Individual-Level Effects of Transparency in ES Implementations: A Dual Perspective on Job and Technology Outcomes

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Abstract

The implementation of advanced Enterprise Systems enables companies to create real-time transparency of business processes and workers’ labor far beyond any magnitude envisioned in the past. While prior research almost neglected implications of increased transparency for the individual, this study provides a deeper theoretical understanding of individual-level effects of transparency in Enterprise Systems implementations. Based on extant theory on IS acceptance and use and the Job Demand-Control(-Support) model, we develop a theoretical model which links transparency to a dual perspective of job and technology appraisals, specifically perceived control, psychological contract breach, performance expectancy, and effort expectancy. These appraisals are suggested to influence individual job and technology outcomes. We present a longitudinal survey research design and first insights from an extensive qualitative substantiation of the model. Our findings are expected to contribute to existing literature on large-scale system implementation and transparency.

Keywords: Transparency, Enterprise System Implementation, Job Demand, Appraisal, Job Outcomes, Technology Outcomes, Adoption, Individual-Level Analysis

Introduction

Half a decade ago, a typical manager might have monitored production output, revenue, and expenses, compared them with the budget, and observed workers periodically in-person (Bernstein 2017). In contrast, nowadays, advances in Information Technology (IT) and Enterprise Systems (ES) enable companies to create real-time transparency of the workers’ labor and business processes far beyond any magnitude envisioned in the past (Bernstein 2017; da Cunha 2013; Ghalayini et al. 1997). Companies leverage this trend in transparency to enhance operational control, knowledge transfer, bottleneck detection, and organizational performance (Berner et al. 2016; Bernstein 2012; Palanski et al. 2011). Hereby, transparency aims at preventing undesirable behaviors and promoting desirable ones (Sewell and Barker 2006). This
new transparency includes, for instance, workers’ start and stop reports of production activities to an ERP system. Prior studies revealed that people have a preference for privacy and even intentionally change their behaviors to conceal anomalies when being transparent (Bernstein 2017). In this light, recent studies reported employee concerns (Morris and Venkatesh 2010), resistance (Sewell and Barker 2006), routinized falsification of data (Levy 2015), and people buckling under the pressure of transparency (Patil et al. 2016). In addition, a negative influence on turnover intention was shown in early research (Chalykoff and Kochan 1989). Although they offer significant potential for IS research (da Cunha 2013; Street and Meister 2004) the implications of increased transparency enabled by advances in IT and ES remain understudied (Bernstein 2012). In particular, extant research has rarely included the perspective of the observed in conceptualizing the effects of transparency when new ES are introduced (Bernstein 2017). Furthermore, scholars of ES implementation call for research on established technology acceptance and use models in combination with new and emerging job characteristics (Morris and Venkatesh 2010). Transparency through new ES capabilities constitutes such an emergent job characteristic. Following these calls for research, this study pursues the following three research objectives:

1. Conceptualize transparency at the individual level with regard to ES implementations
2. Develop a model that explains how transparency at the individual level affects system-use and job-related outcomes during and in retrospect of ES implementations
3. Empirically test the model in a longitudinal study in a field setting

We expect our study to contribute to extant literature in several ways. First, research on transparency in a corporate environment has primarily focused on organizational context, transparency characteristics and the observer’s perspective (Bernstein 2017; Stanton 2000a; Street and Meister 2004). While these studies provide important insights, the question of how transparency is perceived at the individual level remains unanswered. Our study aims at filling this gap by providing a better understanding of the observed individual's short- and long-term perception of transparency. Therefore, we apply a longitudinal research design.

Second, past research on transparency through IS focused on non-integrated, dedicated monitoring systems (Stanton 2000a). Although several studies outlined the importance of ES in increasing transparency in a corporate environment (da Cunha 2013; Ghalayini et al. 1997; Street and Meister 2004), scholars barely drew attention to transparency in the context of large-scale ES introductions. This study is among the first to explore the effects of transparency at the individual level in large-scale ES implementations. We aim to contribute to the body of knowledge by synthesizing and analyzing data from multiple subsidiaries encompassing 104 plants worldwide and implementing two distinct ERP systems.

