IT´S NOT FAIR! A MULTILEVEL CONCEPTUALIZATION OF STRATEGIC IT BENCHMARKING SUCCESS: THE ROLE OF PROCEDURAL JUSTICE

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Complete Research

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Abstract

Strategic IT benchmarking (SITBM) is used to improve business-IT alignment, generate input for the IT strategy process, or to show IT's value contribution and performance. Yet, as many SITBM initiatives do not result in the desired improvements, many IT executives are fairly critical about this form of benchmarking. However, now more than ever, many contemporary IT executives are expected to make transparent their IT organization's performance and value contribution. SITBM's relevance as a technique to create this transparency has therefore increased. Based on an exhaustive literature analysis, including the fields of benchmarking, strategic IT management, and strategic decision-making, I suggest a model for explaining SITBM's success and develop a respective survey instrument. I argue that explaining SITBM success requires two levels of analysis: only when the stakeholders perceive the benchmarking process as fair and are convinced of the SITBM's methodological quality, will they commit to implementing the derived measures. I argue that this commitment, together with strategic integration of the SITBM, are the key determinants of successful SITBM.

Keywords: Benchmarking, strategic benchmarking, strategic IT management, IT assessment, strategic IS planning, strategic IT benchmarking.

1 Introduction

With IT organizations turning into IT service providers and business consultants (Galliers & Leidner, 2003; Segars & Hendrickson, 2000), IT executives are not only in charge of increasing the transparency of and providing justification for their costs and processes towards the business, they also have to show that the IT services they provided are actually aligned with the business needs. In addition, CIOs have to balance the demands of the business (e.g. technological flexibility, or individualized solutions) with IT's requirements regarding the security, costs, and complexity of the solution landscape during their annual strategic planning processes. Accordingly, they face an increased need for appropriate information and a more comprehensive picture of IT to make the right strategic decisions (Doherty et al., 1999; Gregory et al., 2012; Ward & Peppard, 2003).

As IT benchmarking had long been used to provide transparency regarding IT products and processes (Cragg, 2002; Krcmar, 2009; Legner, 1999), CIOs started using IT benchmarking also to assess managerial and strategic aspects such as IT governance, business-IT alignment, and IT strategy (Adebanjo et al., 2010; Khaiata & Zualkernan, 2009; Lacity & Hirschheim, 1995; Love et al., 2005). This form of IT benchmarking has become recognized as strategic IT benchmarking (SITBM). SITBM is, hence, is a structured comparison of an IT organization's IT management to a peer group, with the

objective of improving the IT organization's strategic position (e.g. the business-IT alignment or the IT strategy).

A successful SITBM results in a number of initiatives and projects targeted towards improving an IT organization's current strategic position (Drew, 1997; Müller et al., 2010). IT executives often struggle to fully exploit the results of such a benchmarking. They perceive the results as incomparable (Adebanjo et al., 2010; Curran, 2009; Hinton et al., 2000), hard to interpret (Braadbaart, 2007; Moffett et al., 2008), or inappropriate (Basili et al., 2010; Gimbert et al., 2010). Hence, as many SITBM initiatives do not result in the desired improvements, many IT executives are fairly critical about this form of benchmarking (Adebanjo et al., 2010; Curran, 2009; Serafeimides & Smithson, 2000). For example, recently, the CIO of Credit Suisse argued against SITBM. He criticized that SITBM is too often used as an isolated measurement ignoring IT's specific context, that can thus hardly "show the value of the IT organization" (Zeitler, 2012, p. 1). However, considering the challenges IT executives are faced with as depicted at the beginning of this paper, the relevance of gaining data on an IT organization's performance and value contribution steadily increases (Goetze et al., 2012; Zarnekow et al., 2006). SITBM's relevance as a technique to provide such data has therefore increased and its continued presence as a topic in many practitioner conferences (e.g. Gartner's CIO Summit), magazines (Goetze et al., 2012; Overby, 2013), and blogs (e.g. Curran, 2009; Flinders, 2012) also highlights the interest in SITBM.

Researchers have identified various barriers to strategic benchmarking success. Among them are lack of time, lack of resources, and lack of top management support, insufficient methodological quality (e.g. inadequate peer groups, unreliable measurement instruments), and lacking integration into the IT strategy process (e.g. Adebanjo et al., 2010; Anand & Kodali, 2008; Camp, 1989; Hong et al., 2012; Kerschbaum et al., 2011; Müller et al., 2010; Panagiotou, 2007; Watson, 1993; Williams et al., 2012). Looking at reported cases of SITBM and strategic benchmarking, it can be seen that even when all the above-mentioned barriers are addressed, benchmarking initiatives fail to deliver sustainable outcomes (e.g.Curran, 2009; Love et al., 1998; Müller et al., 2010; Williams et al., 2012). An exhaustive systematic literature review on SITBM state-of-the-art by this paper's author (the results are in revision elsewhere) revealed that while researchers agree that strategic benchmarking's results must lead to initiatives to improve an organization's strategic position, they fail to satisfyingly explain how such transformation should be approached. Also, in practice, the transformation does not seem to work, even though practitioners do their best to follow the prescriptions provided by research.

