Enterprise System Renewal – The Divergence Between Perception and Reality

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Abstract. E-commerce based companies rely on the effective use of the information systems used to support their processes. Accordingly, managers place a great emphasis on the success of projects to introduce such systems. However, research increasingly suggests that project success may not be as objective as one would assume or hope. Quite contrary, as our work will show, project success is often constructed by the stakeholders involved in the project. Extending prior research, we investigate how different groups of stakeholders construct their own perception of project success and how these different perceptions influence each other. Through our work, we provide management with insights into threats to a reliable project management approach for critical IS projects and identify a few major drivers that need to be accounted for to make sure that such critical projects really are successful.

Keywords: Renewal Project, Enterprise System, Project Success, Case Study, Subjectivity of Success

1 Introduction

Issues with backend enterprise systems (ES) can have a critical impact on business performance. In particular, e-commerce based companies suffer from an ineffective usage of backend ES and might struggle to cope with competition. A prominent example for the effect of such issues on once prosperous businesses is the Otto Group, a large German distance retailer [1]. Due to under-investments, the technology base of the Otto Group had become outdated and scattered. For instance, 130 different ES were used to support the frontend services the customers interacted with. This led to complicated and delayed technological changes and made internal processes inefficient. In turn, the inefficient processes and the high complexity of the backend ES affected the number of available products online and the lapse rate at Otto Group. In sum, Otto has failed to reign in that toxic complexity and to manage a successful renewal project.

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Cases like this sparked our interest in the reasons for successful ES renewal projects. We were able to select a multi-channel fashion retailer in Central Europe as our case site. In particular, we were enabled to analyze a renewal project [2] for a Product Information Management System (PIMS) in the e-commerce department of a multi-channel retailer. IS project success research in general, which is relevant for this type of project analysis, can be subdivided into two main streams. In the first stream, researchers are assessing project management success by the 'Iron Triangle' of a project's cost, time, and quality [3, 4]. Thereby, researchers aim to identify indicators that enable projects to reduce costs and time and increase the quality of the resulting product. The second stream focusses on the success of the project's product [5]. More recently, these aspects have been combined and resultant customer satisfaction [6] has become the focus. Prior research with a specific focus on ES implementation and renewal projects has been based on the assumption that such projects are essentially disruptive and lead to changes to the technology as well as the work environment and the task [7]. However, we have found evidence in our exploratory case study that even scheduled events that have no influence on the task can cause significant disruptions and adaptation efforts. As project success can also be considered as socially constructed and perceived [8], the investigation of the discrepancy between perceived success and the reality is necessary to come to a real understanding of project success. Thus, we aim to explain the diversion between perceived and actual success of an ES renewal project. We applied the critical realism perspective to identify the mechanisms behind the development of such a diversion. For our research, this is the appropriate approach, because it allows to focus on establishing causality [9]. On this basis, we formulate the following research question: *How and why is there a discrepancy between end-users' perceived and real ES renewal project success?*

We aim to provide an overview of the mechanisms that are behind the different perceptions of the renewal project. This will result in a type II theory [10] and several relevant practical implications. In the following section, we provide a brief overview on the theoretical background of our research. We discuss the methodology of our explanatory, longitudinal single case study in section three, before presenting and discussing our findings in section four and section five, respectively. Finally, we conclude our research by summarizing the key results, discussing the limitations and contributions of our study, and providing an outlook on future research.

2 Theoretical Background

There is a lot of research about IS projects and system success as well as failure [8, 11–13]. However, there is no agreed definition of IS project success in general [5]. In part, this is attributable to the multiple facets of project success. As success is a multi-dimensional construct, it is subjective and depends on perceptions [5]. A distinction between overall project success and project management success is an important step in the analysis process for determining whether a project should be considered a success or a failure [14]. Project management success is often measured as adherence to planning in the form of the 'Iron Triangle' of time, budget, and quality. The Iron Triangle is popular in research [3, 15] and in practice [5]. On the other hand, there is also the product related dimension of the project outcome, which can be coined

product success [5]. As an example, we look at the definition by Basten, Joosten and Mellis [6]. In their definition, the adherence to planning in the form of the Iron Triangle is the definition of project management success. Product success is defined as the effect of the product in terms of organizational benefits or customer satisfaction. Overall project success is determined as the successful combination of these two success dimensions.

