlin 2000; Maquire et al. 2007; Liu 2007; Cooper et al. 2002a; Cooper et al. 2002b; Geib et al. 2005; Romano and Fjermestad 2003]. Our model depicts the implementation of a comprehensive, integrated feedback management system.

Feedback and initiative handling and decision making is a structured filtering process. Unsolicited feedback and initiatives are scanned several times for new ideas both in the front-line and in the back-office. Standard forms unify the registration of the feedback and initiatives and make their scanning easier. Standard feedback is handled in the front-line with the help of the centralized feedback and initiative databases. Other feedback and initiatives are handled on higher levels of the organizational hierarchy, usually in the respective business product unit. The key ideas available in the databases are also transmitted to the decision makers via email. This combination of formal processes and informal alerts ensures the constant flow of feedback handling as well as getting the important issues on to the radar of busy decision makers, who might not have enough time to scan the filtered information in the systems. Our findings support Romano and Fjermestad's [2003] assertion that scalable KM methods, processes, IS, and people for handling huge amounts of unstructured data are the key prerequisites for the utilization of the data. Our model specifically addresses the knowledge management gap in e-CRM, an emerging research area in the field of IS [Romano and Fjermestad 2003]. Automated tools would be highly desirable for the initial screening of the feedback if the amount of feedback is much larger and mainly consists of complaints and error situations as in telecommunications.

The key actors of the feedback and initiative management processes are located at business units that are the internal owners of the processes and the related IS. Country-level organs control and further develop the feedback and initiative activities, and take care of disseminating new ideas at the company level. Business product units have an undivided responsibility for their products and services. Thus, they are in the key role when utilizing the feedback and initiatives. The Internet, Extranet, and Intranet are the prevailing underlying technologies, and email and centralized CRM software are the central supporting tools for feedback and initiative management. Both automated and personal internal email messages are utilized extensively. We identified elements similar to the institutionalized, integrated customer feedback system as described by Wirtz and Tomlin [2000] and the discovery stage of Cooper's Extended Stage-Gate model [Cooper et al. 2002a; Cooper et al. 2002b]. However, in our case there exists not only one, but two basic processes; feedback and initiatives. The processes are congruent with each other but not identical due to the differences in the quality, i.e. the novelty and innovativeness, of external feedback and internal initiatives. External feedback includes mainly reactions to the present systems and services, whereas internal initiatives are more concrete proposals for improvements.

It is crucial to gather the voice of the masses by encouraging and utilizing unsolicited, open-ended feedback and initiatives. Communication with lead users [von Hippel 1986; von Hippel 2005; Franke et al. 2006] is not enough as their ideas do not necessarily meet the expectations of masses. Hence, multiple low cost and free channels for every taste and with very low barriers for participating must be available. Easy access, ease of use, interactivity, and quick reactions, especially to complaints, are essential. Responding to every submitter personally ensures that they feel they can influence the services development. Our model represents a mature customer delighting program [Donovan and Samler 1994] for achieving a customer-driven organization.

Continuous encouragement and motivation of internal and external users by showing that user involvement is appreciated and it does matter is regarded as the key to successful user participation. The feedback and initiative processes and internal centralized databases and IS are the essential means to achieve continuous involvement of heterogeneous users. They also help increase the users' conception of the organization's credibility and service quality. Interactivity and personal feeling are specifically sought for in electronic user contacts as well, which in our case are the primary contact channel. Contacts with submitters are centralized to ensure the high quality of user interaction, and the original contact channel and point is always utilized. The continuous adaptation of the processes is deliberately made visible to the users, e.g. in the customer magazine and web portal.

Our case organization regards customers as partners. The overarching objective of the feedback and initiative management processes is to improve and develop proactively not only IS, but holistically all services and products, to meet the needs and desires of heterogeneous users. The knowledge infrastructure (technology, structure, and culture) and processes for efficient and effective user knowledge management are in place. The feedback and initiative management processes help the organization successfully turn customer data into knowledge and enable user influence. Thus, the processes concretize the principles of managing user knowledge suggested by Hsieh and Chen [2005].

Limitations and future research

The model is developed based on data from one organization in one country, and the organizational and national culture of the case context may affect the results. However, we consider the case a revealing one. The organization

and its e-banking service are leaders in the world considering both the technology and user volume, and the e-banking service is strategic both to the organization and the users. In the future, more research is needed to further conceptualize the feedback and management processes depicted in this interpretive case study. We aim at validating the model in other contexts and organizations, e.g. e-banking, financial services, and web-based IS.

