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The Role of Cultural Fit in the Adoption of Fashionable IT: A Blockchain Case Study

Completed Research Paper

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Abstract

Investments in fashionable IT do not make organizations more successful than investments in less fashionable alternatives. Many organizations nevertheless associate with fashionable IT to signal compliance with norms of progress and rationality. These decisions can be risky as they require the ability to navigate hype narratives and fit the new technology into the adopting organization. In this paper, we explore a so far understudied fit perspective: cultural fit between the values attributed to the fashionable IT and those of the recipient organizational context. Through an interpretivist case study of two blockchain projects, we find that cultural sensemaking and dissonance reduction can be important determinants for successful adoption of fashionable IT. Moreover, we identify two recursive paths for how organizations can reduce cultural dissonance. They can adapt their implementation and the narratives surrounding the fashionable IT or they can transform their local or overarching organizational culture.

Keywords: Blockchain, Cultural fit, Cultural sensemaking, Fashionable IT

Introduction

Certain digital technologies go through a veritable fad and fashion phase. Prominent examples include e-commerce technologies at the turn of this millennium (Baskerville & Myers, 2009) and blockchain in more recent years (Lacity, 2022; Rossi et al., 2019). IT fashions describe a "relatively transitory collective belief, that an information technology is new, efficient, and at the forefront of practice" (Wang, 2010). Like more traditional fashions, IT fashions are a temporary phenomenon with sharp up- and down-swings (Baskerville & Myers, 2009; Wang, 2010; Wang & Ramiller, 2009).

Organizational leaders are often eager to embrace fashionable IT over less-fashionable alternatives despite evidence that investments in fashionable versus non-fashionable IT tend to result in similar increases in organizational performance (Wang, 2010). These decisions may be largely driven by a desire to enhance an organization's short-term legitimacy, as well as the reputation and compensation of organizational leaders (Baskerville & Myers, 2009; Wang, 2010). Yet, they are not without risk. While organizational leaders have a certain degree of control over 'sensemaking' for non-fashionable IT, sensemaking of fashionable IT is often driven by narratives in the 'fashion market'. These narratives are typically outside of an organization's control and complicate the task of sensemaking (Wang & Ramiller, 2009).

While much work has been dedicated to how organizations can navigate the sensemaking process from a political and technical perspective, less is known about how organizations may promote cultural fit (Ansari et al., 2010; Canato et al., 2013; Piazza & Abrahamson, 2020). Yet, in contexts that are replete with beliefs, values, and norms, cultural fit can be an essential factor for successful adoption (Alavi et al., 2005; Kappos & Rivard, 2008; Koch et al., 2013; Leidner & Kayworth, 2006). In this study, we seek to investigate the establishment of this fit and employ a theory-building study to address the research question:

How do organizations establish fit between their organizational culture and fashionable IT?

To build our theory, we conduct an inductive case study on two successful blockchain projects: one in the context of asylum management and one in the context of a customer loyalty program. Since members of the author team have closely accompanied each of the two projects, we could collect particularly rich insights into how the projects created cultural fit.

Our emerging theoretical insights are twofold. Firstly, we find strong evidence for a process of cultural sensemaking and dissonance reduction between the values attributed to the fashionable IT and those of the adopting organization's culture. Secondly, we find that cultural dissonance may be iteratively reduced along two paths: Fashionable IT systems and the narratives surrounding them can be adapted to match organizational culture, and organizational culture can be transformed to match narratives surrounding the fashionable IT. Our paper contributes to the literature on fashionable IT by demonstrating the importance of cultural fit. Moreover, we develop a theoretical model of cultural sensemaking and dissonance reduction for fashionable IT.

The rest of the paper is organized as follows. The subsequent section provides an overview of challenges associated with the adoption of fashionable management practices and IT. Moreover, the section discusses the role of organizational culture in the adoption of IT. Next, we present details on our case-study design, data collection, and data analysis. In the fourth section, we present the theoretical model that emerged from our analysis of the two cases. The fifth section discusses our theoretical contribution, offers practical implications, and presents boundary conditions of our theorizing. The paper concludes with a summary of key insights from our analysis, limitations, and an outlook on future research.