Research on IS project success is generally based on the measurement of IS product success [16, 17]. The wide range of criteria for the measurement of product success, make it an ambiguous measure. Aspects directly related to IS products can be used for an assessment based on system performance, for instance, perceived usefulness, information quality, and system quality (e.g. ease of use) [18] or system reliability [15]. A more general approach to IS project success in the past focused on the combination of project management and a successful product [3]. However, the perception of information system failure or success is largely stakeholder-dependent [19]. IS project success is, therefore, socially constructed and perceived [8]. This understanding has given rise to a performative perspective on IS project success [8]. A performative perspective is based on the identification of actors and their relational effects in the networks of IS projects. Actors in a project network value different aspects of an implemented IS or of a project differently. Consequently, the actors measure and evaluate IS project success differently. This aspect is crucially related to organizational sensemaking. Organizational sensemaking is focused on determining what an event means for members of an organization [20]. Sensemaking is based on the idea of retrospectively making sense of events [20] such as a renewal project. During the course of such a project, sensemaking in a group can be influenced by the social dynamics in the group of affected people. For instance, it is a crucial characteristic of a good team that members show a great deal of synergy and loyalty to each other and to their leader [21, 22]. However, these are also factors, which can lead to groupthink [21]. In particular, hierarchical groupthink, which originates in the desire of individuals to please their leader by agreement in opinion, can have a strong influence on the assessment of project success. Especially, since employees' sensemaking can be strongly influenced by a management's narrative [22]. For instance, employees (i.e. end-users) develop a reliable system [23] to cope with perceived adversity, which might be caused by technological glitches in their work environment. Whether overcoming the situation as a group can give them a collective mind and feeling of success is the subject of further research.

3 Methodology

To answer the aforementioned research question, we decided to analyze one case company longitudinally with a single case study approach. We reviewed the transition and change of end-users' expectations in the organizational context of the e-commerce subunit, which is the unit of analysis. Thereby, we aim to explain the deviation of perceived project success over time. This single instant serves as a starting point for the search for an explanation [24]. In combination with insights from the literature, this holistic view allows us to develop the explanation [10] presented at the end of this paper.

3.1 Case Description

We acquired a project for the analysis of the renewal and adaptation of an ES. During the course of the single case study, we analyzed the development of perceived and real ES renewal project success. As case company, we selected a multi-channel fashion retailer with a sizable online shop, which is located in Central Europe. Thereby, the e-commerce department (in the following referred to as FASHION) and its Product Information Management System (PIMS) were at the center of our research. A PIMS allows to centrally manage all information required to market and sell products on distribution channels such as FASHION's online shop and marketplaces. FASHION is a department of two managers, content managers, and supporting technicians. FASHION's deputy department head characterizes his business unit in the following way: *"I see us as a hub which compresses the product information and provides access to sales channels [for other departments in the company]." Due* to changing requirements, FASHION regularly undergoes changes of its e-commerce platform. At the center of the change process, the new PIMS release was supposed to significantly improve PIMS overall and the Web-Client version in particular. The release was supposed to update the software to the originally contracted level, since this version had not been ready for renewal for the original project. Changes in roles or assigned tasks were not planned. At the time, FASHION had a lead and a deputy technician who were responsible for the online-shop system and PIMS, which were the relevant IS for e-commerce. The deputy technician had started his new job a month before the introduction of the new release.

There were 84 recorded users of the PIMS Web-client, which include the department heads, their deputies, the content management team, and users in various purchasing departments. We only evaluate the PIMS Web-Client, which is a content management system for product information, classification in the structure of the online-shop, and management of product images. Content managers focus on texting and classification of products. Texting and classifying a product took on average 7-8 minutes before the renewal project. Up to 50 articles had to be processed by a content manager per day. FASHION employs two teams of four content managers and two interns. The other employees in the purchasing department mainly search and read in the PIMS. Team leads in the content management team use a Master client version of the PIMS, which allows them to assign work packages of texting and classification work to team members. Two months after the renewal of the new release of the PIMS, one of the two remained team lead for the texting group and the other became head of a newly created product image production team.

