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Increasing Customer Satisfaction – How to Manage Expectations in the Process of Developing Information Systems

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ABSTRACT

Considering success of information system development (ISD) projects a matter of perspective, stakeholder satisfaction is often seen as an important success criterion. When evaluating satisfaction, expectations are essential – in case of ISD projects expectations concerning both process and product. While previous research focuses on the management of expectations concerning the product, lack of research exists concerning the process of ISD projects. To close this gap, we explore the approaches that can be applied to manage expectations and guide customer satisfaction with the process in ISD projects. By means of qualitative expert interviews, we focus on both types of situations – those in which the experts were successful and less successful in managing customer expectations concerning the ISD process. Our results from twelve interviews yield both concrete customer expectations (e.g., being involved by the contractor) and approaches to manage those expectations (e.g., creating transparency). Researchers can use our results to further investigate concrete expectations and expectations management approaches. Practitioners are provided with means to manage customer expectations, thus increasing customer satisfaction and the likelihood of project success.

Keywords

Information systems, project success, customer satisfaction, expectation management, project management.

INTRODUCTION

About one third of all information system development (ISD) projects are considered unsuccessful since they do not keep their plans regarding budget, schedule, and scope or need to be canceled (El Emam and Koru, 2008). Planning-related criteria are traditionally applied to assess project success. However, projects are sometimes deemed unsuccessful despite keeping their plans and successful even though not meeting plans (Baker, Murphy and Fisher, 1988; Nelson, 2005). Nelson (2005) denotes such projects as *failed successes* and *successful failures*. Instead of confining oneself to planning-related criteria and claiming projects unsuccessful once they slightly deviate from plans, additional criteria must be considered when assessing project success (Nelson, 2005). In particular, importance must be attached to subjective criteria since success is a matter of perspective (Myers, 1995).

Information system (IS) literature suggests taking *satisfaction* into account when judging success of ISD projects. The underlying assumption is that satisfied stakeholders tend to view a project as successful and unsatisfied stakeholders as unsuccessful (Nevo and Wade, 2007). Predominantly, previous studies focus on user satisfaction with the project outcome. DeLone and McLean (1992) identify user satisfaction with an IS as central for ISD project success. Since user satisfaction significantly depends on user expectations (Zeithaml, Berry and Parasuraman, 1993), realistic user expectations have been identified as a success factor for ISD projects (Ginzberg, 1981). Unrealistic expectations are accordingly considered a major risk for ISD projects (Baccarini, Salm and Love, 2004). Petter (2008) shows that user expectations regarding a project's outcome can be formed by managing expectations to improve the satisfaction with the outcome and therefore the likeliness of project success. This finding is in line with research claiming the management of stakeholder expectations within ISD projects to be an essential task in general (Baccarini, 1999; Bourque and Fairley, 2014).

However, little research exists on strategies to meet stakeholder expectations in ISD projects (Petter, 2008). An important differentiation in this regard concerns the concept of ISD project success, which is typically divided into

process success and product success (Baccarini, 1999; Basten, Joosten and Mellis, 2012; Liu, Chen, Chen and Sheu, 2011; Saarinen, 1996; Saarinen and Sääksjärvi, 1992). While the former refers to success of the development process, emphasizing project management pillars like budget and schedule, the latter is concerned with success of the project outcome, that is, the developed IS. Considering this distinction, expectations towards an ISD project may differ among different stakeholder groups (Baccarini, 1999; Baker, Murphy and Fisher, 2008; Basten, Joosten and Mellis, 2011; Freeman and Beale, 1992; Nelson, 2005; Nevo and Wade, 2007; Saarinen, 1996). While end-users of an IS might be primarily concerned with characteristics of the IS and their performance using it, customer managers commissioning the project might be more interested in the development process and agreed process indices like schedule, budget, and requirements. Our research focuses on a specific stakeholder group – *customer managers* in charge of an ISD project – and their satisfaction with the development *process* of the project. To increase this satisfaction and thus overall project success, managers of the contractor organization need strategies to manage the expectations of their counterparts in the customer organization. Accordingly, we pose the following research question:

How can customer satisfaction be increased by managing customer expectations towards the ISD process?

Due to the novel character of our research, exploratory interviews are chosen as research method. As this work advances into a scarcely considered field of study, we do not aim to cover all aspects regarding the possibilities of expectation management related to the ISD process. Our findings can be seen as basis for further research and indication of areas where it is needed.

In the next section, we review the current state of research regarding satisfaction, expectations, and expectation management. We then describe our research approach, that is, the design of qualitative expert interviews and their analysis. Subsequently, we present our results, followed by a discussion including implications for researchers and practitioners as well as our study's limitations. The article ends with a short conclusion.