Theoretical Background

Fashionable management practices and IT

The management literature defines fashionable management practices as a "relatively transitory collective belief, disseminated by management fashion setters, that a management technique leads rational management progress" (Abrahamson, 1996). The idea of fashions was introduced as an explanation for two phenomena that rational choice theories failed to properly explain: the successful diffusion of inefficient innovations and the poor diffusion of certain efficient innovations. The theory of management fashions offers a sociological lens to study and explain these phenomena as the result of imitation and legitimacy-seeking processes (Abrahamson, 1991, 1996; Ansari et al., 2010; Piazza & Abrahamson, 2020).

Fashionable management practices can be characterized as the product of management fashion markets with a 'supply' side of fashion-setters (e.g., consulting firms or business schools) and a 'demand side' of adopting organizations (Abrahamson, 1991; Piazza & Abrahamson, 2020). Fashionable practices typically go through four stages: innovation, fashion broadcast, faddish contagion, and retention or abandonment (Abrahamson, 1996; Piazza & Abrahamson, 2020). All these phases are typically accompanied by different fashion narratives (Abrahamson & Fairchild, 1999; van Grinsven et al., 2016). These narratives tend to be positive, emotional, and uncritical in the up-swing phase and somewhat negative, guarded, and critical in the downswing phase (Abrahamson & Fairchild, 1999). Fashion narratives are integral enablers for fashionable management practices as they allow to create and disseminate the relatively transitory, collective belief that the practice leads rational management progress (Ansari et al., 2010; Piazza & Abrahamson, 2020; van Grinsven et al., 2016).

During adoption of a fashionable management practice, 'demand-side' organizations will typically try to leverage the interpretative viability of the practice to translate it to their recipient context (Ansari et al., 2010; van Grinsven et al., 2016). This 'structural' translation focusses on increasing political, technical, and cultural fit between the characteristics of the practice and those of the adopting organization (Ansari et al.,

2010). Political fit defines alignment between the normative characteristics of the practice and the interests and agendas of adopting organizations and their leaders. Technical fit, in turn, describes the degree to which technical foundations and characteristics match. Lastly, cultural fit is concerned with matching cultural values and meaning structures embedded into the practice to those of the recipient organization. Quality circles, for instance, were initially seen as a Japanese innovation that was hard to reconcile with values of individualism in American corporate culture. This perception led to modifications of the practice to match American "participatory management" styles (Ansari et al., 2010; Strang & Kim, 2006). Narratives again play an important part in the adoption of fashionable practices as their re-framing allows organizations to signal structural fit in general and cultural fit in particular (van Grinsven et al., 2016; Zilber, 2006).

Fashionable IT has many commonalities with fashionable management practices (Baskerville & Myers, 2009; Wang, 2010; Wang & Ramiller, 2009). First, fashionable IT goes through similar fashion cycles and is the product of similar fashion markets (Baskerville & Myers, 2009). Second, organizations equally associate with fashionable IT to increase legitimacy (Wang & Ramiller, 2009). More specifically, engagement with fashionable IT can lead to both higher external legitimacy (reputational gains) and internal legitimacy (higher executive compensation). This legitimacy-enhancing effect exists both for material engagement – i.e., actual implementation of the fashionable technology, and informational engagement in press – and public discourse. Of the two, informational engagement appears to have a higher effect on legitimacy. Third, fashion narratives are also pivotal for creating and disseminating fashionable IT (Baskerville & Myers, 2009; Gal et al., 2022; Wang & Ramiller, 2009). They are important sources for adopting organizations to learn about new and fashionable IT. They can, however, become sources of misinformation as many narratives are replete with wishful and unbalanced claims, especially in the up-swing phase (Wang & Ramiller, 2009).