Third, past research on transparency is strongly focused on job-related outcomes (Stanton 2000a; Wells et al. 2007), although causal connections to technology-related outcomes can be anticipated (Chalykoff and Kochan 1989). Our study aims at filling this gap by proposing a dual perspective of technology appraisal and job appraisal that are argued to mediate effects of perceived transparency on system satisfaction, effective use, job satisfaction and job performance outcomes. To develop this reasoning, we draw on established theories in IS acceptance and use as well as psychology. Specifically, we focus on the unified model of technology acceptance (UTAUT) and the Job Demand-Control(-Support) model (JDC/JDCS).

Managers and IS leaders may learn from our study. We expect to promote an enhanced understanding of how to detect IS acceptance and use problems caused by an increased level of transparency early in the ES introduction. Moreover, our study is expected to unveil measures moderating the effects of increased transparency that enable managers to alleviate and prevent negative individual-level outcomes.

The next section briefly reviews relevant prior work and introduces the theoretical grounding of our study. Based on extant literature, we derive a preliminary model that explains the effects of transparency on the individual level on system-use and job-related outcomes with regard to ES implementations. The paper closes with illustrating the research design, presenting preliminary results from first empirical steps, and discussing the expected contributions to theory and practice in greater detail.

**Literature Review**

In order to accomplish our objectives and to advance the understanding of the impact of emergent job demands on job and technology outcomes, we focus on three major streams of research to inform our thinking: (1) research on the JDC/JDCS model; (2) UTAUT; (3) transparency in an organizational context.
The theoretical grounding comes, on the one hand, from prior research on the JDC/JDCS model. With a long research history, both models are the most influential job strain theories (der Doef and Maes 1999; Haeussser et al. 2010; Shimazu et al. 2004). The former postulates that psychological job strain results from the joint effects of the demands of a work situation and the individual’s ability to control his/her work (Karasek 1979). The latter adds a social dimension to the model (Johnson and Hall 1988). In more detail, the JDC holds that the most negative psychological strain results from high demands and low control jobs. Furthermore, the model states that high job demands in combination with high job control enhance learning and motivation. The JDCS argues that social support additionally accentuates the magnitude of psychological strain with higher rates for low levels of social support (der Doef and Maes 1999).

Individual acceptance and use of information technology are at the core of one of the most advanced and recognized research streams within the discipline of information system research (DeLone and McLean 2003; Petter et al. 2008; Premkumar and Bhattacherjee 2008; Venkatesh et al. 2016). Within this stream, especially the UTAUT has been used extensively as it integrates elements across eight different models and explains 77 percent of the variance in the behavioral intention to use a technology (Venkatesh et al. 2003, 2016). It posits that performance expectancy, effort expectancy and social influence directly determine the intention to use an IS which, in turn, impacts the actual use. In addition, the theory reasons that gender, age, experience and voluntariness of use moderate these relationships (Venkatesh et al. 2003).

The construct of transparency has been applied in several research fields, and several of them are related to management and organization theory (Bernstein 2017; Palanski et al. 2011). Three major literature streams focus on different manifestations of transparency that differ in the intensity of observation they entail (Table 1). In these streams, transparency commonly refers to surveillance, electronic performance monitoring or visibility (Bernstein 2017). Although the underlying rationale in all conceptualizations is similar, they differ in the levels of analysis and the excerpts of reality being investigated (Palanski et al. 2011). In a corporate environment, transparency can be characterized by its horizontal and vertical directions. On the one hand, from a horizontal perspective, external transparency refers to observing stakeholders from the outside of the organization, whereas internal transparency corresponds to the inside of an organization (Heald 2012; Street and Meister 2004). On the other hand, from a vertical perspective, upward transparency refers to observations of a hierarchical subordinate whereas downward transparency corresponds to the accountability of a superior (Bernstein 2017; Heald 2012).