Research provides starting points for further inquiry into the problem. Few researchers have started to investigate team-related and cultural facets and have uncovered a variety of new concepts. For most of them, however, we have only a vague understanding of their effects. For instance, Ramabadran et al. (2004) as well as Müller et al. (2010) both indicate that fair behavior by stakeholders during data collection and analysis plays an important role in making the stakeholders accept and trust in the benchmarking's results. However, while Ramabadran et al. (2004) were unable to show how this acceptance relates to benchmarking success, Müller et al. (2010) indicate that willingness to act is triggered by this acceptance, which ultimately leads to SITBM success. Against this background, in this paper, I pursue the following two research questions:

1. By which mechanisms are SITBM results transformed into sustainable initiatives?
2. How do the individual stakeholders involved in an SITBM project impact this transformation?

To answer these questions, I opt for a quantitative research approach. I have reviewed the existing literature on (strategic) benchmarking and strategic decision-making and suggest a model for explaining SITBM success. I argue that explaining SITBM success requires two levels of analysis, namely the organizational and individual levels. Adding to strategic decision-making research findings, I hypothesize that the theoretical base of procedural justice and commitment is well suited to

capture the relevant individual-level effects. In this paper, I will introduce my research model and present the survey instrument I have developed.

The following sections are structured as follows. In Section 2, I present the theoretical underpinnings of my research, from benchmarking and strategic decision-making research. In Section 3, I provide a brief overview of my research methodology. In Section 4, I develop my research model. In Section 5, I introduce the measurement instrument, including its development, and then conclude with a discussion and an outlook.

2 Foundations

2.1 Strategic IT benchmarking success

Strategic benchmarking evolved at the beginning of the 1990s and was soon recognized as a powerful strategic management tool that allows for a structured assessment of different aspects of an organization (Clayton & Luchs, 1994; Watson, 1993), also in the context of strategic IT management since it helps contrasting internal and external perceptions of an IT organization (Müller et al., 2009; Smith & McKeen, 1996). Consequently, SITBM is strategic benchmarking applied to IT management. Successful SITBM results in a number of short-term and long-term initiatives targeted at improving an IT organization's strategic position and performance (Smith & McKeen, 1996; Watson, 1993). Hence, the benchmarking provides input for the subsequent strategic planning of an IT organization (Chen, 2005) and may also be succeeded by further micro-benchmarkings that investigate identified problem fields in depth (Clayton & Luchs, 1994).

SITBM and strategic benchmarking foremost differ in their object of analysis. Researchers on strategic benchmarking typically consider an independent organization, but not a "business within a business" (Segars & Hendrickson, 2000, p. 432), i.e. an organization that is expected to act autonomously on the one hand, but is also expected to account for various dependencies on the other hand. However, modern IT organizations are a business within a business: They have to act economically and autonomously, but are constrained in their operation radius as they have to align with the needs and directions provided by the company to which they provide IT services (Gregory et al., 2012). In their SITBM endeavors, CIOs are, thus, also required to consider the various organizational-political contingencies that result from their situation. These contingencies strongly impact how SITBM can be applied, who needs to be involved, and which outcomes will be accepted by the business units and the corporate management (Lin et al., 2014; Williams et al., 2012). The social dynamics between the involved people, as well as the context in which they act, strongly influences the whole benchmarking process and its outcomes (Elnathan et al., 1996; Lin et al., 2014; Maleyeff, 2003). These aspects make SITBM more challenging than traditional strategic benchmarking.

While there is plenty of research on benchmarking classifications and methodologies (i.e. process models, peer group compositions, and instruments, see also Section 3.4), there are very few research papers on benchmarking success (e.g. Drew, 1997; Müller et al., 2010; Ohinata, 1994; Ramabadran et al., 2004). This is not to say that research does not provide starting points for investigating SITBM success. Many authors, though, have primary research objectives other than investigating success, such as process models and techniques (e.g. Ahmed & Rafiq, 1998; Anand & Kodali, 2008), general investigations of the state of usage (e.g. Adebanjo et al., 2010; Hinton et al., 2000; Moffett et al., 2008), or mathematical and comparability issues (e.g. Chang & King, 2005; Kerschbaum et al., 2011; Panagiotou, 2007). As a result, although these authors often mention or describe success factors – such as top management support, methodological quality, or strategy process integration – they do not link them to the whole benchmarking process or investigate their effects in greater depth. However, it is increasingly acknowledged that methodological factors (long considered as key determinants of success) alone are not sufficient to explain SITBM success. Some authors point to team characteristics (Ohinata, 1994; Ramabadran et al., 2004) or cultural aspects (Elmuti & Kathawala, 1997; Lacity

& Hirschheim, 1995). However, others maintain that individual stakeholders have significant impact on SITBM success and that their behavior might be decisive in (lack of) success: the individual-level dynamics form an effect chain on SITBM success, while the classical antecedents function as influences on these (Serafeimides & Smithson, 2000; Zairi, 1998; source blinded). However, benchmarking research has to date ignored individual-level effects' role (Elnathan et al., 1996; Moriarty & Smallman, 2009). As research on strategic decision-making (the overarching context of strategic benchmarking) has long realized the importance of individuals in strategy processes, I included this stream of research in my research. I will now briefly introduce this research field.