RELATED WORK

Satisfaction in ISD Projects

Satisfied stakeholders evaluate a project as successful (Nevo and Wade, 2007; Wit, 1988). Stakeholder satisfaction does not only depend on the fulfillment of project plans (e.g., projects meeting their plans can be considered unsuccessful if stakeholders are dissatisfied with the project process or outcome). In turn, projects with a satisfying process or outcome can be seen as successes even though not fulfilling their plans (Nelson, 2005). Satisfaction with ISD projects is the sum of all stakeholders' satisfactions (Nevo and Wade, 2007) since IS users cannot be satisfied in the same way as project managers or developers (Nelson, 2005).

DeLone and McLean (1992, 2003) show that user satisfaction is a key criterion to measure success in most theoretical and empirical studies. They focus on the project outcome and related satisfaction of its users. The process and other stakeholders' views are not taken into account. Considering the ongoing quest for a comprehensive list of success criteria, subjective ones (e.g., stakeholder satisfaction) are continuously gaining relevance (Nelson, 2005).

Ferreira and Cohen (2008) view stakeholder satisfaction with an ISD project as the sum of satisfaction with the outcome and the process. They show that satisfaction with the process leads to satisfaction with the outcome and conclude that early dissatisfaction with the process can contribute to dissatisfaction with the outcome later. Dissatisfaction with ISD projects usually does not result from technical deficiencies; rather, it is caused by too little attention given to psychological and organizational issues during development, roll-out, and usage (Markus and Keil, 1994). The assumption of more powerful IS leading to increased user satisfaction has been weakened by previous studies (Goodhue, 1995). Additional factors influencing the satisfaction with ISD include agile methods (Ferreira and Cohen, 2008), user involvement (McKeen, Guimaraes and Wetherbe, 1994), and cost effectiveness (Boyd, 2001).

Early studies in applied and social psychology show satisfaction to depend on expectations (Campbell, Converse and Rodgers, 1976; Locke, 1969; Locker and Dunt, 1978; Shrauger, 1975). Besides technical aspects, expectations play a major role when evaluating satisfaction of ISD projects (Conrath and Mignen, 1990). The importance of expectations increases with the difficulty and ambiguousness of satisfaction assessments (Anderson and Sullivan, 1993). In particular, expectations play an important role when considering ISD as a service for which detailed

information is required, whose outcome can have extensive consequences, and whose goal is to build long-term customer relationships (Ojasalo, 2001).

Expectations

Expectations are essential when evaluating satisfaction (Zeithaml et al., 1993) and are standards to evaluate experiences. Different stakeholders have different expectations regarding ISD projects, which can overlap, influence, or even contradict each other (Nevo and Wade, 2007). As Parasuraman, Zeithaml and Berry (1988) note, different research streams define expectations in diverging ways. The following two theories regarding expectations and their impact on satisfaction will be considered in this study.

Expectation-Confirmation Theory

Following Expectation-Confirmation Theory (ECT) (Oliver, 1980; Santos and Boote, 2003), relations between expectations and satisfaction have been shown for different domains, including IS (Bhattacherjee, 2001). Expectations are individuals' predictions prior to usage of a product (Oliver, 1980) and a point of reference when evaluating a product. Expectations' confirmation through experience results in satisfaction. If experience diverges from the expected, it leads to disconfirmation. If experiences exceed expectations, it results in positive disconfirmation, which in turn leads to satisfaction. Negative disconfirmation (unfulfilled expectations) leads to dissatisfaction. Even though disconfirmation has mainly been addressed in the context of consumer expectations regarding products, ECT is not limited to physical products and can be transferred to ISD as a service (Bhattacherjee, 2001; Olson and Dover, 1979).

Service Quality

The quality of a service is not easy to evaluate by objective criteria due to intangible nature, dependence on customer and supplier, and close link of service provision and usage (Parasuraman, Zeithaml and Berry, 1985). Therefore, people heavily rely on expectations when evaluating a service. Parasuraman et al. (1985) define service quality as the discrepancy between expectations regarding a service and the experienced quality. Expectations in service quality describe wishes how a service should be (Parasuraman et al., 1988; Santos and Boote, 2003). Service quality is evaluated by measuring the discrepancy between expected and experienced service (Parasuraman et al., 1988). In IS research, service quality has been mainly considered as user support from service providers as well as the quality of information or functions of an IS (Pitt, Watson and Kavan, 1995).

Both theories underline the relevance of expectations for satisfaction. ECT's concept of (dis-)confirmation can help to understand the effects of expectations. Service quality highlights specific expectations, which can be tested with regard to the ISD process. The definition of expectations as predictions is problematic since, according to ECT, users must be satisfied if a system does fulfill their negative expectations about its outcome (Santos and Boote, 2003). In the following, expectations are thus viewed as wishes in reference to service quality.