3.2 Data Collection

We used several data collection methods during the case study. Our data collection included 22 *semi-structured interviews*, *participant observation*, and *document analyses*. Semi-structured interviews are defined as interviews in which pre-formulated questions are used, but not strictly adhered. New questions can emerge during the conversation [25]. We interviewed different user types, such as content managers, team leaders, managers, and employees of the technical support. The multi-level analysis in our research made it necessary to include different user categories for

the analysis of the specific ES [26]. Thereby, we aimed to get an integrated view of user adaptation and developing experiences of the renewal initiative by interviewing a carefully selected set of people over the course of the renewal project for eight months. We interviewed as many individual users of the PIMS as necessary to get an understanding of the typical user role in FASHION. Interviews with management focused on the department head and his deputy who were responsible for the PIMS project. Technology support included the positions responsible for the e-commerce related IT services and those responsible for the particular IS project. The first author conducted the interviews in person, recorded and transcribed them. The interviews lasted typically between 45 to 60 minutes. Before an interview, we provided some information to the interviewees regarding the interviewer, the background and purpose of the study, and the anonymity and use of gathered data [27]. We conducted the semi-structured interviews at three points of time: (1) before the start of the project, (2) shortly after the renewal, and (3) after employees had settled in with the new system (see Figure 1). This time frame was chosen because researchers suggest a gap of one month between perception of a new system and usage measurement [28]. If the gap is longer, it might be motivated by factors that the researcher cannot control. However, if it is shorter, the gap may not give adequate time for adjustment in the perception process of individuals and their use of a new system [28].

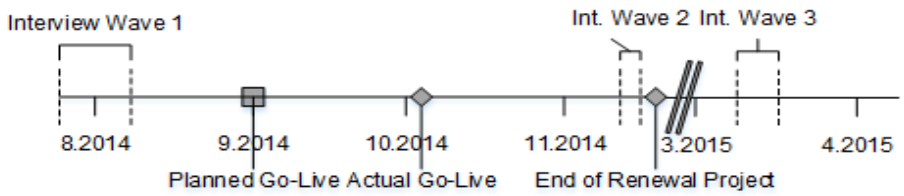

Figure 1. Data collection plan at FASHION

The first interview series started with an assessment of the system's version at the time and with an assessment of the typical adaptation of users with regard to the system. Furthermore, we asked for users' and managements' expectations regarding the introduction of a new PIMS release. In the second wave, we interviewed a content manager, the team leaders, a manager, and the technicians to assess their evaluation of the project and the actual progress made. This second round of six interviews, included questions whether the expectations were met by the new release. It also included questions about the user adaptation and the adaptation process necessary to deal with the new system shortly after its introduction.

Only the deputy department head could be interviewed during the mid-term sessions because of the ramifications of the busy holiday season. A content manager is the second missing interviewee interviewed before the project, as he had voluntarily dropped out of the company in the meantime. The third round of in total eight interviews included a final round of questions whether the expectations were met and questions regarding the adaptation. We asked users about the amount and kind of organizational support that they received in each round (see Table 1).

Table 1. List of Interviewees at FASHION

Interviewees	*Total # of Persons*	*Interviews Wave 1*	*Interviews Wave 2*	*Interviews Wave 3*
Content Managers	3	2	1	2
Team Leaders	2	2	2	2
Lead Technician	1	1	1	1
Deputy Technician	1	1	1	1
Deputy Department Head	1	1	1	1
Department Head	1	1	-	1
Totals	**9**	**8**	**6**	**8**

When possible, we used *participant observation* to gain a practical understanding of their interactions with the software. This aspect was supported by the previous role of the main researcher on this project, who had been an intern in the e-commerce department as a student. *Document analyses* were mainly part of the initial analysis during and after the first round of interviews and helped to understand the organizational structure, IT infrastructure, and IT architecture. In addition, we documented the rules and procedures of data collection in a case protocol to ensure rigor in data collection. Furthermore, a case study data base was used which contained the interview transcripts, field notes, collected documents, coded data, and the coding scheme [24, 29]. The data was organized based on Spradley's suggestions [30]. This organization allows separating objective facts in the condensed and expanded account and subjective interpretations in the analysis account and fieldwork journal.