2.2 Strategic decision-making and procedural justice

Research on strategic decision-making has a long history of investigating individual-level effects on the strategic decision-making process (e.g. Eisenhardt, 1989; Korsgaard et al., 1995; Schweiger et al., 1986). It is acknowledged that procedural justice, that is the extent to which decision processes are perceived as fair (Lind & Tyler, 1988), leads to higher decision quality (Kim & Mauborgne, 1998; Parayitam & Dooley, 2009; Raman, 2009), increased backing of decisions (Korsgaard et al., 1995; Salancik, 1977; Skordoulis & Dawson, 2007), and higher decision implementation performance (Colquitt, 2001; Dooley & Fryxell, 1999; Kim & Mauborgne, 1997). As the measures and actions derived from an SITBM's results are strategic decisions, I add on the insights from strategic decision-making, and particularly on the theoretical basis of procedural justice. Procedural justice is the extent to which the dynamics of the decision process are judged to be fair (Lind & Tyler, 1988). The defining characteristics of procedural justice are that the existence of open communication and a participatory atmosphere, that the results are based on accurate information and individual inputs, and that processes are applied consistently without bias (Colquitt, 2001; Folger & Konovski, 1989; e.g. Kim & Mauborgne, 1998; Paese et al., 1988; Thibaut & Walker, 1975). Procedural justice is a powerful concept in explaining why stakeholders are willing to actively follow a course of action that results from a strategic decision: fair processes lead to acceptance of decision results by stakeholders, which in turn fosters long-term commitment regarding the implementation of the decision results, and – eventually – cooperation, compliant behavior, and performance (Kim & Mauborgne, 1998; Klein et al., 2012; Korsgaard et al., 1995; Locke & Latham, 2013).

The persons involved in an SITBM and thus its core stakeholders are typically also the stakeholders of strategic IS planning (Chen, 2005) – that is, the CIO, IT middle management (typically representing the domains of IT services, applications, infrastructure, and projects), business representatives that manage the IT-organization interface, representatives from IT controlling and, potentially, representatives from other staff positions (Ruohonen, 1991). It has been shown that having the "right" stakeholders involved in the benchmarking positively influences the overall project progress (Ohinata, 1994; Ramabadran et al., 2004; Williams et al., 2012). For example, Mentzas (1997) suggested including issue-specific experts for specific organizational domains as well as experts from the business unit during situation analysis and strategy conception as they could provide more profound insights and background information. Vice versa, when business representatives are involved during data collection and analysis, they will develop a more precise and "first-hand" understanding of the activities and contingencies the IT organization has to cope with (Doherty et al., 1999; Earl, 1993; Segars & Grover, 1999), thus contributing to perceptions of transparency and IT value-added. Accordingly, a core argument underlying this paper is that the backing of these individual stakeholders of the derived measures needs to be triggered to transform SITBM results into sustainable outcomes, and that this backing is induced by assuring procedural justice during the collection of the relevant benchmarking data and the data analysis.

3 Research model

My research aim is to understand how individual stakeholders in an SITBM impact the transformation of the SITBM results into concrete initiatives and projects. These initiatives and projects are typically defined in an action plan derived during the SITBM data analysis phase. According to procedural justice research, commitment to this action plan must be attained to assure such transformation (Klein et al., 2012; Korsgaard et al., 1995; Weissbein et al., 1998). I will now consider these insights in the conceptual model. The research model is depicted in Figure 1.