Expectations regarding the ISD Process

Miller (2000) suggests that expectations in the ISD context are mainly focused on interpersonal relationships and less on technical perfection or performance of the IS. He describes technical know-how, problem-solving or consulting skills, and professionalism as potential expectations. Potter (2003) stresses the adherence to plans regarding time and budget. Boyd (2001) mentions feedback, customer involvement, and conflict solution as additional expectations regarding the ISD process.

Expectation Management

Expectation management is the process of confronting and forming expectations in order to generate advantages for principals and agents (Miller, 2000). For this purpose, expectations have to be continuously monitored, understood, and formed (Schmidt, Lyytinen, Keil and Cule, 2001). Expectation management aligns the views of different stakeholders, helping to minimize unrealistic expectations and increase the overall project success (Bakker, Boonstra and Wortmann, 2012). However, the immaterial and complex nature of ISD projects makes expectation management a complicated endeavor (Baccarini et al., 2004). Various factors influencing customer expectations can be found in literature (cf. Table 1). Even though these causes have not been identified while focusing on customer expectations regarding the ISD process, they can be seen as hints for sources of unrealistic expectations in our expert interviews.

Factor	References
Experiences of the customer from prior projects	Lyytinen (1988), Zeithaml et al. (1993)
Mutual understanding (between customer and contractor of the abilities, difficulties, and issues of the other party)	Boehm (2000)
Word-of-mouth recommendations from personal contacts or experts (e.g., consumer reports or consultants)	Zeithaml et al. (1993)
Personal requirements and needs essential to the physical, psychological, and social well-being of the customer	Zeithaml et al. (1993)
Excessive enthusiasm by contractor's developers and managers	Boehm (2000)
Promises made by the contractor to the customer (e.g., advertising, personal selling)	Boehm (2000), Jørgensen and Sjøberg (2004), Pitt and Jeantrout (1994), Zeithaml et al. (1993)

Table 1. Factors Influencing Customer Expectations

Furthermore, Table 2 lists approaches found in literature to manage stakeholder expectations in general. We continue research by exploring the approaches applied in the context of ISD projects to manage expectations of customer *managers* pertaining to the development *process*, which has not been in the focus of research yet.

Approaches to Expectation Management	Description	References
Objective references and models	Using benchmarks and well-calibrated models for cost or schedule estimation to frame customer expectations	Boehm and Ross (1989), Sheth and Mittal (1996)
Trust and understanding	Building a trustful relationship by being honest – sharing good as well as bad news openly throughout the project – as well as by providing specific times for deliverables	Petter (2008)
User involvement	Working interactively with users. Includes letting users make decisions, listening to users and asking questions, and keeping users updated throughout the project	Petter (2008)
Empathy	Clarity regarding the goals and constraints of the other party	Boehm (2000), Boehm and Ross (1989)
Planning	Establishing a realistic plan considering objectives, milestones, responsibilities, approaches, and resources	Boehm (2000), Sheth and Mittal (1996)
Communication	Regular and clear exchange of information between stakeholders	Boehm (2000), Boehm and Ross (1989), Moynihan (2002), Petter (2008), Sheth and Mittal (1996)
Customer selection, training, and orientation	Targeting desirable groups of potential customers and educating customers on what they can realistically expect	Sheth and Mittal (1996)
Realistic promises by sales department	Prior to project initiation, keeping promises realistic rather than overly optimistic	Peters (1988)
Leadership	Strong project manager/champion, social norms and enforcement mechanisms. Articulating a clear project vision and motivating the project team	Petter (2008), Sheth and Mittal (1996)
Referencing experiences and alternatives	Often used to lower expectations, experiences from former projects can be referenced and alternatives suggested	Boehm and Ross (1989), Kopalle and Lehmann (2001)

Table 2. Approaches for Managing Expectations

RESEARCH APPROACH

To identify approaches for managing customer expectations concerning the ISD process, we rely on a qualitative approach. For data collection, we use semi-structured interviews, which are prominent in IS research (Myers and Newman, 2007) and an effective means to uncover unobserved links (Rubin and Rubin, 2005). For data analysis, we aggregate the findings across the interviewees and focus on extracting approaches to manage customer expectations concerning the ISD process.

Data Collection

For the acquisition of participants, we randomly contacted software-developing companies listed in the Hoppenstedt company database (www.hoppenstedt-hochschuldatenbank.de). Since we were interested in approaches to manage customer expectations, our respondents were project managers of the contractor organizations. We selected informants with extensive experience in managing ISD projects. The interviews were conducted via telephone during three months in the first half of 2013. In total, we interviewed twelve managers from twelve different software-developing companies. Table 3 lists the informants (pseudonyms used to ensure confidentiality) along with their experience in project management, company size, and highest qualification.