3.3 Data Analysis

The unit of analysis of the case study is the work system of FASHION. For coding and tracking the qualitative data from the field, we used AtlasTI and followed an inductive coding approach. Inductive coding is appropriate in our research context as it allows to abstract themes, which are mentioned by interviewees on a reoccurring basis. We started with open coding of the interview transcripts. These open codes are descriptive and merely allow a categorization of constructs identified in the interview transcripts. We intensively compared and contrasted the developed categories with each other. In a second phase, we conducted axial coding to refine the interpretation of the categories and properties. At this stage, we also controlled for a possible researchers' bias in the categorization process by crosschecking the categorizations of the codes with an independent student assistant's categorization of a sample of three examples for each category. The categorization was very similar.

We used a critical-realism (CR) as the epistemological perspective for the analysis of our gathered data. CR distinguishes between a transitive and intransitive domain. The intransitive domain consists of the elements such as events and the causal powers in the ontological domain of the actual and the real that the researcher attempts to understand [31]. The transitive domain contains the observations, knowledge or theories about the independent world of the intransitive domain. A perfect match between theories and reality is not likely, and theories are fallible. Intransitive elements do not change over time, however, the theories about them do and

presumably become less fallible [9]. Thus, this research approach is ideal for the analysis for complex interactions and consecutive smaller events [9], such as the forming of perceptions of project success in iterative steps.

Specifically, we followed the principles for conducting the CR research in IS by Wynn and Williams [9] for our data analysis. The first principle is the detailed explication of events through the abstraction of individual's experiences, as the foundation of causal analysis. This step is crucial for understanding the PIMS and FASHION as an organization. Second, we explained the structure and the contexts of these events. For instance, this involved the analysis of the sequence of the flow of information inside of FASHION. Third, in the process of retroduction we identified the hypothetical causal mechanisms, which could explain the specific occurrence of these events [9, 32]. Fourth, we evaluated with empirical corroboration whether the hypothesized mechanisms illustrate reality correctly, elucidate the events better than other mechanisms and are appropriate explanations with a high degree of causal power by referring to our obtained data [9]. This was executed by constantly referring back to our transcripts and the documents. Finally, we employed triangulation, mainly to emphasizes the necessity to use more than one source of evidence, that is in our case the combination of different interviewees insights with our observations and document analysis to find an appropriate causal explanation for the different perceptions of reality [9]. The resultant contributions of a CR study can be classified as type II theory [10], which provides explanations for the occurrence of a phenomenon in a social system [9].

4 Findings

At first, we are going to outline characteristics of the interviewees and the stakeholder groups relevant to the case study. All people interviewed knew PIMS since its launch in the firm in August 2013 and had several years of experience inside the firm. The content managers were working in a rather small team that was the innovative "new" group in the company. Management had been familiar with the PIMS since its introduction and had been in the business area for two to three years. The in-house technicians were relatively new to the area and the technology. The head technician had joined the firm half a year before the migration project, while the deputy technician joined just one month before the start of the renewal project. As head technician, he was responsible for planning and organizing the renewal project. However, his background had been more in e-shop-systems. There was a multitude of ongoing projects at the same time inside FASHION. His only in-house technical support was the new deputy technician, who had worked with the PIMS at a previous employer. But he had to familiarize himself with the renewal project and its scale.