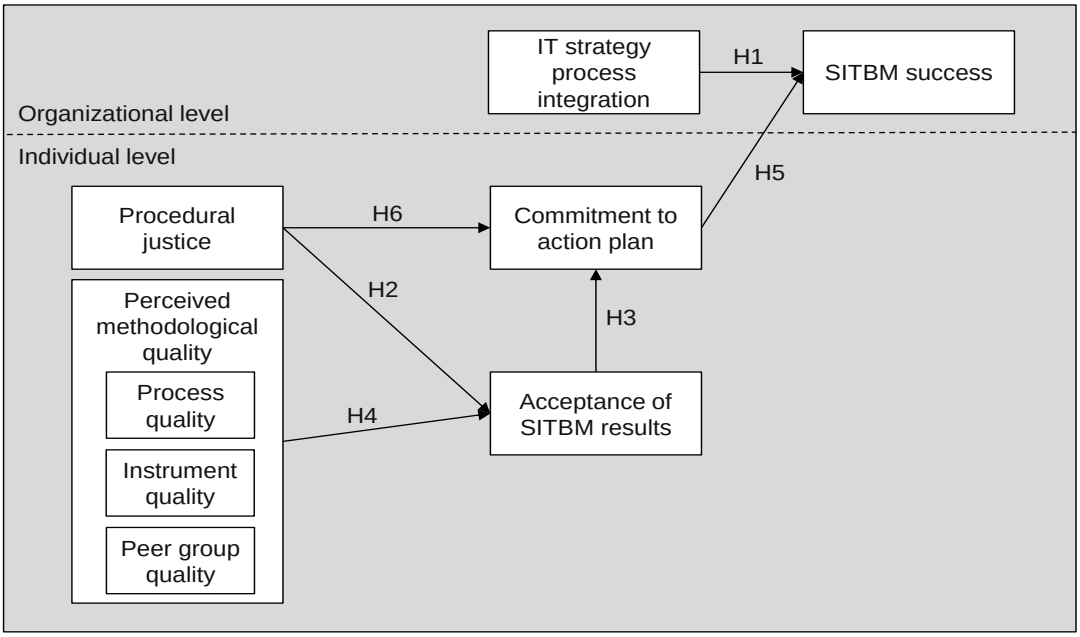

Figure 1. SITBM Success Model

3.1 IT strategy process integration

IT strategy process integration refers to the extent to which the results are intended to be integrated into the planning process (Watson, 1993). SITBM provides valuable input to the IT strategy process, because it allows one to strategically evaluate relevant information against an IT organization's competitive environment and assures that the resulting strategy does not lose focus on the external environment (Chen, 2005; Clayton & Luchs, 1994). However, without sound strategic integration, the SITBM might be completed too late to provide input for the strategic planning and therefore may not result in any outcomes (Lacity & Hirschheim, 1995; Müller et al., 2009). Similarly, various authors have shown that, in cases in which the results of a strategic benchmarking's results were not clearly planned for use in the strategic planning or in which the results were available too early, there is a high danger that the results are forgotten or overlooked later on (Chen, 2005; Elmuti & Kathawala, 1997), even more in the fast changing IT business (Smith & McKeen, 1996). Therefore, I hypothesize:

H1: IT strategy process integration positively influences SITBM success.

3.2 Procedural justice

Procedural justice is the extent to which decision processes are perceived as fair (Lind & Tyler, 1988). Arising initially from a legal context, procedural justice theory has been applied to many different domains – including legal and political (Thibaut & Walker, 1975; Tyler et al., 1985), social and educational (Leventhal, 1980; Lind & Tyler, 1988), and corporate and workplace settings, including

strategic decision-making (Folger & Konovski, 1989; Kim & Mauborgne, 1998). Regarding strategic decision-making, procedural justice has been shown to have a positive impact on short-term attitudes such as commitment to implementation (Kim & Mauborgne, 1997; Kim & Mauborgne, 1998; Korsgaard et al., 1995; Paese et al., 1988) as well as on long-term attitudes such as commitment to the company and job satisfaction (Gopinath & Becker, 2000), strategies (Weissbein et al., 1998), and goals (Locke & Latham, 2013). Procedural justice has been identified as a decisive factor in strategic decision-making research to trigger a chain of effects that ultimately leads to commitment, backing of decisions, and higher performance during implementation (Colquitt, 2001; Kim & Mauborgne, 1997; Korsgaard et al., 1995; Skordoulis & Dawson, 2007). There has been a long debate about procedural justice's effects on individual behavior. Some argue it would induce satisfaction with outcomes (Thibaut & Walker, 1975; Tyler et al., 1985), while others hold it would induce acceptance of outcomes and compliant behavior (Folger & Konovski, 1989; Korsgaard et al., 1995). Based on a large-scale survey among universities and companies, Colquitt Colquitt) was able to demonstrate that even when team members are very unsatisfied with the outcomes of decision processes, they were much more likely to accept them in the presence of procedural justice: considering all team members' opinions during the decision process gives them a sense of appreciation and attachment. Furthermore, it induces trust that the results have been created objectively and without bias. SITBM also represents a strategic decision-making process, because – based on several data collection and analysis processes – decisions regarding future initiatives and the strategic direction are made. However, the non-acceptance of SITBM results by single stakeholders is often a key factor for low performance in the implementation of the derived action plan (Lacity & Hirschheim, 1995; Müller et al., 2010). Past investigations also show that better results quality does not necessarily lead to increased acceptance (Love et al., 1998; Müller et al., 2010; Serafeimides & Smithson, 2000), while at the same time, SITBM researchers indicate that the directness and quantity of communication between the project stakeholders, as well as the nature of team members' interactions, influences project progress and the overall acceptance of the project output (Müller et al., 2010; Ramabadran et al., 2004). In summary, I posit that a sense of attachment and responsibility must be created to make the involved stakeholders accept the SITBM results. Thus, I hypothesize:

H2: A high degree of procedural justice positively influences the acceptance of the benchmarking results.

3.3 Acceptance of the benchmarking results

Acceptance of the benchmarking results concerns the extent to which the SITBM's involved stakeholders perceive its results as valid, reliable, and useful. SITBM results comprise the results of the statistical analysis of the comparison with the peer group. On the basis of these results, during the data analysis phase, an action plan is derived. Reliability and validity are relevant, since doubts about one of these by a few (or all) stakeholders leads to refusal to implement the derived action plan (Camp, 1989; Drew, 1997). However, if there is little or no doubt, more effort goes into data analysis, the involved stakeholders are more convinced of the resulting action plan, and the results are more likely to be implemented (Carpinetti & Melo, 2002; Hinton et al., 2000). Similarly, usefulness is crucial to induce acceptance of SITBM results. If too detailed or irrelevant data is collected, the desired insights can hardly be derived and the resultant focus may be wrong (Ahmed & Rafiq, 1998; Gimbert et al., 2010; Smith & McKeen, 1996). As a result, improving the strategic position may be difficult, if not impossible. In this regard, Lacity and Hirschheim Lacity and Hirschheim) suggest including data validation meetings with the stakeholders in the SITBM process to improve the data quality in terms of validity and reliability and to assure that the right information is collected, thereby fostering acceptance of the results. However, they do not further investigate how this acceptance relates to successful SITBM. Conversely, again building upon procedural justice research, I posit that this relationship is mediated by the individual project stakeholders' commitment to the action plan. This view is consistent with the findings of other strategic decision-making researchers: compliance

with and acceptance of decisions (these can also be decisions made by third parties or authority figures) induces compliant behavior and commitment during the implementation of the decision outcomes (Korsgaard et al., 1995; Lind et al., 1993). Reflecting on these considerations, I formulate my next hypothesis:

H3: Acceptance of the SITBM results positively influences the commitment to the derived action plan.