VII. CONCLUSIONS

The feedback and initiative management processes with supporting tools and information systems are the key prerequisite for successful user involvement and user satisfaction. However, only by adopting a customer-oriented culture throughout the organization can user influence and competitive advantage be achieved. To stay competitive, organizations need to take an active and open stance towards unsolicited, open-ended external feedback and internal initiatives. They should appreciate and bring forth their need for all kinds of feedback and initiatives. Both internal and external users should be activated and motivated by all available channels and means. Moreover, organizations have to ensure the utilization and influence of feedback and initiatives in the development of the existing and new services, and internal processes. Feedback and initiative management is an interactive process where both the users and the organization have a great opportunity to learn to better understand each other.

Our research and the resulting feedback and initiative management model portray an example of implementing an integrated feedback management system. We believe that the results of this research will be valuable to both the academic community and practitioners in their quest to develop and employ effective and efficient methods for feedback and initiative management.

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REFERENCES

Editor's Note: The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the paper on the Web, can gain direct access to these linked references. Readers are warned, however, that:

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Abrahamsson, P., J. Warsta, M. T. Siponen, and J. Ronkainen (2003). "New Directions on Agile Methods: A Comparative Analysis," *Proceedings of the 25th International Conference on Software Engineering*, May 03-10, Portland, Oregon, pp. 244-254.

Alam, I. (2002). "An Exploratory Investigation of User Involvement in New Service Development," *Journal of the Academy of Marketing Science* 30(3), pp. 250-261.

Ambler, S. W. (2002). "Lessons in Agility from Internet-Based Development," *IEEE Software* 19(2), pp. 66-73.

Barki, H. and J. Hartwick (1989). "Rethinking the Concept of User Involvement," *MIS Quarterly* 13(1), pp. 53-63.

Beck, K. (1999). *Extreme Programming Explained: Embrace Change*, Reading, MA, Addison-Wesley.

Berry, L. L. and A. Parasuraman (1997). "Listening to the Customer - The Concept of a Service-Quality Information System," *Sloan Management Review* 38(3), pp. 65-76.

Bjerknes, G. and T. Bratteteig (1995). "User Participation and Democracy: A Discussion of Scandinavian Research on System Development," *Scandinavian Journal of Information Systems* 7(1), pp. 73-98.

- Bragge, J., H. Merisalo-Rantanen, and P. Hallikainen (2005). "Gathering Innovative End-User Feedback for Continuous Development of Information Systems: A Repeatable and Transferable E-Collaboration Process," *IEEE Transactions on Professional Communication* 48(1), pp. 55-67.
- Chesbrough, H. W. (2003). "The Era of Open Innovation," *MIT Sloan Management Review* 44(3), pp. 35-41.
- Cook, S., R. Harrison, and P. Wernick (2006). "Information System Evolvability, Feedback and Pattern Languages," *IEEE Proceedings - Software*, 153(4), pp. 137-148.
- Cooper, R. G., S. J. Edgett, and E. J. Kleinschmidt (2002a). "Optimizing the Stage-Gate Process: What Best-Practice Companies Do-I," *Research Technology Management* 45(5), pp. 21-27.
- Cooper, R. G., S. J. Edgett, and E. J. Kleinschmidt (2002b). "Optimizing the Stage-Gate Process: What Best-Practice Companies Do-II," *Research Technology Management* 45(6), pp. 43-49.
- Dittrich, Y. (2006). "Researching the Social Side of Software Engineering," *European Journal for the Informatics Professional*, VII(1), <http://www.upgrade-cepis.org/issues/2006/1/up7-1Dittrich.pdf>. Last accessed on Jan. 15, 2007.
- Donovan, P. and T. Samler (1994). "Delighting Customers. The Ten-Step Approach to Building a Customer-Driven Organization," *Managing Service Quality* 4(6), pp. 38-43.
- Floh, A. and H. Treiblmaier (2006). "What Keeps the E-Banking Customer Loyal? A Multigroup Analysis of the Moderating Role of Consumer Characteristics on E-Loyalty in the Financial Service Industry," *Journal of Electronic Commerce Research* 7(2), pp. 97-110.
- Franke, N., E. von Hippel, and M. Schreier (2006). "Finding Commercially Attractive User Innovations: A Test of Lead-User Theory," *The Journal of Product Innovation Management* 23(4), pp. 301-215.
- Fundin, A. P. and B. L. S. Bergman (2003). "Exploring the Customer Feedback Process," *Measuring Business Excellence* 7(2), pp. 55-65.
- Gatignon, H. and J.-M. Xuereb (1997). "Strategic Orientation in the Firm and New Product Performance," *Journal of Marketing Research* 34(1), pp. 77-90.
- Geib, M., A. Reichold, L. Kolbe, and W. Brenner (2005). "Architecture for Customer Relationship Management Approaches in Financial Services," *Proceedings of the 38th Annual Hawaii International Conference on System Sciences*, 03-06 Jan. 2005, Big Island, Hawaii, USA, IEEE, pp. 10.
- Ginige, A. and S. Murugesan (2001). "Web Engineering: An Introduction," *IEEE MultiMedia* 8(1), pp. 14-18.
- Glaser, B. G. and A. L. Strauss (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*, New York, NY., Aldine Publishing Company.
- Griffin, A. and J. R. Hauser (1993). "The Voice of the Customer," *Marketing Science* 12(1), pp. 1-27.
- Grudin, J. (1991). "Interactive Systems: Bridging the Gaps between Developers and Users," *Computer* 24(4), pp. 59-69.
- Hsieh, L.-F. and S. K. Chen (2005). "Incorporating Voice of the Consumer: Does it Really Work?" *Industrial Management + Data Systems* 105(5/6), pp. 769-785.
- Iivari, J. and K. Lyytinen (1998). "Research on Information Systems Development in Scandinavia-Unity in Plurality," *Scandinavian Journal of Information Systems* 10(1-2), pp. 135-185.
- Isomäki, H. and S. Pekkola (2005). "Nuances of Human-Centredness in Information Systems Development," *Proceedings of the 38th Hawaii International Conference on System Sciences*, Big Island, Hawaii, USA, IEEE, pp. 1-10.