Initially, the new release of the PIMS had been purchased. However, it had not been ready for the initial implementation. Management had made the decision to implement the old release with some upgrades, which were ready at the time, and to create a hybrid version. The organization was still incorporating that change, as the head technician noted*: "Just recently, we were at a user group meeting of the software producer. Based on their project status classification, we just finished the renewal phase and are currently entering stabilization. However, the new release will*

disrupt that phase." The project team for the introduction of the new release included the deputy department head, the head technician, and the deputy technician. A contract for the new release was signed in April 2014, which also included the move to a new service partner. The deputy department head gathered 23 end-user requirements, i.e. their expectations for the release of PIMS's Web-Client version in meetings in April and May 2014. Table 2 presents the four main requirements of this list as assessed by the head technician after the end of the project. These four common themes of expected changes emerged during the first round of interviews with content managers: First, the users expected an adaptation of the user interface for the product classification process. This included a change from a slow drag and drop process of individual product classifications, up to 20 at a time, to a simultaneous selection out of a list of characteristics. Second, an improved semantic search was required for the Web-client. Third, seamless navigation between product, variant, and article level in the PIMS Web-client also featured in the interviews. Fourth, product images should be available on all presentation layers in the system. The department head had the following expectations: *"[Whenever the new release is migrated and running], we will start by introducing a new design of the content management process. This will be a project of another five days […]."* This process has not been implemented to date, October 2016. Management's expectations were in clear divergence to the technicians' expectations. Both technicians mainly expected benefits for handling of the technology and background changes. Besides, they planned a 1:1 migration to the new service provider.

Table 2. Main requirements for PIMS assessed after project completion

Main Requirements	*Status at Project's End*
Seamless navigation of system levels (product, variant, article)	Done
Integration of a spelling check	Testing
Automatic classification of products	To Do
Product images visible on all presentation layers in the system	In evaluation

Subsequently, the two technicians and the renewal partner prepared technical changes for the actual project. The migration of the entire data for the PIMS to the new hosting and general service provider was planned for the end of August 2014 and the planned go-live was on the 1st of September 2014. Separate hosting and service partners characterized the previous set-up. A renewal of the new release involved a service partner, who hosts and provides maintenance services out of one hand. An attempt to go-live on the 1st of September was made. Soon after this go-live, users from the content management team experienced such a lack of system performance and data quality that the attempt was abandoned. The new release was deemed not ready and FASHION reverted to the old set-up for the rest of the month. A new attempt to go-live was made at the beginning of October. Even at this point, users soon experienced a severe lack of performance and responsiveness. The service partner had underestimated the server capacity necessary to run the old PIMS implementation. In-house technicians began to learn that the original data model was incorrect for the design of the standard software. It lacked stability and had a slower performance than planned as it was used as a calculation tool for stock levels and other data, which was against the original design brief of the standard software. The

head technician summed up the situation in the following way: *„The guys [from the first implementation partner] just screwed up a little. They were not capable of implementing a PIMS, at least of this scale."* Despite many separate efforts by the new service partner and the in-house technicians, a lack of performance persisted. Several data exports and imports were redesigned to reduce the workload for the PIMS. Ultimately, the stability of the system improved with a sequence of hot-fixes and bug fixes that were issued by the software producer and the service partner. Thus, it was possible to overcome the worst part of stability and performance issues within the first two weeks of the new release. The deputy technician stated: *"At the moment, we are happy that the system runs in an identical version on the new platform."*

It is evident, that end-user expectations were not confirmed positively. When asked about the share of expectations that were met, a content manager stated: *„About 30 to 35%. [...]. Expected was 60% of fulfillment of requirements."* Hence, she subsumed: *"The product has improved a little."* The newly assigned team leader for content management commented: *"Currently, I would say that performance-wise we are back on the level of the old version of the PIMS."* Furthermore, it was noted that *"the new classification approach with drop-down lists takes longer now."* This was due to a lack of performance of the hardware with the new hosting partner. Thus, a goal of the renewal was initially missed. While management acknowledged these problems, the deputy department head had the following impression: *"You can feel it, they [the users] are also satisfied. Some of the things that have changed are things that they wanted. […] 30% of requirements were ready with the first version after the release. We are currently implementing another 20% of our requirements and the other 50% are extra goodies. They will follow later."*

A great variety of perceptions persisted to the end of the project. For instance, one content manager stated that she felt like only 20% of the requirements were actually met. Independently, the interviewed content managers and team leads stated similar figures. In an interview with the head technician after completion, it turned out that he had never been aware of the list of requirements from the workshop. Just one of the 23 requirements on the list was met over the duration of the project. Eight requirements were classified as a planned "To Do" by the lead technician, two more were being worked on or planned, while the rest of twelve requirements was not understood or seen as conflicting by him. A content manager subsumed that "*the performance after the introduction of the new release and the management of the transition issues is just back to the way it used to be with the old release […]*."