While fashionable practices and IT have much in common, there are also differences. Fashionable IT, for instance, is substantially more material than practices (Baskerville & Myers, 2009; Wang, 2010). This difference in materiality has various implications, such as a broader pool of potential fashion setters, like IT companies and developer communities, and a higher likelihood of institutionalization, that is, long-term productive use (Wang, 2010). Yet, favoring fashionable IT does not automatically give adopting organizations a clear edge. On the contrary, fashionable IT can require substantial political work and technical integration effort without clear performance gains over non-fashionable IT (Wang, 2010; Wang & Ramiller, 2009). Moreover, fashionable IT may require particular attention to cultural fit because value-laden fashion narratives bear a high risk of dissonance with organizational culture and increases the chances of IT culture conflict (Kappos & Rivard, 2008; Su, 2015)

The role of organizational culture for the adoption of IT

Organizational culture is a concept with many conceptualizations and perspectives (Kappos & Rivard, 2008; Schein, 1996, 2016). In this work, we follow Schein (2016) and define it as a “a pattern or system of beliefs, values, and behavioral norms that come to be taken for granted as basic assumptions and eventually drop out of awareness”. Organizational culture is typically conceived as a hierarchical construct with different levels that range from less-material basic assumptions to more material cultural artifacts, such as practices (Canato et al., 2013; Leidner & Kayworth, 2006; Schein, 2016). To balance observability and interpretability, studies of organizational culture typically focus on local and overarching organizational values (Alavi et al., 2005; Koch et al., 2013; Leidner & Kayworth, 2006).

Organizational culture can be an important factor in developing, adopting, and using IT. Yet, cultural dissonance or ‘conflicts’ can arise when three types of values are not aligned: (1) organizational values, (2) values related to an IT system in question, either embedded through work behaviors that the IT is designed to enable or attributed through association, and (3) values ascribed to IT in general. 0/0/00 0:00:00 AM Systemic conflict’ between organizational values and the values related to a particular IT can be especially problematic (Alavi et al., 2005; Koch et al., 2013; Leidner & Kayworth, 2006).

Systemic conflict can be resolved either by adapting the design or use of an IT system (Alavi et al., 2005; Kappos & Rivard, 2008; Leidner & Kayworth, 2006) or by changing the organizational culture and its values (Kappos & Rivard, 2008; Koch et al., 2013; Leidner & Kayworth, 2006). In this work, we aim to explore how these two approaches play out for fashionable IT. We are particularly interested in how organizations can resolve systemic conflicts between their organizational values and those values attributed to fashionable IT through narratives in the fashion market. For this purpose, we focus our analysis on blockchain

technology, which has garnered a reputation as a veritable hype technology in recent years and which is surrounded by various value-laden narratives (Lacity, 2022; Rossi et al., 2019).

Research Method

As cultural fit is poorly explored for fashionable IT, we chose a theory-building from cases approach. Case studies allow for an 'in-depth' investigation of a socially embedded phenomenon and can support the emergence of new theory (Eisenhardt, 1989, 2021; Eisenhardt & Graebner, 2007; Yin, 2017). Case study research is particularly fruitful for investigating an under-studied phenomenon or an "under-represented perspective in a well-researched literature" (Eisenhardt, 2021). As our study explores such an under-represented perspective, a case-study design appears conducive and appropriate. To allow for cross-case synthesis and more generalizable and parsimonious insights, we chose a multiple-case approach with a common-process design. This design emphasizes the selection of cases "about the same focal phenomenon in purposefully different settings, thus improving generalizability (i.e., transferability) of the emergent theory across settings" (Eisenhardt, 2021).

Case setting and selection

The setting for our case study is the adoption of blockchain in different organizational contexts. Blockchains are distributed databases hosted jointly by a network of so-called nodes. Blockchains group data in a block structure, hence the name 'blockchain'. These blocks are connected cryptographically, making it hard to change entries once the network has distributed a new block and added it to the chain (Beck et al., 2018; Rieger, Roth, Sedlmeir, & Fridgen, 2022; Ziolkowski et al., 2020).

Blockchain was initially introduced as a distributed database technology for processing cryptocurrency transactions but became broadly fashionable in 2016/2017 when blockchains with so-called "smart contract" features took hold (Lacity, 2022; Rossi et al., 2019). These blockchains enabled the automated execution of predefined logic, ranging from asylum management (Rieger et al., 2019; Roth, Stohr, et al., 2022) to verification of identity-related documents (Rieger et al., 2021; Rieger, Roth, Sedlmeir, Weigl, et al., 2022; Sedlmeir et al., 2021), and process models in supply chain management (Jensen et al., 2019; Mattke et al., 2019; Sarker et al., 2021).