- Klein, H. K. and M. D. Myers (1999). "A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems," *MIS Quarterly* 23(1), pp. 67-93.
- Kujala, S. (2003). "User Involvement: A Review of the Benefits and Challenges," *Behaviour & Information Technology* 22(1), pp. 1-16.
- Liu, H.-Y. (2007). "Development of a Framework for Customer Relationship Management (CRM) in the Banking Industry," *International Journal of Management* 24(1), pp. 15-32.
- Magnusson, P. R., J. Mattling, and P. Kristersson (2003). "Managing User Involvement in Service Innovation," *Journal of Service Research* 6(2), pp. 111-124.
- Maquire, S., S. C. L. Koh, and C. Huang (2007). "Identifying the Range of Customer Listening Tools: A Logical Precursor to CRM?" *Industrial Management & Data Systems* 107(4), pp. 567-586.
- Markus, M. L., and J. Mao (2004). "Participation in Development and Implementation - Updating an Old, Tired Concept for Today's IS Contexts," *Journal of the Association for Information Systems* 5(11-12), pp. 514-544.
- McKeen, J. D., T. Guimaraes, and J. C. Wetherbe (1994). "The Relationship between User Participation and User Satisfaction: An Investigation of Four Contingency Factors," *MIS Quarterly* 18(4), pp. 427-451.
- Nambisan, S. (2003). "Information Systems as a Reference Discipline for New Product Development," *MIS Quarterly* 27(1), pp. 1-18.
- Nambisan, S., R. Agarwal, and M. Tanniry (1999). "Organizational Mechanisms for Enhancing User Innovation in Information Technology," *MIS Quarterly* 23(3), pp. 365-395.
- Nambisan, S. and D. Wilemon (2000). "Software Development and New Product Development: Potentials for Cross-Domain Knowledge Sharing," *IEEE Transactions on Engineering Management* 47(2), pp. 211-220.
- Pavlou, P. A. and A. Dimoka (2006). "The Nature and Role of Feedback Text Comments in Online Marketplaces: Implications for Trust Building, Price Premiums, and Seller Differentiation," *Information Systems Research* 17(4), pp. 392-414.
- Ramler, R., K. Wolfmaier, and E. Weippl (2004). "From Maintenance to Evolutionary Development of Web Applications: A Pragmatic Approach," *Proceedings of the International Conference on Web Engineering*, Munich, Germany, Springer-Verlag, pp. 287-299.
- Romano, N. C. and J. Fjermestad (2003). "Electronic Commerce Customer Relationship Management: A Research Agenda," *Information Technology and Management* 4(2-3), pp. 233-258.
- Sampson, S. E. (1996). "Ramifications of Monitoring Service Quality Through Passively Solicited Customer Feedback," *Decision Sciences* 27(4), pp. 601-622.
- Sampson, S. E. (1998). "Gathering Customer Feedback via the Internet: Instruments and Prospects," *Industrial Management & Data Systems* 98(2), pp. 71-82.
- Sarker, S., F. Lau, and S. Sahay (2001). "Using an Adapted Grounded Theory Approach for Inductive Theory Building About Virtual Team Development," *The DATA BASE for Advances in Information Systems* 32(1), pp. 38-56.
- Seaman, C. B. (1999). "Qualitative Methods in Empirical Studies of Software Engineering," *IEEE Transactions on Software Engineering* 25(4), pp. 557-572.
- Strauss, A., and J. Corbin (1990). *Basics of Qualitative Research: Grounded Theory, Procedures, and Techniques*, Newbury Park, CA., Sage Publications.