3.4 Perceived methodological quality

Perceived methodological quality is a multidimensional construct that refers to individual perceptions of the quality of the adopted process model, the utilized instrument and the chosen peer group. A wide spectrum of methods is available for benchmarking (Anand & Kodali, 2008; Drew, 1997; Gleich et al., 2008). Although the approaches differ in terms of detail and comprehensiveness, they all complete the four basic steps suggested by Deming (1982): *plan* the benchmarking, *do* the data collection and analysis, *check* the results, and *act* on the results (see also Watson, 1993). First, looking at process models one can find that an adequate SITBM process model should complete a structured sequence of activities, several researchers stress that it has to be particularly meaningful for the people involved (Elmuti & Kathawala, 1997; Zairi, 1998). Accordingly, a model's structure, complexity, and adjustability to a corporate context have been shown to be important determinants to make the stakeholders accept and thus adopt this model (Elnathan et al., 1996; Ramabadran et al., 2004). Already, early benchmarking researchers warned that "the structure [of a process model] should not get in the way of the process [itself]" (Watson, 1993, p. 232), and thus called for simple process models that follow a few basic steps and leave sufficient room for organization-specific adjustments (Drew, 1997). Therefore, I define process quality as the extent to which the chosen benchmarking process model is based on a structured process, can be adapted to an organization's specifics, and has a manageable complexity for all the stakeholders.

Second, since companies do typically not want to share their confidential strategic data, the preferred instruments in SITBM are questionnaires, because they facilitate a high anonymity level (Chen, 2005; Panagiotou, 2007). Such questionnaires must carefully operationalize the relevant content of strategic IT management, to facilitate the analysis of the most important IT services as well as the IT organization's processes and structures (e.g. Chang & King, 2005; Mocker & Teubner, 2005; Müller et al., 2009; Newkirk et al., 2003). This is crucial, since on the one hand, collecting strategically irrelevant information does not lead to the desired improvements (e.g. Gimbert et al., 2010; Smith & McKeen, 1996). On the other hand, poor operationalizations harm the results' reliability and thus undermine the likelihood of SITBM success (Carpinetti & Melo, 2002; Cragg, 2002). Furthermore, appropriate contextualization of the collected data is important. Lacking context has been shown to make interpretation of SITBM results (and thus the derivation of potential actions) difficult, if not impossible (Clayton & Luchs, 1994; Müller et al., 2009; Smith & McKeen, 1996). Instrument quality can therefore be defined as the extent to which the instrument applied in the SITBM properly covers, operationalizes, and contextualizes the relevant contents of strategic IT management.

Third, the peer group composition has clear implications for the ability to observe best practices (Camp, 1989; Moriarty & Smallman, 2009; Panagiotou, 2007; Ramabadran et al., 2004), and building a suitable peer group in SITBM is challenging: companies often seek to obtain benchmarking data from their direct competitors but do not want to share their own strategic information (Elmuti & Kathawala, 1997; Elnathan et al., 1996). They also fear that comparisons to industry-external companies may lead to poor insights (Drew, 1997). As a solution to this dilemma, many IT organizations revert to benchmarking clearing houses because the peer group companies are not direct competitors, but are often similar enough concerning strategic and structural characteristics to reveal helpful insights (Elnathan et al., 1996; Watson, 1993). Thus, peer group quality is the extent to which the benchmarking peer group is comparable to the organization in terms of strategic and structural characteristics.

In traditional benchmarking research, methodological quality is a project-level construct. However, as the above-mentioned findings regarding process quality already indicate, it seems that the objective methodological quality not only assures the quality of the benchmarking results, but also triggers several individual-level effects. This assumption has also been expressed by other researchers (Müller et al., 2010; Ramabadran et al., 2004). Based on the fact that all objects of the external world run through an individual cognition process (Klein et al., 2012; Locke et al., 1988), I argue that, in order to understand the dynamics of the individual level in SITBM, it is more useful to measure how the methodological quality is individually perceived than to measure how objectively good it is (i.e. at an organizational level). Even the objectively best SITBM methodology may be useless when it is not properly used. In summary, I posit:

H4: Perceived methodological quality positively influences the acceptance of the SITBM results.

3.5 Commitment to the derived action plan

Commitment is "a volitional psychological bond reflecting dedication to and responsibility for a particular target" (Klein et al., 2012, p. 137). Already in the 1970s, (Salancik, 1977) stressed the importance of commitment: only when the stakeholders are committed to working towards a goal, will they do their best to reach it. Since then, commitment has been established as a key motivational determinant for many activity types in organizational settings (Locke & Latham, 2013; Meyer & Herscovitch, 2001). Commitment is formed based on perceptions of target and environment including trust, control and acceptance (Klein et al., 2012). Hence, to form commitment to the action plan, the SITBM stakeholders should not just understand what they must do, but also why. Without a sufficient degree of commitment to the action plan, the stakeholders may lower the priority of its implementation in favor of other tasks. As a result, some initiatives may be delayed strongly, some may fizzle out, and some may never be started – the SITBM is therefore not successful. I thus maintain:

H5: Commitment to the derived action plan positively influences the success of the SITBM.