Pseudonym	Experience as project manager (# years)	Experience (# projects)	# Employees in company	Qualification
Mark	17	65	30	Diploma
Paul	39	39	12	Diploma
Thomas	15	6	20	PhD
Robert	8	30	30	Diploma
Kathy	23	20	350	Diploma
James	10	8	240	Diploma
Emily	15	30	40	Practical Education
David	7	120	25	Practical Education
Patrick	17	350	46	Practical Education
John	9	20	150	Practical Education
Michael	13	30	30	PhD
Ben	12	70	70	Diploma
	⌀ 15	⌀ 66	⌀ 87	

Table 3. Interviewee and Company Characteristics

Our interviews were organized in three parts: background of the respondent, customer satisfaction concerning the ISD process, and customer expectations and their management to influence customer satisfaction (cf. Appendix A). We asked each participant to recall two types of situations – those in which they were more and less successful in managing customer expectations concerning the ISD process (Petter, 2008). Subsequently, we asked the respondents to think of further insights into managing customer expectations of the ISD process. The interviews lasted between 45 and 70 minutes. They were audio-recorded and subsequently transcribed by one author for data analysis. For the design of the interviews, we followed the guidelines by Myers and Newman (2007) as explained in Table 4.

Guideline	Description of our Interview Design
1. Situating the researcher	The interviewees did not know the authors in person, that is, we used cold calls to randomly selected companies. The interviewees' openness towards the interviewer may thus depend on the interviewees' trust towards the authors' institution and the confidentiality of disclosure (cf. guideline 7 below). We explained that the study is part of a PhD project at our university and that the interviewer has an IS background (MSc Information Systems).
2. Minimizing social dissonance	To minimize social dissonance, we aimed to ensure the interviewees feel comfortable at any time. While the first contact was a cold call to the companies, we subsequently sent an email outlining the research project and the role of interviews in it. The interviewer himself contacted the potential respondents to ensure that any questions on behalf of the respondents could be directly solved. By emphasizing that the interviewees are the experts and that no right or wrong answers existed in this context, we carefully sensitized the participants for our study. Moreover, we assured confidentiality (cf. guideline 7 below) and gave the participants full control over the audio-recording (i.e., the participants could decide to turn off the recording at any time).
3. Representing variety of voices	All respondents are or have been working in the position of an IS project manager. Since we did not aim to assess the management of expectations within an intra-organizational context, we interviewed managers from a variety of organizations to enable subject triangulation. By randomly contacting companies and respondents, we are confident to have avoided biases related to the selection of interviewees.

4. Everyone is an interpreter	In order to reduce subjectivity, two authors independently analyzed the interviews and conjointly aggregated the results in a subsequent step. Diverging assessments were discussed until agreement was reached. For readers of this paper, we provide several direct quotes from the interviews to enable a better understanding of the respondents' views.
5. Using mirroring	Beginning with general questions, we stepwise asked more specific questions about the interviewees' experiences. By assuring that no right or wrong answers existed in the context of the study, we encouraged the interviewees to be as open as possible. We mostly used open questions in our interviews (cf. Appendix A) to avoid imposing our wording on the interviewees'. By asking for concrete project situations, we aimed to focus on vivid stories that were revisited in follow-up questions.
6. Flexibility	While following the interview guide in general, the interviewer paid special attention to the responses given by the interviewees. In any occurrence of potentially relevant answers, the interviewer followed the emerging line of inquiry and adapted the structure of the interview accordingly.
7. Confidentiality of disclosures	We guaranteed participants confidentiality and access to the aggregated results. In the beginning of the interviews, we explained the procedures taken to ensure confidentiality and adequate handling of the interviews. The interview transcripts were anonymized, that is, names related to individuals or companies were replaced by pseudonyms. Subsequently, the links between the transcripts and the interviewees were removed and the audio files deleted.

Table 4. Consideration of the Guidelines for Qualitative Interviews by Myers and Newman (2007)

Data Analysis

The data analysis was performed in three steps. These steps and the respective outcomes are illustrated in Figure 1. First, the twelve recorded interviews were transcribed, resulting in twelve transcripts in the wording of our respondents. Second, we coded the individual transcripts by assigning text passages to thematic labels. These labels were either derived from our interview questions (e.g., relating to the relevance of the customer satisfaction with the development process) or, in case of open questions, derived from the answers of our respondents (e.g., relating to specific expectation management approaches like transparency). We read the transcripts several times to establish a comprehensive understanding of the experts' elaborations. Information was captured about customer satisfaction with the ISD process, the expectations concerning the ISD process, the situations in which such expectations needed to be managed, the approaches that the project managers decided to use, and the outcome of taking the approaches, that is, whether influencing expectations has been successful. Finally, the thematically structured individual transcripts were integrated into one table with interviews as rows, thematic categories as columns, and respective text passages in the cells. Categories were derived by consolidating the thematic labels of the individual transcripts. In the process of this integrated coding (cf. Figure 1), redundancies were eliminated and wordings of different respondents consolidated.