Several studies outlined the importance of IT in increasing transparency in a corporate environment (Alavi and Leidner 2001; Bernstein 2017; da Cunha 2013; Ghalayini et al. 1997; Street and Meister 2004). ES implementations are mainly focused on the inside of a corporation with an upward perspective. Therefore, we focus on internal, upward transparency in the form of electronic performance monitoring. We define transparency in the context of ES implementations as close monitoring of a company’s core business processes executed by its employees and allowing for traceability of value-generating activities at any point in time. This perspective of transparency offers significant potential for IS research (Street and Meister 2004), and previous research mostly focused on the organizational context and characteristics of transparency (Stanton 2000a). Prior literature on electronic performance monitoring reveals that

<table>
<thead>
<tr>
<th>Manifestation</th>
<th>Surveillance</th>
<th>Electronic performance monitoring</th>
<th>Visibility</th>
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<tr>
<td>Definition</td>
<td>Close supervision of a comprehensive set of personal characteristics, behaviors and activities allowing for political, social and/or psychological influence (Sewell 1998; Sewell and Barker 2006)</td>
<td>Observation, examination, and/or recording of work-related behaviors with technological assistance (Grant and Higgins 1991; Stanton 2000a; Wells et al. 2007)</td>
<td>Physically (e.g. open offices) and non-physically (e.g. progress) visual information focused on a set of activities or processes (Bernstein 2017; Buell and Norton 2011)</td>
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<td>Intensity of observation</td>
<td>High</td>
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<td>Medium to Low</td>
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satisfaction with transparency depends on the clarity of rating criteria applied (Chalykoff and Kochan 1989). Another study finds an association of the degree of organizational justification for transparency with the perceived fairness of transparency (Stanton 2000b). In addition, research provides evidence that transparency induces feelings of stress (Aiello and Kolb 1995; Smith et al. 1992). In terms of transparency characteristics, prior literature illustrates that observing work output leads to a change in the distribution of effort at the expense of non-transparent tasks. Specifically, transparency on the individual-level affects the distribution of effort across tasks more strongly than on a group-level (Brewer 1995). Moreover, researchers reason that the frequency and consistency of transparency influences the perceived fairness of transparency (Niehoff and Moorman 1993; Stanton 2000b). Additionally, personal control tends to be higher if individuals have the ability to delay or prevent transparency (Stanton and BarnesFarrell 1996). Observed individuals moreover make appraisals related to transparency (da Cunha 2013; Niehoff and Moorman 1993; Pierce et al. 2015). In this regard, an ethnographic study highlights employee appraisals and behavior focused on enhancing personal reputation by leveraging the produced performance data (da Cunha 2013). Another recent study discovers motivation-driven and oversight-related appraisals as a result of being transparent (Pierce et al. 2015). In fact, the appraisal of fairness of transparency directly influences the satisfaction with dedicated monitoring systems (Kidwell and Bennett 1994), and recent work suggests there are even impacts on job performance (Berner et al. 2016; Pierce et al. 2015).

Although extant literature investigated a number of individual level outcomes of transparency, it has not yet fully accounted for the perspective of the observed individual in understanding why transparency leads to job and technology related outcomes (Bernstein 2017). Further, although IS literature acknowledges that ES implementations can drive transparency (Bernstein 2017; da Cunha 2013; Ghalayini et al. 1997; Street and Meister 2004), prior transparency research focused heavily on dedicated, single-purpose monitoring systems and has so far neglected that newly introduced ES may affect individuals by changing the transparency they perceive in their jobs. We approach this gap theoretically by following a call to integrate technology-related aspects into job-oriented theories (Morris and Venkatesh 2010).

**Theoretical Model and Hypotheses**

In order to improve our understanding of how transparency at the individual level affects system-related and job-related outcomes during and in retrospect of ES implementations, we propose a theoretical model that links transparency as a job demand to individuals’ appraisals concerning their job and technology. These appraisals are, in turn, suggested to cause individual level outcomes. The theoretical model is depicted in Figure 1 and developed in the subsequent sections, starting from the left to the right hand.
**Transparency as a Job Demand**