Besides acceptance, I argue that – in the context of SIBM – procedural justice also has a direct effect on commitment to the action plan. Benchmarking process fairness is not only relevant during the data collection phase – the same holds for the data analysis processes: if stakeholders feel ignored, overlooked, or even personally attacked when measures are derived from results, then regardless of whether they originally they accepted the SITBM results, they may revoke their commitment during the data analysis phase (Folger & Konovski, 1989; Locke et al., 1988). Accordingly, I formulate a second hypothesis on commitment:

H6: Procedural justice positively influences the commitment to the derived action plan.

4 Methodology

While previous benchmarking research has provided valuable insights and indications on the factors impacting successful SITBM, we have little insight into whether previous research findings are generalizable beyond their initial conceptual or qualitative realm: Looking at the research on benchmarking, one can find many (exploratory) case studies and conceptual papers (Dattakumar & Jagadeesh, 2003; Moriarty & Smallman, 2009), but very few confirmatory research papers (e.g. Ramabadran et al., 2004). This situation calls for more investigation into the generalizability and broad applicability of the existing knowledge base. Hence, I decided to use a quantitative research setup. Owing to the scarcity of survey research on benchmarking, hardly any operationalizations of constructs exist. As a result, I took particular care regarding the operationalization step.

Developing sound measurement models is both a time-consuming as well as difficult task in IS and organizational research (Chin et al., 1997; Straub, 1989). Accordingly, it is recommended to use or at least build on existing operationalizations as much as possible, since these have been validated (Klein et al., 2012). In this paper, I did so for two out of six constructs in the research model. For the remaining four constructs, I revert to established construct validation and measurement guidelines (Bagozzi, 2011; MacKenzie et al., 2011; Suddaby, 2010). Based on the literature review results, I first derived the defining dimensions of every construct from which a first set of items was developed for every construct (Haynes et al., 1995). The number of items ranged between 6 and 10; every facet was captured with at least three items that differed in wording. The resulting operationalizations were translated into a questionnaire and the measurement scales of all items standardized to seven-point Likert scales (1 = strongly disagree to 7 = strongly agree). The questionnaire was presented to six experienced benchmarking experts from practice and research. Securing content validity is one of the most important steps in instrument development (Schriesheim et al., 1993). Without constructs that clearly capture the essence of a phenomenon to be investigated (Suddaby, 2010), and without items that adequately capture the respective content domain (Straub et al., 2004), even the best survey setup may lead to poor results. Hence, in interviews that lasted one to two hours, I asked experts to complete the questionnaire and "think aloud" while doing so. They were asked to provide feedback on the construct definitions regarding clarity, precision, and whether the definitions captured the essence of the described phenomenon. The same was done regarding the items. As a result, I adjusted the definitions for IT strategy process integration and Instrument quality and extended the explanation of Procedural justice. I also revised the wording for many items to reduce complexity or accidental conditional formulations. Finally, I removed several items and added others to capture further content dimensions identified by the experts. In the next step, a card-sorting and item-ranking exercise (Anderson & Gerbing, 1991; Davis, 1989; Lewis et al., 2005) in two rounds was performed by 12 independent researchers and practitioners who were not familiar with benchmarking. The results again led to rewording of several items, and dropping of four items.

5 Measurement instrument

Proper validation of measurement instruments is a necessary condition of good empirical research, because poor instruments may lead to poor conclusions. The results presented here have been tested for content validity by altogether 18 pretesters in interviews and card sorting exercises. Prior to the validation, I specified the nature of every construct measurement model based upon the suggestions of MacKenzie et al. (2011). As a result, 5 constructs were modeled reflectively, while both methodological quality and its dimensions were modeled as second order representations. The resulting item pool is summarized in Table 1.

5.1 Items developed from the literature

For the items derived from the literature (i.e. the items for procedural justice and commitment), I generally expected the content validity to be high, since these items have been tested and approved in previous studies. However, as the wording has to be adjusted to the given SITBM context and the items had to be translated (the survey is planned to be conducted in German companies), it was important to determine whether the translation and adjustments still capture the essence of the original items. Therefore, the pretest experts were also asked to compare original items with the translation and provide feedback. Altogether, 4 out of 16 items were adjusted as reaction to the feedback. The experts were also asked to give feedback on the reflective and formative measurement models, whether they correctly reflected or correctly captured the content domain. As a result, regarding the items of procedural justice it was recommended to split them in two separate groups – one for the data

collection and one for the data analysis phase (see Table 1). Beyond this, no further adjustment were made.

5.2 Self-developed items

The largest part of items had to be self-developed, namely the items for the various dimensions of methodological quality, the items for acceptance of the SITBM results, the items for IT strategy process integration as well as the items for SITBM success. Accordingly, particular scrutiny was placed on the operationalizations for these constructs. For instance, for the formative constructs, I did several revisions of the item pool until all experts agreed that the defining sub-dimensions of the second-order focal construct were properly captured (MacKenzie et al., 2011, p. 301). The analysis of "interjudge agreement" of the single items tested in the card sorting, further identified bad items as well as weaknesses in some of the constructs' definitions and led to subsequent redefinitions and refinements. For instance, the pretesters often struggled in differentiating between process quality and procedural justice. Consequently, the definitions of both constructs were formulated more specific and the problematic items were enriched with further explanations or examples. In the second card sorting round, all items worked much better then. Also, suggestive and conditional formulations were cleaned. Altogether, 4 items were dropped.