This perception of the overall progress did not square with management's perception. The managers felt that employees focused too much on the negatives and the deputy department head stated: *"The new release is still about 20 to 30% slower than the old release. Many employees focus on this downside during conversations."* His perception of the fulfillment of the initially gathered requirements was fundamentally different and more positive: *"I would presume that 50 to 60% of the requirements on our list have been met by now."* The attitude towards problems, which were raised by content managers, was clear: *"'Yes, everything was better in the past'. Yes, the change was not easy, it has brought additional workload, it also brought certain restrictions, but it was just necessary, […]."* The department head expressed a new idea of the initial project's focus: *"We are closer to the standard. We have almost 100% of the standard. This was the top priority."* This was a

fundamental change to the beginning of renewal project when users were asked to formulate a list of requirements during the workshop. This raised user expectations, which were slowly crushed as the project progressed. The department head was aware of this, but did not inform the content managers or purchasing department end-users: *"[…] we did not ask for intensive feedback, because we implemented very little from the long list of requirements because we changed a lot in the backend instead. [...], we can invest more in features and usability [when the backend of the system is stable]."* This decision was made because the department head had been aware of the issues during the migration process: *"[…] after the introduction of the new release, we had catastrophic system performance."* Nevertheless, the department head was of the impression that individual performance had increased substantively: *"We have an increase of 30% in productivity and speed compared to the previous release."* Considering everything, he specified: *"I am convinced that we have a "Ferrari" [i.e., PIMS] that we cannot use appropriately."* All the while also stating: *"That is just not a perfect system and we probably expect too much of it."*

Yet, technicians' perception of the overall project was different at the end of the initial renewal phase. The deputy technician acknowledged: *"We carry a huge load of requirements that were not met previously. There are plans, but neither the time nor the ability to create To-Do's to actually assess and implement the desired changes."* However, some parts of the transition were also perceived to be a success as it was possible to reduce the time needed for data imports and exports for the PIMS by about 50%. In part, this can also be attributed to changes in the hardware of the hosting partner. The technician was of the impression that this new speed in reaction motivated some users: *"The system pretends to help me, that's cool."*

During the course of the renewal project, many new projects and issues had overridden what the technicians wanted to achieve regarding their preparation of technology. The head technician's description of his interaction regarding the management of IT projects with FASHION's management illustrates the discrepancy in thinking: *"Management certainly listens, however it is unclear whether they truly understand and take note when necessary. Our department head admitted to me that we probably addressed too many issues at once. Overload will lead to failures. […]".* When the head technician perceived these issues during the migration process, he made the momentous decision to scale down the project. The project complexity was reduced by focusing on the main migration: "*In the end, everything had to be rushed because our management had communicated a deadline inside our organization. […] It is my belief that internal policy created an expectation inside the organization which resulted in pressure and eventually lead to friction losses."* End-users were not clearly informed, which allowed the different expectations to linger.

5 Discussion

We identified several mechanisms that can help us to explain the evolving perceptions of end-users. An important mechanism, which influenced end-users' perceptions was the **narrative of success**, the focus in management's communication on motivating employees by showing them that they are successful and taking part in something meaningful for FASHION and the multi-channel retailer as a whole. All

interviewed content managers perceived the new release as an opportunity to improve their work and its outcomes, and fundamentally believed in this narrative of success. As strong e-commerce growth required many rapid changes, they had developed a common culture of trial and error, which they all ascribed to themselves. This mechanism is closely linked to the insight that success and particularly project success is socially constructed and perceived by different stakeholders [5, 8] and can be linked to organizational culture [33]. The specific aspect of narratives of success has also been raised in previous research on IS projects [13, 34].