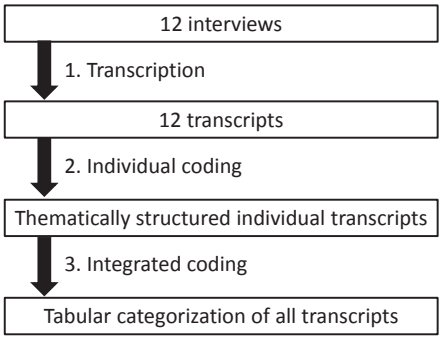

Figure 1. Data Analysis

RESULTS

The results are organized in three subsections. First, we describe the impact of customer satisfaction with the development process on overall project success, substantiating the relevance of this kind of satisfaction. Second, we present the customer expectations towards the development process. We place emphasis on the third subsection –

the actual approaches to manage customer expectations, which can be applied to increase customer satisfaction and ultimately project success. Concluding, Figure 2 visualizes the results.

Customer Satisfaction

All respondents indicate a high relevance of customer satisfaction with the development process. This is justified with the resulting higher motivation of customers to cooperate during the project. With higher process satisfaction, communication in the project increases and a cooperative climate is created in which customer and contractor collaborate to realize ideas. However, the relevance of this kind of satisfaction can be lower if the customer does not want a high degree of involvement in the project but expects the contractor to implement and deliver the requested system autonomously.

Furthermore, all respondents see a connection between process and product satisfaction of the customer for two reasons. First, a satisfying process is said to lead to a product that meets customer expectations since close collaboration in such process reduces the risk of failing to fulfill customer needs. Second, a customer satisfied with the process enters a coalition with the contractor on a psychological level and is more willing to overlook product shortcomings. Regarding the impact of process and product satisfaction on the overall project success, the statements of our respondents differ. While some experts attach higher importance to product satisfaction, others consider process and product satisfaction to be equally important. However, there is general agreement that process satisfaction has an impact on product satisfaction and both kinds of satisfaction influence the overall project success.

Customer Expectations towards Development Process

All but one respondents state that customer expectations towards the development process have a high impact on customer satisfaction with this process. One expert reports on customers not having expectations at all. Others, however, doubt that no expectations are a meaningful scenario as a customer without expectations has no interest in the project. Moreover, expectations are often hidden rather than explicitly formulated.

Customer expectations can take different forms, which affects the impact of these expectations on customer satisfaction. First, expectations can be realistic, that is, they reflect what is actually feasible. All respondents consider realistic expectations to be ideal to satisfy customers. Second, expectations can be too high. Such expectations are considered a risk for satisfying the customer since meeting too high expectations is usually difficult or impossible. Customers with too high expectations need special care from the beginning since it is particularly difficult to satisfy a customer who became unsatisfied early in the project. Finally, too low expectations can occur. According to our respondents, such expectations play a minor role since they are rather rare and can be easily met. Concrete expectations that emerged from our interviews are listed in Table 5.

Expectation	**Description**	**# Respon-dents**
Customer involvement	Customers expect to be involved in project management activities, especially when critical and unanticipated situations arise. Interestingly, five respondents also pointed out that sometimes the opposite of an extensive customer involvement is expected. Customers who do not wish to be involved in the process but want the contractor to implement and deliver the requested system autonomously rather expect a minimum of involvement.	12
Responsiveness of the contractor	Contractor's readiness to reply to questions from the customer as well as the contractor's willingness to accept change requests.	12
Transparency	Implies how well the customer feels informed about the development process. The customer wants to see intermediate results and to be informed about the project progress, reaching milestones, and arising problems or critical events.	11
Reliability	Contractor's adherence to agreed plans.	10
Empathy	Contractor's ability to see customer's requirements from the perspective of the latter.	9

Expertise	Contractor's technical and functional competence. Customers expect contractors to possess and convey expertise in order to be able to understand their requirements and enable a climate of trust.	9
Communication	Exchanging information about recent and upcoming activities, deviations from project plans, as well as discussion of problems and conjoint decision of solutions. Customers also expect that their expectations are discussed.	8
Consulting and problem-solving skills	Contractors should express their critical opinion regarding the requirements and, ideally, suggest several alternatives for the customer to choose rather than just accepting and implementing customer's wishes, which possibly turn out to be inappropriate in the end.	7
Process efficiency	Reduction of the effort to the required minimum, leading to a quick execution of the project. Refers, for instance, to efficiency of communication (e.g., talking directly to developers, leaving out intermediate project managers) and of meetings (e.g., a thorough preparation of meetings by communicating all relevant information in advance).	4
Establishing a personal relationship with the contractor	Customers expect to get to know the contractor during the development and, possibly, show sympathy to each other. Accordingly, they expect a designated project team, which ideally does not change during the project. The relevance of the personal relationship expectation increases with a growing project size.	4
Contractor's professional appearance	Image, eloquence, smart and well-groomed appearance of the contractor's project team.	2
Personal benefits	Customer representative's own progress in business and personal regard, including making a good impression on internal colleagues.	1

Table 5. Identified Customer Expectations towards the ISD Process

Expectations Management

All respondents state that customer expectations can be managed, four even consider it to be an indispensable task at early project stages. The goal is to obtain realistic expectations. In doing so, not only customer wishes but also objectives of the contractor organization must be considered. All experts agree that expectation management can increase customer satisfaction with the development process by aligning expectations and actual process perceptions. Accordingly, considering the described influence of process satisfaction on project success, agreement exists on the positive impact of expectation management on project success.