Measurement items	**Items adapted from**
Procedural Justice	(Colquitt, 2001)
1. I was able to express my personal views and feelings during the data collection.	
2. I was able to express my personal views and feelings during the data analysis.	
3. The data collection was performed consistently in the same way (i.e. from the approach settled at the beginning of the SITBM was not intentionally deviated).	
4. The data analysis was performed consistently in the same way (i.e. from the approach settled at the beginning of the SITBM was not intentionally deviated).	
5. The data collection has been free of bias (e.g. the collected data was objective and the persons collecting the data acted unbiased).	
6. The data analysis has been free of bias (e.g. the analysis and interpretation followed objective criteria and was not influenced by subjective reservations from the beginning).	
7. The data collection process followed ethical and moral standards (e.g. no intentional provision of wrong or imprecise data, no intentional exclusion of certain relevant stakeholders from the data collection).	
8. The data analysis process followed ethical and moral standards (no intentional bad display of single domains and topics, no tampering of results).	
9. I had the opportunity to appeal the conclusions and derived measures arrived at by the SITBM.	
10. The conclusions drawn from the SITBM were based on accurate information (i.e. not intentionally changed) information.	
11. I have had influence over the conclusions and derived measures arrived at by the SITBM.	
Process Quality (Methodological Quality)	
1. The SITBM process followed a structured process.	Self-developed
2. The SITBM process was based on a proved process model for benchmarking.	
3. The SITBM process could well be adapted to the specifics of our organization (e.g. role models and team structures or maturity of the organization).	
4. The SITBM process did not fit well to the way how people work in our organization.	
5. The SITBM process comprised a level of detail suitable for the maturity of our organization (e.g. more or less degrees of freedom in the execution of single activities).	
6. The chosen SITBM process was good comprehensible to me.	
7. I considered the complexity the chosen SITBM process as adequate.	
8. I did not consider the chosen SITBM process as meaningful.	
9. Altogether, the quality of the SITBM process was good.	
Instrument Quality (Methodological Quality)	

1. The SITBM instrument covered the essential domains of IT management thoroughly.	Self-developed
2. The SITBM instrument captured all data necessary to assess the most important IT services.	
3. The SITBM instrument captured all data necessary to assess the most important IT processes.	
4. The SITBM instrument captured all relvant data necessary to assess the most important IT organizational structures.	
5. The SITBM instrument included clear definitions for all queried topics (e.g. for performance indicators or evaluations).	
6. The SITBM instrument employed a cost breakdown (e.g. splitting of all IT costs into single cost pools, cost pools that belong to overhead costs, in- and exclusion of hard- and software costs) that was comprehensible to me.	
7. The SITBM instrument comprised a complexity I considered as adequate.	
8. The SITBM instrument allowed me to extend the provided data with own remarks.	
9. The SITBM instrument facilitated the collection of organization-specific facets of the results.	
10. The SITBM instrument included the analysis of additional documents.	
11. Altogether, the quality of the SITBM instrument was good.	
Peer Group Quality (Methodological Quality)	Self-developed
1. The peer group companies' overall strategic environment was altogether similar to ours.	
2. The IT organizations of the peer group companies exhibited similar structural characteristics as our IT organization (e.g. company size, turnover, degree of centralization, IT budget, industry).	
3. It was possible to derive best practices from the peer group.	
4. The peer group was not well suited to derive useful insights on the development of our IT organization	
5. Altogether, the quality of the peer group was good.	
Acceptance of SITBM Results	Self-developed
1. The SITBM results were expressive.	
2. The SITBM results provided useful insights.	
3. I did not see any reason to challenge the SITBM results.	
4. The SITBM results were not trustworthy.	
5. The SITBM results allowed for a holistic assessment of our IT organization.	
6. The SITBM results enabled the deduction of the strengths and weaknesses of our IT organization.	
7. Altogether, I have accepted the SITBM results.	
Commitment to Action Plan	(Klein et al., 2001)
1. It's hard to take the derived action plan seriously.	
2. Quite frankly, I don't care if we implement the measures from the action plan or not.	
3. I am strongly committed to pursuing the implementation of the derived action plan.	
4. It wouldn't take much to make me abandon the action plan's implementation.	
5. I think the action plan's implementation is a good goal to shoot for.	
IT Strategy Process Integration	Self-developed
1. The SITBM was concluded just in time before the subsequent IT strategy round.	
2. The SITBM was conducted to obtain starting points for the subsequent IT strategy round.	
3. We had intended to include the SITBM results completely into the subsequent IT strategy round.	
4. The SITBM was supposed to provide direct indications for the long- and midterm IT planning.	
5. Altogether, the SITBM was completely integrated into our IT strategy process.	
SITBM Success	Self-developed
1. From the SITBM directly a series of long- and midterm improvement initiatives resulted.	
2. Through the SITBM, direct starting points for the IT planning could be derived.	
3. The results of the SITBM have been completely included in the succeeding IT strategy round.	
4. The action plan derived from the SITBM has subsequently been implemented completely.	