Furthermore, employees in FASHION's e-commerce department show a great deal of synergy and loyalty to each other, as well as to the department head. These are the aforementioned characteristics of a good team [21, 22]. However, in this situation, the mechanism of **hierarchical groupthink** was present on the basis of belief in the e-commerce department's narrative of success. The following quote of the department head illustrates his power in setting an agenda: *"We have spent the last three quarters with very intense discussions and got a lot of scolding: Everything was better before [with the system before PIMS]. I have heard [this] so often, but all have to agree to it or have to engage with it, because there is no alternative. Now everyone agrees with it."* Janis [35] provided six criteria to identify and determine a situation of groupthink: 1.) *Little or no consideration of alternate plans:* Management at FASHION did not have a back-up plan for a failed migration or further technical issues. For instance, downtimes were seen as a given. 2.) *Risk is not assessed:* Management and Technicians at FASHION did not assess the risk for the operations of the difficult migration that they planned. Subsequently, the migration and go-live of the new release failed. If people raised issues, it was stated that the project simply "had to be done in this way". 3.) *No review is taken of rejected plans:* There was just one option: The execution of the initial plan. This was further enforced by commercial arrangements for the release change, which had been designed by management inflexibly to save money. The failure of the first renewal attempt for the new release occurred, because the software of the new release had not been ready. 4.) *Advice from outsiders is not sought*: Management did not feel able to fund a specification project by technical experts from a consultancy. *5.) Facts that support the plan are acknowledged, facts that do not support the plan are ignored:* This was observed in management's attitude to end-users input regarding project success. From management's point of view end-users simply focused too much on the negative. 6.) *Contingency plans are not created:* There was no alternative plan created for the renewal project and the implemented solution. The technology is a *'Ferrari'* and simply not used properly. The described groupthink had the effect that content managers bought in to this assessment and that significantly influenced, how they made sense of the renewal project.

As aforementioned, there were four different levels of information: technicians, managers, content managers, and purchasing department end-users, who were not informed about the particularities of the project. These different groups had different sensemaking experiences. This is due to the different points in time at which they received their inputs. At first, the technicians became aware of the issues with the initial implementation. This was crucial for other parties' sensemaking. As the

management was made aware of the technological issues, the deputy department head commented: *"If you turn one stone, you have to turn them all."* This meant scope creep and a more comprehensive change then initially anticipated, but also a change of priorities. As a consequence, the aforementioned list of requirements remained unknown to the lead in-house technician till one of the researchers presented it to him after the end of the project. The end-users realized a dawning failure based on the results they perceived in their daily work. A content manager commented: *"It became evident during the run of the project that our [the content management] team's wishes […] were difficult to implement."* The content management team reacted with not focusing on the wishes and expectations anymore. This can be described as the mechanism of **inherent fatalism** of end-users. Instead, they realized that the renewal project was a threat for their productivity. Overcoming the threat and the difficult phase was therefore a great success. According to a team lead, the new attitude to the project became: *"It simply had to be done."* She described their experience with the adversity as a *"state of war"*. She went on to say: *„It is a positive experience to go through such difficult periods. It is an opportunity to grow personally and to see what you are capable of."* We interpret the described personal growth and experience of performing against the odds as the seed for the perception of success that end-users reported. This appears to be at the heart of their sensemaking process. It overshadows the project and its original purpose over time. The other team lead stated in the third rounds of interviews: *"I do not know [how many requirements were met]. I have no idea. [...] You get used to situations and if something is suddenly missing from the tools that you use, you find other ways. […] Whenever you get used to something you stop questioning it. Hence, I do not know what can be improved at the moment."* The hallmark of success in such a scenario became reaching the previous level of performance and they abandoned the goal of renewal. As a group, the users at FASHION developed a reliable system, similar to those described in the literature [23], to cope with the adversity that they perceived because of the technological glitches in their work environment. Overcoming the situation as a group also gave them a collective mind and a collective feeling of success. This finding adds to previous research which has identified the importance of organizational culture for IS project success in general [33]. Aspects of inherent fatalism as a mindset, its antecedents, and its consequences have featured in previous research. For instance, research on perceived organizational support and psychological contracts of employees with their employer [36] has investigated conditions that might lead to inherent fatalism on the part of the employees. Part of the process to readily accept the situation in the workplace is the rationalization process of individual end-users. More specifically, motivated reasoning [37, 38], which is the reliance on a biased set of cognitive processes, is likely to be important for explaining end-users ability to focus on the aspects under their control. The end-users could have been motivated to avoid a reasoning that would stain the embraced narrative of success of FASHION. As a consequence, such an approach allows them to remain motivated to work [39] at FASHION. The organization relied on the described combination of mechanisms, which has its roots in the instilled organizational narrative of dynamism and success, to motivate users to overcome the problems in daily use. As a result, the deputy department head believed that all people involved were satisfied and summarized: *"The users found ways to deal with the performance problems."*