According to the JDC/JDSC model, job demands refer to workload, pressure as well as physical and emotional demands (der Doef and Maes 1999; Haeusser et al. 2010). As ES increase the transparency within an organization (Zhu et al. 2010), transparency can be understood as a type of job demand in terms of the JDC/JDSC. It is imposed on employees and causes additional workload and high pressure. Hereby, an employee can perceive transparency in several ways. For instance, a new ERP system may require employees to execute a higher proportion of their daily work with the system, feeding it with various information that can be traced back to each individual. In addition, it may require detailed reports and documentation of executed process steps or work output. Such information, produced by employees, might also be shared with a wider company-internal range. Following the call to incorporate the perspective of the observed in theory on transparency and its effects (Bernstein 2017), we introduce the construct of perceived transparency. *Perceived transparency (PT)* refers to an individual’s perception to which his or her value-adding activities and work output can be monitored and traced.

**Job and Technology Appraisals**

**Job Appraisal**

*Perceived control (PC)* is defined as individuals’ “evaluation of their resources to deal with demands that might affect the current job situation” (Vander Elst et al. 2016, p. 101). Related to the transparency caused by an ES implementation, individuals may evaluate their psychological, physical and social resources to deal with the changing job demands and to fulfill external expectations (Smith 1989; Smith and Lazarus 1993). Further, they can do little to restore the previous extent of transparency of their job, as a change usually results from top-level management decisions. Besides, transparency of every single process step may represent a more or less severe threat the employee has to cope with, depending on individual resources and personality. In addition, literature also suggests that PC mediates the relationship between job appraisals and outcomes (Vander Elst et al. 2016). Consequently, we propose:

\[ H1: PT \text{ will negatively influence } PC. \]

*Psychological contract breach (PCB)* refers to an imbalance of the “idiosyncratic set of reciprocal expectations held by employees concerning their obligations (i.e. what they will do for the employer) and their entitlements (i.e. what they expect to receive in turn)” (McLean Parks et al. 1998, p. 698). In this view, a breach represents the individual’s feeling in a job situation that the psychological contract has been violated and the outcome is distributed unfairly (Vander Elst et al. 2016; McLean Parks et al. 1998). Information privacy is often considered as a moral or legal right (Clarke 1999), refers to individual’s subjective view of fairness (Malhotra et al. 2004) and is an important concern for corporations (Bélanger and Crossler 2011). Employees may regard higher levels of transparency as an invasion of privacy and may gain the feeling of being treated unfairly. Especially the employer’s ability to evaluate individual performance such as numbers of completed tasks or time on task concerns employees (Morris and Venkatesh 2010). Further, employees may perceive that their obligations increase with the degree of transparency they are now urged to fulfill. Equally, they might feel that their entitlements remain constant or are now bounded by complying with the changing demand. Besides, critical situation are seen as less fair when someone else is responsible for them (Smith and Ellsworth 1985), such as management’s decision to increase transparency. Therefore, we propose:

\[ H2: PT \text{ will positively influence } PCB. \]

**Technology Appraisal**

*Performance expectancy (PE)* is “the degree to which an individual believes that using the system will help him or her to attain gains in job performance” (Venkatesh et al. 2003, p. 447). Transparency makes information on value-adding activities and work outcomes available, even across departments (Al-Jabri and Roztocki 2015). This may lead to the expectation that it reveals process steps already completed by colleagues and hence reduces duplication of work. Employees may expect erroneous process steps and activities to be detected earlier, leading to reduced rework and increased individual performance. Contrastingly, *effort expectancy (EE)* is “the degree of ease associated with the use of the system”
Employees may expect a surge of additional effort for reporting additional information to the system for ensuring transparency. For instance, a production worker may be urged to report the start and end of every batch to the system. Producing many batches, an employee might perceive this situation as additional effort or overhead in comparison to the status quo. Also, employees may expect effort for improving personal performance based on increased transparency. Consequently, we propose:

**H3:** PT will positively influence PE.

**H4:** PT will positively influence EE.

**Job and Technology Outcomes**

Following Sykes (2015), we adopt three outcome measures encompassing the job and the system. We also include effective use as employees may hide or falsify system data (Bernstein 2012; Levy 2015).