Several factors influencing customer expectations emerged in our interviews. All respondents mention **experience of the customer** to be an important factor in this regard. Without or with little experience from former collaborations, unrealistic expectations become more likely. As Robert points out, "*The customer does not know what is possible and what is not*". A similar influencing factor stressed by our experts is **technical know-how of the customer** (8 respondents). This does not mean that customers must be able to implement the software; however, they should understand what software is, how it is developed, and what technical terms mean. Lack of technical know-how often leads to too high expectations: "*Working with people from the IT department is less problematic, they are relatively realistic. If you work with someone from marketing, they only want to bring a product to the market fast. Their expectations are mostly too high and need to be brought down to earth first*" (Mark). Further factors, which were mentioned by less than 6 respondents, are **promises made by sales department** (2 respondents), **requirements due to customer's internal processes** (2 respondents), **trust between customer and contractor** (1 respondent), **degree of customer's sympathy** (1 respondent), and **size of customer organization** (1 respondent).

Our interviews yielded various approaches to manage customer expectations. First of all, a detailed and early **planning of the development process** with the customer was mentioned (9 respondents). This includes defining milestones, work packages, responsibilities, communication channels, escalation ladders, and risks in cooperation with the customer. Furthermore, contractor and customer should discuss the degree of customer involvement and the

level of contractor's responsiveness which are desired and to be expected during the development process. As Thomas describes, "*We discuss the development process with the customers in advance. […] We explain how we work, how the interaction takes place, that we want to involve them, and that we are willing to react to their wishes immediately. Thus, we influence their expectations*". Customers familiar with the plans from the start will align their expectations accordingly. Even if the process deviates from the plans, customers are more likely to be satisfied since they co-determined and approved those plans in the beginning.

Next, **transparency** is not only a customer expectation as described above, but also considered to be an effective approach to manage expectations (8 respondents). Contractor's project managers should make the development process transparent to customers by providing information about current progress, mistakes and plan deviations, as well as effects of customer's requirements, expectations, and change requests. Disclosure of internal workflows is said to increase customer satisfaction by building understanding and trust. Emily explains, "*Transparency enables understanding, which leads to trust. The more transparent I am, the better can the customer understand why some things take longer, do not work, or cost more money*". A specific example of creating transparency was granting customers access to the quality assurance system of the contractor, including all work tasks, their progress, and bugs, thus giving the customer a constant overview of the current state of the project.

Another customer expectation described earlier that is also seen as an approach to manage expectations is **customer involvement** (7 respondents). Beginning as early as possible, involved parties should get to know each other in regular meetings and align their expectations. System specifications should be discussed with the customer step-by-step before implementation. Especially agile processes provide the opportunity for regular tests, preliminary results, and feedback. David describes how customer involvement was realized by granting access to the quality assurance system, leading to success in a former project: "*The customer was positively surprised about the involvement via the QA system as he was able to communicate to the developers directly and discuss details without an intermediate project manager*". However, Emily raises the concern that such direct communication is prone to misunderstandings: "*The customer is hoping to move forward more quickly by discussing something with the developer directly. However, I have come to experience that the customer does not understand the developer. They talk at cross purposes. Their thinking is different and needs to be translated. Thus, customers wanting to talk to developers can backfire*". Furthermore, the ideal degree of customer involvement depends on the customer and should thus be chosen with care in specific situations. As Michael points out, "*One should bear in mind, however, that the customer is busy, too. It can prove negative if you want to communicate too much*".

While contributing to other approaches, **communication** itself is said to be an approach to manage expectations (7 respondents): *"If you don't talk to the people, everything runs aground"* (Mark). By communicating early in the project, involved parties learn what they can expect from one another. Several respondents advocate forcing regular communication in form of conference calls, e-mails, and personal meetings. Response time should not exceed one business day. One means to enable effective communication are prototypes, which allow the customer to provide feedback early in the development process, facilitating the communication of expectations.

Next approach mentioned by our experts is **referring to experience and alternatives** (6 respondents). If customers formulate problematic requirements or are sceptical about certain ideas of the contractor, project managers can adjust customer expectations by referring to former projects in which certain alternatives proved inadequate: "*Usually, customers first tell us what they expect us to do, verbally or in a specification document. We comment on it in a written form […] and communicate clearly if we see risks, even before accepting the project. […] Of course, many why-questions arise on the part of the customer. Then, we explain with empathy that we know this business area, we had this issue many times, and every time it was a critical one. Let's not fall into that trap again*" (Patrick). However, Kathy points out that it is also important to listen to customers in this regard: "*You can ask the customer about his preferred course of action, and sometimes he has better ideas*".