- von Hippel, E. (1986). "Lead Users: An Important Source of Novel Product Concepts," *Management Science* 32(7), pp. 791-805.
- von Hippel, E. (2005). *Democratizing Innovation*, Cambridge, Massachusetts, The MIT Press.
- Walsham, G. (1995). "Interpretive Case Studies in IS Research: Nature and Method," *European Journal of Information Systems* 4(2), pp. 74-81.
- Wirtz, J. and M. Tomlin (2000). "Institutionalizing Customer-Driven Learning through Fully Integrated Customer Feedback Systems," *Managing Service Quality* 10(4), pp. 205-215.
- Wynn, E. (2001). "Qualitative Research in IS: Issues and Trends," E. M. Trauth (ed.), Hershey, PA, Idea Group Publishing, pp. 306.
- Zhu, Z. and C. Nakata (2007). "Reexamining the Link between Customer Orientation and Business Performance: The Role of Information Systems," *Journal of Marketing Theory and Practice* 15(3), pp. 187-203.



APPENDIX 1: RESULTS OF OPEN AND AXIAL CODING: CONCEPTS AND CATEGORIES

Table 5. Results of Open and Axial Coding: Concepts and Categories

Data set	Preliminary key concepts (bold=new)	Preliminary sub-categories (key concepts from the interviews; including the originating interview number)	Preliminary key category	Final key category
<p>1: Getting the "big picture" June 2002</p> <p>Interview 1</p>	<p>Strategic planning process</p> <p>Decision-making and control</p> <p>Communication and information</p> <p>Training and education</p> <p>Work methods and project phasing</p> <p>Reuse</p> <p>Defining and following up of benefits</p>	<p>3 and 5. Feedback</p> <p>3. Initiative</p> <p>6. External feedback</p> <p>6. Internal initiatives</p> <p>7. Feedback types or genres and topics</p> <p>7. Direct and mediated feedback</p> <p>7. Amount of feedback and initiatives</p>	Facts about feedback	<p>The phenomena under study (feedback and initiative) or</p> <p>Not a category (background information only)</p>
Interview 2	<p>Strategic planning process</p> <p>Feedback processes in the investment planning phase</p> <p>Feedback processes in the IS development phase</p> <p>Feedback processes in the IS production phase</p> <p>Tools and supporting information systems</p> <p>ISD and investment evaluation processes</p> <p>Changes in and evolution of processes, tools, and supporting information systems</p>	<p>7. Feedback submitters</p> <p>6. Feedback channels</p> <p>5 and 7. Feedback channels and contact points</p>	Feedback and initiative submitters, contact channels, and contact points	Operational front
<p>Fall 2003</p> <p>Interview 3</p>	<p>Strategic impact of web pages</p> <p>Influence of planning and implementation of web pages</p> <p>Measuring the use and success of web pages</p> <p>Measuring the impact of web pages</p> <p>Differences between the countries</p>	<p>3. and 7. Feedback and initiative management processes</p> <p>7. Feedback process</p> <p>7. Initiative process</p> <p>7. Owners of the processes</p> <p>7. Participants of the processes</p> <p>3. Functions and work tasks</p> <p>5. and 6. Feedback registration</p> <p>7. Feedback registration and registrars</p> <p>7. Feedback classification</p> <p>5., 6., and 8. Feedback handling</p> <p>8. Initiative handling</p> <p>7. Feedback handling and handlers</p> <p>7. Feedback receiver</p> <p>7. Feedback response</p> <p>7. Monitoring</p> <p>8. Monitoring and control of feedback and initiatives</p> <p>5., 6., and 7. Feedback statistics and reports</p> <p>1. Decision-making and control</p> <p>8. Decision making on</p>	Feedback and initiative management processes	<p>Centralized feedback and initiative management</p> <p>Intermediary</p> <p>Decision maker</p>