Blockchain continues to be a fashionable technology, to which Gartner offers testament with a special hype cycle for blockchain use cases (Litan, 2022). Blockchain technology is typically associated with various fashion narratives (Lacity, 2022; Roth, Utz, et al., 2022; Utz et al., 2022). These firmly center around arguments of trust, disintermediation, and decentralization. Specifically, blockchain is marketed as being able to establish trust in contexts where parties do not trust each other (Lacity, 2022; Utz et al., 2022). Moreover, blockchain systems are often described as enabling decentralized processes (Rieger et al., 2019; Roth, Stohr, et al., 2022) or as agents of disintermediation (Beck et al., 2018; Lacity, 2022; Roth, Utz, et al., 2022).

To select suitable blockchain projects, we followed common recommendations for theoretical sampling of cases (Eisenhardt, 1989, 2021; Eisenhardt & Graebner, 2007) and employed three sampling criteria. In line with our interpretivist stance, we firstly focused on cases in which at least one co-author was deeply involved to ensure in-depth and first-hand insights. Secondly, we concentrated on early-adopter organizations in their respective contexts to control for the effect of conformity pressures from other organizations and potentially limited adoption in response (Ansari et al., 2010). Thirdly, we selected cases in which organizations engaged with blockchain materially and informationally to catch the effects of both types of engagement (Wang, 2010). Overall, our case selection led to a sample of two cases: one in asylum management and one in customer loyalty management. In both cases, blockchain was adopted successfully even though this success was not evident from the get-go. This initial ambiguity offers highly fertile ground for an analysis of the adoption process.

The first case revolves around the use of blockchain by Germany's federal government to support the coordination of authorities involved in the asylum procedure with a system called FLORA. Germany's asylum procedure is federally organized, which means that many authorities at different levels need to cooperate to successfully complete the procedure. These authorities are subject to a tight legal framework and belief-system that influence the distribution of competencies, rules, and processes. The FLORA system

aims to bridge the gap between the fragmented IT systems of the involved authorities by sharing essential procedural updates and information between the systems. Moreover, it uses smart contracts to automatically check compliance with the standard procedure and issue warning messages when it detects deviations. The project began relatively early during the initial blockchain hype in January 2018 as an innovative flagship project of Germany's federal government and was piloted successfully in 2021. The FLORA system is currently being rolled out across several German states.

The second case investigates how the Stadtwerke Leipzig, a private German energy provider, uses blockchain to establish a customer loyalty system called NexoEnergy. The system was developed for customers with Green Electricity Tariffs (GET). GET customers tend to have strong belief systems and often distrust their energy utilities due to fears of 'greenwashing'. The NexoEnergy system addresses these concerns by tracking the share of renewable energy in the grid and rewarding customers with 'green' loyalty tokens on a blockchain. Customers can freely control these tokens to invest into green generation facilities of the Stadwerke Leipzig, reduce their energy bill, or have them redeemed for cash. The NexoEnergy project started in December 2018 and made the step to productive use in February 2020. It is currently being rolled out across different other energy providers.

Data collection

For our case study, we collected three types of data: interviews, participant observations, and documentation (Yin, 2017). In line with our interpretivist stance, interviews and participant observations represented our primary data source, whereas documentation helped us triangulate when we iterated between data and theory. We summarize these sources in Table 1.

Case	Number of interviews	Participant Observation	Project Documentation
FLORA	45	3-4 days per week from Jan 2018 to May 2020 2-3 days per week from Jun 2020 to Sep 2022	750+ pages
NexoEnergy	21	4 days per week from Dec 2018 to Dec 2020 1 day per week from Jan 2021 to Dec 2021 1 day per month from Jan 2022 to Sep 2022	250+ pages

Table 1. Overview of collected data sources

For each of the cases, we conducted interviews at different points during the project to trace the adoption process. The initial purpose of these interviews was to examine factors for successful blockchain adoption. But - as it happens often in qualitative research (Graebner et al., 2012) – cultural fit emerged as a dominant theme over the course of our study, refocusing our data collection and analysis. Cultural fit had been an important theme in both projects early on. However, its significance only became evident to us when cultural issues appeared consistently in a large round of interviews with members of the FLORA project during the second half of 2020. When we compared these findings to the NexoEnergy project, we found that cultural issues were equally prominent. This insight drove a redesign of our study and we began to concentrate on cultural fit. For the FLORA project, we included more explicit questions on cultural fit as we accompanied the roll-out of the FLORA system until September 2022. In the NexoEnergy case, we collected a second set of interviews in April and May 2022 with an explicit focus on cultural fit.