The following approaches to manage expectations were mentioned by less than 6 respondents. **Building trust** (4 respondents) is enabled by customer's impression that the contractor is interested in conducting the project successfully for the customer and has the required competence. **Empathy** (3 respondents) of the contractor leads to better understanding and implementation of customer's needs, and can be increased, for instance, by visiting the customer site and getting familiar with its customs and circumstances. Finally, **realistic promises made by sales department** (2 respondents) address the management of expectation before project initialization, when the first contact with the customer takes place. Since it is difficult to lower expectations once they have been raised, sales

employees should steer customer expectations in a realistic direction from the start by discussing their feasibility and potentially required expenses.

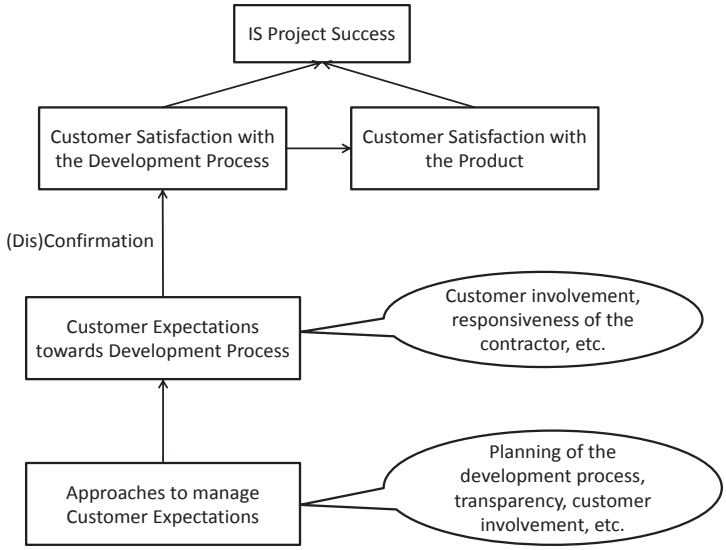

Figure 2. Results Overview

SUMMARY AND DISCUSSION

Our study yields three major findings. First, our interviews reveal the importance of customer satisfaction with the development process for overall ISD project success. Second, our findings corroborate the strong impact that customer expectations towards the ISD process have on customer satisfaction. While realistic expectations can typically be fulfilled, thus leading to satisfied customers, our interviewees reported that they are often confronted with unrealistically high expectations. As a result of the disconfirmation of these expectations, customers are usually dissatisfied. Finally, we show how project managers can successfully manage customer expectations towards the ISD process. By managing expectations, project managers can raise the likeliness of customer satisfaction and ultimately ISD project success. Our interviewees describe multiple approaches that can be used for managing various expectations of customer managers concerning ISD process. In the following, we discuss the implications of these findings for researchers and practitioners, while noting the limitations of our study.

Implications for Researchers

Based on the theoretical underpinnings of ECT and Service Quality, we continue previous research on stakeholder satisfaction in ISD projects. Stakeholder satisfaction is deemed highly relevant for project success (Nelson, 2005), considered the sum of satisfaction with outcome and process (Ferreira and Cohen, 2008), and based on stakeholder expectations (Baccarini, 1999; Bourque and Fairley, 2014). We shift the focus from user expectations, which are typically concerned with the product (i.e., the developed IS), to the expectations of customer managers concerning the development process. Our interviewees see satisfaction with the development process to predominantly have an indirect influence on project success (mediated by satisfaction towards the product). However, they confirm the general importance of managing expectations towards the development process on behalf of customer managers, which has been widely neglected so far.

Previous research foci on expectations and satisfaction of users led us to explore expectations and satisfaction of managers. For most of our interviewees, the explicit dispute about the management of *manager* expectations towards the *process* was a novel one. This was reflected in the long time it took respondents to think of explicit situations concerning the management of process expectations. Often, they were tempted to think of expectations related to users and the product, and needed to be continuously reminded of our study's focus. Accordingly, future research might pay increased attention to the phenomenon of neglecting the development process when thinking of

expectations and their management in ISD projects. One reason might be the intangible nature of the development process compared to the developed product. Due to their explorative nature, our results are a first step only and need to be complemented with further inquiries. Directly comparing expectations and approaches for managing expectations might reveal causal relations. For instance, interesting insights might result from analyzing the approaches with regard to their applicability to specific expectations.