**Job Outcomes**

*Job satisfaction (JS)* is the “degree to which an employee is happy with his or her job” (Sykes 2015, p. 477) whereas *job performance (JP)* refers to “how well an employee performs his or her job” (Sykes 2015, p. 477). Little research has studied the influence of ES implementations on job satisfaction and job performance, although it would constitute a major advancement in the success evaluation at the individual level (Morris and Venkatesh 2010). If employees feel their own resources are sufficient to cope with increased transparency of a new ES they may grow a feeling of secureness and well-preparedness. This feeling of well-preparedness facing a new situation at work may increase personal well-being and satisfaction with the job as one estimates that demands can be fulfilled. Also, prior research reported that performance expectancy strengthens attitude outcomes such as satisfaction (Bhattacherjee 2001). Satisfaction may be grounded in the anticipation that transparency helps them complete certain tasks faster, avoiding unnecessary rework, or being more valuable to the employer. By contrast, employees feeling treated unfairly or expecting increased obligations due to transparency may feel reduced loyalty to the employer which may show in low job satisfaction (Vander Elst et al. 2016). Finally, effort is a finite personal resource that employees can allocate to their jobs (Davis 1989). Expecting that they need to extend personal resources to cope with changing demands such as increased transparency, employees may be less satisfied. Therefore, we posit:

**H5a/b:** PC / PCB will positively / negatively influence JS.

**H5c/d:** PE / EE will positively / negatively influence JS.

Furthermore, perceived control in changing job demands may lead to emotion-focused coping reactions such as psychological and behavioral enforcement of the job (Vander Elst et al. 2016). This enforcement may be expressed in higher levels of individual employee commitment and performance. Likewise, already the individual expectancy of increased performance due to higher levels of transparency may cause these coping reactions that positively impact actual job performance. Further, evaluating transparency as being advantageously may come along with the intention to realize the benefits. Contrastingly, an employee believing a changing job demand to be unfair may be discouraged and may tend to perform worse (Vander Elst et al. 2016). In addition, also high employee expectations toward the effort may negatively affect performance as one might not be willing to invest more. Consequently, we propose:

**H6a/b:** PC / PCB will positively / negatively influence JP.

**H6c/d:** PE / EE will positively / negatively influence JP.

**Technology Outcomes**

*System satisfaction (SS)* is defined as “the IS end-user’s overall affective and cognitive evaluation of the pleasurable level of consumption-related fulfillment experienced with the system” (Sykes 2015, p. 477). Building on the argument that appraising own resources to be sufficient to cope with increased transparency provokes a feeling of secureness and well-preparedness, we further reason that these feelings also positively impact the emotion-focused outcome of satisfaction with the underlying system. Further, an employee who ties performance expectations to increased transparency introduced by an ES, may also be
more satisfied with the system itself. In contrast, individual system satisfaction might be negatively impacted if an employee perceives the new transparency as unfair and only unilaterally beneficial for the employer. Effort expectations towards transparency tied to the system may not only affect job satisfaction negatively, but may also decrease system satisfaction as employees may perceive the system to be the underlying cause of their additional efforts. Thus, the following propositions are put forth:

\[ H7a/b: \text{PC / PCB will positively / negatively influence SS.} \]

\[ H7c/d: \text{PE / EE will positively / negatively influence SS.} \]

Effective Use (EU) is defined as “using a system in a way that helps attain the goals for using the system” (Burton-Jones and Grange 2013, p. 633). Hereby, EU requires significant knowledge about the incorporation of the ES into the underlying business processes (Bala and Venkatesh 2013; Sykes et al. 2009). However, recent research found a lack of understanding of the nature and drivers of EU (Burton-Jones and Grange 2013). Employees feeling to be able to cope with increased transparency may likely be equipped with the knowledge and motivation to comply with the new demands. As demand fulfilment is related to using the underlying ES in a way that helps attain the goal of transparency, we expect effective use to increase. Moreover, an employee expecting a performance increase due to increased transparency is ought to be willing to realize the expectations. As effective use of the functionality is indispensable for the realization, employees may use the ES more effectively when expecting a performance increase. Besides, employees perceiving transparency as unfair and unilaterally beneficial may tend to exhibit hiding behavior which in turn implies non-effective use. Previous studies on transparency revealed this behavior as well as routinely falsifying of data in a similar context (Bernstein 2017; Levy 2015). Lastly, employees may also use the ES ineffectively because they tend to avoid expected additional effort. Thus, we propose:

\[ H8a/b: \text{PC / PCB will positively / negatively influence EU.} \]

\[ H8c/d: \text{PE / EE will positively / negatively influence EU.} \]