Our informants were either directly involved with the projects or closely connected to them. Table 2 presents an overview of those interviews that held statements related to issues of cultural fit on which we could build our analysis. We group these interviews based on an Schein's (1996) classification of culture types in organizations. Specifically, we interviewed organizational leaders, project managers, and their support ('executives'); IT managers, developers, and IT consultants ('engineers'), and business staff and consultants ('operators'). Table 2 provides a classification of our interviews across these types.

Case	Number of interviews		
	Organizational leaders, project managers, and their support	IT managers, developers, and IT consultants	Business staff and business consultants
FLORA	6	11	28
NexoEnergy	8	6	7

Table 2. Classification of interview partners

We adopted a semi-structured design with an interview guide to ensure broad coverage of our focal phenomenon (Yin, 2017). We conducted each interview with one or two interviewers, took notes, and audio recorded what was discussed. We subsequently transcribed our audio recordings for further analysis and reference. The interviews lasted between thirty minutes and one hour. We used a semi-structured protocol to encourage interviewee engagement and elicit stories about the two cases. We began each interview with an introduction by the interviewer(s) and an explanation of the interview context. In a second part, we asked interviewees to briefly discuss their relevant backstory and current organizational position. Next, we fostered rapport by encouraging interviewees to talk about their involvement in the case context and their experiences with the respective blockchain system. To reduce dissonance, we mirrored the tone and vocabulary of our interviewees and allowed them to take the conversation in any direction that they chose. In several cases, we contacted the interviewee again after the interview to clarify open questions and fill blank spots.

We built our interviews with the ‘executives’ and ‘engineers’ groups around how they (intend to) use blockchain, how it affects performance, and how blockchain fits into the project’s organizational context. Moreover, we asked about challenges with its implementation and how they were resolved. Lastly, we left room for interviewees to offer their opinion on the necessity of using blockchain over other technologies. In our interviews with ‘operators’, we focused on expected benefits from the systems and their perspective on using blockchain in these systems.

To complement our interview data set, we sat in a vast range of project meetings, such as strategic meetings, conceptual workshops, and bi- or tri-weekly developer meetings. In the FLORA case, the second author was additionally tasked with advising the conceptualization of the system and an evaluation of the FLORA pilot system and its later roll out. In the NexoEnergy case, the third author similarly advised conceptualization and accompanied verification of the system with test customers.

To enable triangulation, we added various project documents to our evidence base, such as project presentations, conceptual documents, and marketing material. Given that we had access to almost all project documents, we selected only those documents that held explicit statements related to cultural issues.

Data analysis

The focal units of our analysis were the narratives woven around the blockchain systems and the adopting organizations’ culture. More specifically, we examined how the values attributed to blockchain and those of the recipient cultural context evolved over the course of the two projects. We chose to focus on values in line with other studies on the effect of cultural context, given their easier observability than basic assumptions or artifacts (Alavi et al., 2005; Koch et al., 2013; Leidner & Kayworth, 2006).

We began our analysis with a review of (industry) reports, white papers, and academic literature on the use of blockchain in the two case contexts. This review was based on a two-step coding process (Corbin & Strauss, 1990) and produced overall 5800 codes that helped us identify common narratives in each of the fashion (sub-)markets.

We then analyzed each of the cases individually. For this analysis, the first author of this work sat down with each of the involved authors and analyzed the interview transcripts and project documents following a two-stage coding process in line with Corbin and Strauss’ (1990) recommendations for grounded theory building. We coded openly and focused on early theme discovery in the initial stage. We then continued with a first round of axial coding, exploring relevant constructs, relationships, and theoretical explanations.

The involved authors would complement the open and axial coding with insights from their participant observations. We recorded emerging themes and theoretical elements in memos and organized our around 7000 codes in data trees. To support coding and manage data volume, we used the MAXQDA software toolkit.