6 Conclusion

A CR approach enabled us to develop a better nascent theory for the understanding of various perceptions and evaluations of success of IS projects in organizations. Our explanation of the link between the mechanisms identified above is the main contribution of our study. We use them to explain the discrepancy between end-users' perception and real renewal project success: For *end-users*, the perceived success of overcoming the adversity of the renewal project was a good match with the overall groupthink, and the predominant organizational narrative. They perceived themselves as the group of people that was working in a dynamic market environment and as those who successfully struggle with its dynamism. Overall, their sensemaking of the situation had a fit with FASHION's organizational narrative. From this, we draw the conclusion that overcoming the adversity of a project's ramifications is a big factor in the perception of successful projects by end-users. This creates a feeling of unity and resolve in good teams. The greater purpose of being part of something interesting (a growing and dynamic business – fitting the organizational narrative) is also an important aspect. For *management*, the resilience of end-users, who are motivated in such a way, is crucial to ensure relative success to their adjusted objectives. As observed in our case, managers seem to adapt their level of perceived success based on the information they receive from the technicians, who are closest to the matter at hand, but are not necessarily aware about the overall story that has been told by management about the project they are working on. Thus, there is a wider disconnection in the sensemaking of individuals in an organization about the success of a project. As long as management dominates the perception of the business environment and end-users buy into the derived organizational narrative, it is likely to influence the sensemaking process of end-users. In our case, this means that the adversity of the initially *planned* technological change is seen as inevitable on the level of end-users. End-users seem to consider the greater cause inherent in the organizational narrative and respond with a fatalistic and resilient attitude and form a reliable system, which allows them to cope with the adversity related to technology project in their organization. For *technicians*, this means that their sensemaking is constrained by time pressure and in our case the inevitable lack of experience with the PIMS. In this situation, they had to make sense on the fly. Furthermore, they did not feel empowered to manage relationships with end-users and expectation management on their own. Overall, this led to the described situation in which the perception of the business environment and the resulting organizational narrative dominated the perception of a project's success. We think that this theoretical understanding is generalizable as the organizational narrative, which informs perception, is likely to depend on the organizational environment.

A possible limitation of a single case study is always generalizability. We deem a single case as appropriate for exploratory research and aim to challenge generalizability of our results on the basis of multiple cases in future research. It is a practical implication of this paper that managers should make sure that they actively nominate someone, who plays the role of a devil's advocate [22] to manage the expectations related to a synchronized plan. This will alleviate the problem of groupthink based on a similar perception of the environment and the resulting organizational narrative. In our particular case, the common believe led to a lowering

of expectations which allowed to reinterpret failure as success in meeting adjusted expectations. This is a benevolent outcome. It is also possible, that the organizational narrative further aggravates end-users. A narrative told to motivate employees can ring hollow if it is not backed up by reality. Thus, management and technicians should communicate more directly and more transparently with end-users about the underlying technology. Even if they do not understand the technology in detail, they are likely to welcome the gesture of inclusion and the possibility to participate. In a different environment as in our case, users can resort to adverse behavior such as user resistance [40, 41]. The circumstances of this can be at the center of future research.

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