Research Design and Preliminary Results

To test the developed research model, we gained broad access to a large multinational corporation where we collect individual level data on ERP implementations. The object under investigation is associated with the industry sector of surface and heat treatment, operating three subsidiaries and 104 plants worldwide. This scientific context has four unique, outstanding characteristics. Firstly, the corporation is introducing one ERP system for each of the two business sectors in parallel. Hereby, the two new best-practice packaged ERP systems replace a legacy in-house tailor-made ERP solution. Both implementations started four years ago and subsidiary A already completed the rollouts. Secondly, both applications differ in terms of the software design. ERP1 is designed as a central system running in the corporate data center, relying on resilient internet lines to the plants of the subsidiaries. In comparison, ERP2 is designed as a decentral solution, requiring a detached server in every plant for its operation. Thirdly, the corporation pursues two different philosophies. Subsidiaries A and B rely on a strict procedure and introduced a central rollout project team. In contrast, subsidiary C delegated the responsibility to the plants, allowing for more flexibility and heterogeneity. Finally, two different conversion approaches are applied. Subsidiary A and B utilize the big bang strategy, referring to a complete system changeover plant-by-plant, month-by-month. Unlike the others, subsidiary C used a phased approach and implemented partial functionality one by one.

The research design embodies three phases. Firstly, we substantiate the model based on explorative interviews from management’s perspective. This grounding will be refined based on in-depth departmental interviews with employees daily affected by increased transparency. Secondly, a survey will be developed and validated. The revised model will be tested based on longitudinal survey data of ca. 500 individuals.

Substantiation and Model Refinement

Between March and April 2017, an exploratory investigation was conducted investigating practitioners’ perception towards personal expectations, satisfaction, user behavior, training, problems, and optimizations regarding the implementation of two distinct ERP systems (Table 2). Overall, five managing directors, eight high-level managers, and four IT Coordinators were interviewed with the objective to reveal promising new avenues for user adoption research with practical significance.
The semi-structured interviews lasted on average 40 minutes and were recorded and transcribed. To analyze the data, common coding techniques for developing grounded theory were applied (Strauss and Corbin 1998). Overall, the exploratory interviews showed that the introduction of the new ERP systems increased the transparency massively. In this light, a high-level manager reasoned: “We have now a strongly enhanced traceability of our production processes. We can report the current production step and treatment at any time to the customer”. To achieve this new level of transparency, a multitude of processes were changed. For instance, a managing director stated: “Suddenly, every process step has to be reported to the system”. However, this led to severe negative employee outcomes. For example, one managing director stated: “We have a massive change towards transparency. And this was perceived from employees as surveillance, spoon-feeding and police state.” Further, the interviews illustrated that user acceptance was primarily impeded by the new level of transparency at the corporation. This is illustrated by the statement of another high-level manager: “The acceptance was reached quickly, except of the function of transparency”. Even fear and severe resistance were described. For example, a high level-manager said: “A certain fear for transparency arose amongst the employees”. In addition, another managing director stated: “One can use that [the transparency] to create a product costing analysis or to see what the employee is doing. Soon it was said they want to observe us, Big Brother is watching you, they want to screen us. Then the works council became involved. [...] This was the biggest revolution or mutiny where they [the employees] said we do not log in, we do not report to the system”. Even falsification behavior with the objective to outsmart the ERP system was described. A managing director reported: “This lead to the situation that employees came up with several things to boycott transparency. [...] If one knows that the duration of a process step is measured and one has to report start and end to the system, soon someone tries to report the start but not end”. In sum, the participants reported a severe impact of transparency on job and technology outcomes.