Table 5. Results of Open and Axial Coding: Concepts and Categories

Data set	Preliminary key concepts (bold=new)	Preliminary sub-categories (key concepts from the interviews; including the originating interview number)	Preliminary key category	Final key category
		development ideas 8. Decision making on initiatives 5., 6., and 7. Impact of feedback 8. Impact of feedback and initiatives 7. Motivating 1. and 7. Communication and information 1. Training and education 3. Change management 5. Problems and differences in internal and external feedback 6. 7., and 8. Challenges, problems and differences in internal initiatives and external feedback 5. and 6. Systematic gathering of feedback 7. Systematic customer feedback gathering 7. Systematic employee feedback gathering		
2: Drilling down to feedback Fall 2003 Interview 4	E-banking and CRM information systems Feedback Initiatives Functions and work tasks Feedback and initiative processes Change management Future	7. Information systems 3. Techniques and technologies of the e-banking service and customer relationship management (CRM) 3. E-banking and CRM information systems 5. Corporate-wide Contact Center (CC) technologies 6. Corporate-wide Internet and mobile banking 8. E-bank system 1. Reuse 6. Testing of new services 7. Owners of the information systems 7. Benefits of the information systems 4. Influence of web-based services on the corporate image 4. Strategic impact of web pages on the corporate image 4. Influence of planning and implementation of web pages on the corporate image 4. Measuring the use and success of web pages 4. Measuring the impact of web pages on corporate image	Information systems	Information systems

Table 5. Results of Open and Axial Coding: Concepts and Categories

Data set	Preliminary key concepts (bold=new)	Preliminary sub-categories (key concepts from the interviews; including the originating interview number)	Preliminary key category	Final key category
		4. Differences between the countries (products, services, processes, IT, regulation, localization)		
Interview 5	Feedback Feedback channels and contact points Feedback registration Feedback handling Feedback statistics and reports Impact of feedback Systematic gathering of feedback Challenges, problems, and differences in internal and external feedback Future	6. and 7. Investments 2. Investment lifecycle 6. Research and development 1. and 2. Strategic planning process 2 Feedback processes in the investment planning phase 2. Feedback processes in the ISD phase 1. Strategic ISD project 1. Work methods and project phasing 2. Feedback processes in the IS production phase 2. Tools and supporting information systems 2. ISD and investment evaluation processes 2. Changes in and evolution of processes, tools, and supporting information systems 2. Evolution of processes and tools (IS) 1. Defining and following up of benefits from IS	Investments	Investment lifecycle (outside the scope of this study)
3: From IT to business Spring 2004 Interview 6	External feedback Internal initiatives Investments Research and development Feedback channels Feedback registration Feedback handling Feedback statistics and reports Impact of feedback Systematic gathering of feedback Testing of new services Challenges, problems and differences in internal and external feedback Future	3., 5., 6., 7., and 8. Future	Future	Not a category (background information only)
Interview 7	Feedback classification, types or genres, topics Amount of feedback and initiatives Feedback submitters Feedback channels and contact points Direct and mediated feedback Feedback receiver			



Table 5. Results of Open and Axial Coding: Concepts and Categories

Data set	Preliminary key concepts (bold=new)	Preliminary sub-categories (key concepts from the interviews; including the originating interview number)	Preliminary key category	Final key category
	Feedback registration and registrars Feedback handling and handlers Information systems Benefits of the information systems Owners of the processes and information systems Feedback process Initiative process Participants of the processes Feedback response Investments Feedback statistics and reports Monitoring Motivating Communication and information Impact of feedback Systematic customer feedback gathering Systematic employee feedback gathering Challenges, problems, and differences in internal and external feedback Future			
Interview 8	Feedback handling Decision making on development ideas Initiative handling Decision making on initiatives Monitoring and control of feedback and initiatives Impact of feedback and initiatives Challenges, problems, and differences in internal and external feedback Future			

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