5. The improvement fields identified in the SITBM have completely been addressed in following initiatives.
6. The implemented initiatives have contributed to improving the fields they were meant to improve (e.g. business-IT alignment, compliance, user satisfaction).
7. Altogether, the SITBM was successful.

Table 1. Item pool of the developed survey instrument

5.3 Controls

Activities performed in the strategic context of an IT organization are often characterized by several company specifics such as industry or organizational maturity. To identify any distortions in the data that may be ascribed to these specifics, I have included several control variables in the survey instrument (Table 2). The controls apply to the individual user as well as to organizational characteristics. On the organizational level, mostly typical demographics such as turnover or IT budget were included, but also specifics of the SITBM were captured such as the kind of instrument used for data collection or the benchmarking experience of the IT organization. Further, as several past researchers have indicated potential issues in SITBM concerning hidden or intransparent goals (Lacity & Hirschheim, 1995; Müller et al., 2010), also a control was added regarding transparency, in which once the CIO was asked whether all involved stakeholders are aware of the goals, and once the individuals whether they were aware of the goals. Regarding the individual level, beyond several demographics it is also asked for several indicators that could cause politically biased responses such as trust in IT management and the relevance of upward mobility (Korsgaard et al., 1995). The items for both constructs were taken from the organizational communication scale by Roberts and O'Reilly Roberts and O'Reilly).

Control Variable	**Level**
Instrument used for data collection	Organizational
Industry	Organizational
Turnover	Organizational
IT budget	Organizational
Number of corporate / IT employees	Organizational
Benchmarking experience of the IT organization	Organizational
Transparency regarding the SITBM goals	Organizational / Individual
Trust in IT management	Individual
Relevance of upward mobility	Individual
Age	Individual
Gender	Individual
Benchmarking experience	Individual
Education	Individual
Position / role in IT organization	Individual
Role in the SITBM	Individual
Work experience in the IT organization at hand	Individual

Table 2. Control variables

6 Discussion, conclusion and next steps

My research objective is to investigate by which mechanisms SITBM results transform into sustainable initiatives and which role the individual stakeholders in an SITBM project play in such transformation. Accordingly, I suggest a research model that indicates that both procedural fairness

and perceived methodological SITBM quality trigger a chain of effects that ultimately leads to commitment and performance in implementing the measures derived from the benchmarking. Together with a sound strategic integration of the SITBM, I posit that this commitment is a key determining factor for SITBM success. Also, to test the model, I have developed and presented a survey instrument that builds on existing operationalizations but also introduces new measurement models for some of the most prevalent constructs in benchmarking research. I hold that the insights derived from my research can help practitioners to better understand how SITBM projects should be designed to better anchor the results in the organization. Practitioners will also gain a better understanding of the stakeholder-related factors that should be considered for successful SITBM and will understand why SITBM results acceptance is more important than the often-cited 'hard' results quality. From a theoretical perspective, my research helps one to better understand individuals' role in the context of SITBM, something that various researchers have called for (Moriarty & Smallman, 2009; e.g. Müller et al., 2010). I also provide operationalizations for some of the most frequently cited constructs in benchmarking research. In doing so, I hope to lay a foundation for further quantitative investigations in benchmarking research. Looking at the context of strategic IT management, I provide insights into a theoretical field that holds rich opportunities to approach modern strategizing in IT organizations, namely the field of procedural justice.

Bearing these contributions in mind, some limitations of my research should also be considered. While the proposed survey instrument has been tested for content and nomological validity, construct validity of the developed measures must still be approved (Straub, 1989; Straub et al., 2004). Therefore, currently, a pilot study with IT organizations having conducted an SITBM is performed in two steps. First, to account for the large number of newly developed items and the complex multilevel nature of the model, a pilot study was undertaken in two IT organizations (Dubé & Paré, 2003; Miles & Huberman, 1994; Yin, 2009). The purpose of this study was a "final rehearsal" of the measurement models and the entire study's setup in a corporate environment. This study has recently been finished and is currently analyzed. The first analysis results indicate that both cases seem to confirm the theoretical assumptions underlying the research model and emphasize the relevance of analyzing the individual-level dynamics in a benchmarking project. In addition, a few adjustments in wording and order of questions in the measurement models turned out to be necessary; however, overall the developed items worked well.

Detailed discussions with the CIOs of both cases, representing the organizational level, further provided valuable insights into the relevant individual-level stakeholders of SITBM that will have to be considered during evaluation of the research model. The identified stakeholders match well with the stakeholders of strategic planning in IT organizations as suggested by prior researchers (Mentzas, 1997; Raman, 2009; Ruohonen, 1991): representatives of the business units, the IT organization's middle management, and issue-specific experts for the specific domains of the IT organization (e.g. controllers, project portfolio managers, IT architects or enterprise software specialists). Representatives from these domains and roles will therefore be surveyed as respondents on the individual level. The second step of the pilot study targets to determine the required sample size (Cohen, 2005; Hox, 2010). Sample size estimations are more complex in multilevel than in single-level research as group sizes (i.e., in my case, the expected number of stakeholders on the individual level to be surveyed) and intraclass correlations (i.e. the degree of homogeneity in a group in one unit) are key determinants of sample size that, however, vary remarkable in different research settings (Raudenbush & Bryk, 2002; Raykov, 2011). Therefore, doing a respective pilot study is crucial in multilevel research.

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