These preliminary findings from the management’s perspective are planned to be complemented with insights from departments of different plants of the three subsidiaries deeply involved in the daily use of the two ERP systems and affected by the introduced transparency. In addition, these perspectives are enriched by employees from both ERP vendors supervising the rollouts. Approximately additional 30 semi-structured interviews will be recorded and transcribed. Based on this qualitative data, the preliminary research model will be re-assessed, especially with regard to mediating effects, and the research hypotheses will be refined.
Survey Development

The second phase encompasses the development of a survey questionnaire to measure the constructs depicted within the re-assessed research model. In order to ensure comparability to previous findings in related research streams, existing scales of PC/PCB (Vander Elst et al. 2016), PE/EE (Venkatesh et al. 2003), JS/JP/SS (Sykes 2015), and EU (Burton-Jones and Conca 2013) will be adapted. Using a convenience sampling strategy (Hufnagel and Conca 1994) and established methods in IS, a scale for the measurement of PT will be developed based on the steps proposed by MacKenzie et al. (2011). For early steps, two focus groups will be organized consisting of key users involved in the implementation across-plants (4-6 participants each). The questionnaire will be pre-tested with employees involved in the daily use of the ERP system and impacted by the introduced transparency. We plan to present our revised research model and the measurement instrument at ICIS 2017 in order to obtain feedback.

Longitudinal Survey

In the third phase, the questionnaire will be administered to approximately 500 employees from plants that have not yet had a system rollout. A longitudinal design with three data collection points is applied for each plant. The first data collection point will be one month prior to the rollout to capture the status quo. Next, one week after the rollout of the ERP system, the immediate impact will be measured. Finally, changes in the appraisals as well as employee outcomes will be collected 6 months after the rollout. The analysis and reporting will be based on Gefen et al. (2011) and Ringle et al. (2012). It is anticipated that the results of this study will lead to an advanced understanding of the impact of transparency on individual job- and system-related outcomes as well as associated appraisals to cope with the situation.

Expected Contributions

This study is expected to contribute to existing literature on company-internal, upward transparency. Facing this research stream, previous studies discussed transparency primarily in terms of the organizational context, transparency characteristics and the perspective of the observer (Bernstein 2017; Stanton 2000a; Street and Meister 2004). However, extant literature neglects the perspective of the observed in explaining the effects of transparency. We introduce the construct of an individual’s perceived transparency and study its primary and secondary effects. Further, we provide a time-cognizant perspective by applying a longitudinal research design. Previous literature focused on non-integrated single-purpose monitoring systems (Stanton 2000a). We consider transparency in the context of large-scale ES implementations that can lead to a strong increase in transparency in a corporate environment (da Cunha 2013; Ghalayini et al. 1997; Street and Meister 2004). In contrast to prior work that has mostly been based on small, cross-sectional, single snapshot samples, we plan to test our revised model with empirical data from a corporation encompassing 104 plants in 18 countries introducing two distinct ERP systems in parallel. This field setting enables a broad perspective spanning multiple cultures, technologies, industrial contexts and attitudes. Past research on transparency is heavily focused on job-related outcomes (Stanton 2000a; Wells et al. 2007), whereas we add a system-related perspective. Lastly, our work extends research on large-scale system implementations and job design (Morris and Venkatesh 2010) as well as on job-related outcomes of transparency by incorporating established determinants from technology acceptance and use in a dual perspective.

Furthermore, this study contributes to organizational practice. Seventeen explorative interviews across three subsidiaries strongly emphasized the practical demand for research on this issue. Almost all managing directors and high-level managers stated that the high levels of transparency were on the one hand the underlying rationale for the ERP introductions but also the main hurdle that caused significant issues regarding system-use and job outcomes. Practice can therefore benefit from a scientific assessment of the effects of high transparency on the individual level and how negative outcomes can be mitigated.

One avenue for future research is to apply the revised model to other ES implementations beyond ERP systems with the objective of validating the generalizability of the findings. In addition, in order to overcome the limitations of this implementation context, the model could also be validated with samples from other industries than the branch of production.
References