While most approaches to manage expectations concerning the development process match approaches identified in other contexts (except for transparency, each approach identified in our study has been addressed in at least one previous publication), transparency can be seen as particularly important in our context. Transparency has been defined as the extent to which "team members incl. project manager are informed about project plan, status and all events important to them" (Pankratz and Loebbecke, 2011, p. 6). When considering the management of user expectations (Petter, 2008), one of three main strategies is user involvement and includes "keeping users involved and updated throughout the project" (p. 704). While pointing towards the same direction, keeping users updated cannot be equated with the transparency of all relevant information. The relevance of transparency in our context can be explained by the intangible character of the development process, which – in contrast to the product – requires active communication on behalf of the contractor to manage expectations.

Implications for Practitioners

Our results show the criticality of managing ISD process expectations. Considering our interviews, project managers tend to be primarily concerned with the management of user expectations concerning the product. This is surprising since our interviewees had no difficulties in thinking of numerous expectations customer managers may have concerning the development process. Consequently, we recommend project managers to explicitly think about whether and how they have managed expectations towards the development and to what extent their approaches have affected the success of ISD projects. They can use our study as a starting point to develop strategies for coping with this important project management task.

Three of the most frequently mentioned approaches (i.e., transparency, customer involvement, and communication) are closely related (i.e., they all concern direct customer contact) yet different from each other. For instance, while ensuring transparency throughout an ISD project requires the contractor to communicate with the customer, communication with the customer does not necessarily lead to transparency. Furthermore, involving the customer in the development process, for example by letting the customer make suggestions, does not make the development process transparent. When developing strategies to manage process expectations, it is thus important to consider dependencies between the identified approaches for expectation management.

The identified approaches should be carefully considered before application in specific projects. While high customer involvement is in general perceived as a success factor in ISD projects (McKeen et al., 1994; Petter, 2008), customers may be reluctant to closely collaborate with the contractor, for instance due to daily work obligations. Moreover, approaches might not be applicable in some cases at all. Promises by sales departments might be made prior to initializing a project, that is, when it is rather difficult to judge whether promises are realistic. Once promises are made, the customer might lose trust in the contractor when promises are adapted in the course of the project. The approaches' applicability and thus the likeliness to increase customer satisfaction and project success might therefore be contingent on projects' context.

Limitations

As with any empirical study, ours is not free of limitations. First, the generalizability is limited by the sample size of twelve respondents. While we randomly contacted companies to avoid a selection bias and the results in general converge to common themes, we cannot guarantee that interviewing further project managers would not lead to further insights. Second, our experts work for small and medium-sized enterprises. Managing expectations in larger companies may be subject to further factors, which influence expectations and approaches to manage these. Third, the interviews have been conducted via phone. Consequently, we were unable to observe respondents' non-verbal communication. However, using telephone interviews we were able to convince more project managers to participate in our study compared to conducting face-to-face interviews, which are typically more effort-intensive. Finally, expectations presented in this study have been mentioned by project managers on behalf of contractors. For more detailed insights, interviews with customer managers are required. In our context, the choice of respondents was guided by our focus to identify approaches to manage expectations.

CONCLUSION

We show the relevance of customer satisfaction concerning the ISD process for the success of ISD projects. The identified approaches of managing expectations towards the development process can help project managers to increase the likeliness of customer satisfaction and thus project success. By revealing customer expectations towards the development process, we illustrate the diversity of aspects project managers need to address in order to pave the way for successful projects. Whereas we contribute to a deeper understanding of the role of managing expectations in ISD projects, dependencies between expectations and approaches for managing expectations are to be addressed by future research.

APPENDIX A

Questions related to interviewee's experiences, current position, and tasks.	
Part One	What kind of training / education have you received?
	What is your current position and range of duty?
	What is your working experience in ISD?
Questions related to customer satisfaction with the development process in IS projects.	
Part Two	How relevant is customer satisfaction concerning the development process for the overall success of an IS project?
	How relevant is customer satisfaction concerning the development process compared to customer satisfaction concerning the product?
	Are there any dependencies between customer satisfaction concerning the development process and customer satisfaction concerning the product?
	To what extent does your company measure customer satisfaction (in general, concerning process or product)?
Questions related to customer expectations towards the ISD process and their management.	
Part Three	What impact do customer expectations have on customer satisfaction?
	What expectations do customers have concerning the ISD process?
	To what extent can project managers specifically influence customer satisfaction?
	Can you think of an IS project in which you positively influenced customer expectations concerning the development process?
	How would you characterize the project and its context?
	What expectations did the customer have?
	How did you respond to these expectations?
	What impact did your response have?
	Can you think of an IS project in which you negatively influenced customer expectations concerning the development process?
	How would you characterize the project and its context?
	What expectations did the customer have?
	How did you respond to these expectations?
	What impact did your response have?
	Can you think of other tactics that might have had a positive impact?
	Do you have any further recommendations for dealing with customer expectations?
	To which contexts do these recommendations apply?

Table 6. Extract from Interview Guide

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