The case-specific analysis allowed us to understand how blockchain was used in each project and how cultural fit evolved in each case. The FLORA project was strongly concerned with aligning its blockchain system with the federal organizing structure of Germany's asylum procedure. The NexoEnergy project, in turn, focused on rebuilding customer trust, reducing distrust, and eliminating ambivalence. Moreover, both cases turned out to be serendipitous for our analysis, as we could observe substantial adaptations of common blockchain narratives and the IT system in the FLORA project and clear signs of cultural transformation for the Stadwerke Leipzig in response to the NexoEnergy project.

We then moved to cross-case analysis. For this purpose, the three authors involved in the individual case analysis first sat down and discussed insights from each case. Armed with these cross-case insights, the two coding teams then did a second axial coding and alignment round. During this phase, we began to iterate between theory and data to fine-tune construct definitions, clarify relationships between constructs, and sharpen theoretical explanations (Eisenhardt, 1989, 2021; Eisenhardt & Graebner, 2007). In the last step, we applied selective coding to "construct and fill the storyline around the core phenomenon" (Corbin & Strauss, 1990). We again iterated between data and theory to establish differences and similarities of our emerging theoretical model with existing literature on fashionable IT and cultural fit.

The cross-case analysis sharpened our understanding of different ways cultural fit could evolve for fashionable IT. We found that the FLORA project established cultural fit mainly by fitting its blockchain system and the attached narratives to its organizational culture. In the NexoEnergy project, we could observe the opposite. We also found marked differences in pivotal values. For instance, trust was a secondary concern in the FLORA case but played a very important role for the NexoEnergy project. Yet, there were also similarities in values. For instance, transparency was a very important value in both projects.

Emergent Theoretical Model

We now turn to the theoretical model that emerged during our analysis and describe the role of cultural fit during the observed adoption processes. We found that both projects went through a process of cultural sensemaking. Moreover, both struggled with cultural dissonance and iteratively worked on establishing cultural fit. This cultural dissonance reduction process went both ways. In an iterative *adaptation* process, the blockchain systems and the narratives surrounding them were fitted to organizational values. In a second *transformation* process, organizational values were edited to match those values in the narratives surrounding the blockchain systems.

Adaptation of narratives and systems

A recurring pattern throughout the two cases was that the blockchain systems and the narratives surrounding them were matched to organizational values (Table 3). In the FLORA case, this *adaptation of the fashionable IT system and narratives* was the dominant dissonance reduction process. In the NexoEnergy case, they were dominated by cultural changes but still apparent.

FLORA. The German asylum procedure is replete with federal values that regularly complicate the adoption of new IT systems. The FLORA project team thus decided to develop the FLORA system in a way that supported federal organizing principles. Moreover, it dropped certain narratives and reframed others to fit these federal values. Specifically, it wove 'federalism' narratives around the FLORA system that emphasized blockchain's ability to support federal values, organizing structures and processes. Narratives that could not be reconciled with this federalism perspective were discarded.

A core blockchain narrative that the FLORA project team chose to discard was the 'distrust mediation' narrative. This narrative is rooted in the common fashion narrative that blockchain systems can digitize processes that have so far resisted the introduction of alternative IT systems due to concerns about sharing sensitive data and mutual distrust. Authorities involved in the Germany asylum procedure, on the other hand, are required by law to cooperate and share information. Moreover, they are connected by a strong

network of trustful ties. Framing blockchain as an ideal technology for 'low-trust' environments was thus unwelcome and discarded accordingly. A quote by one of FLORA's project managers illustrates:

“Blockchain offers a technological solution to create trust where trust does not exist or no longer exists at a sufficient level to drive interactions or even data exchange. What's my point? Well, I have a hard time with the argument that we need blockchain to instill trust within public administration. I, indeed, reject this argument.”

A related narrative that underwent substantial reframing and re-implementation was one that we term 'automated validation'. In many blockchain systems, smart contracts are used to verify the validity of a transaction. In a cryptocurrency network, this could be that a transaction was signed by the holder of a certain balance and that the transaction does not exceed this balance. The FLORA system also makes use of smart contracts to check compliance with the default procedure. However, numerous constellations exist where a digression from the default procedure is justified. Moreover, organizational culture in most of the authorities involved in the asylum procedure emphasizes employee empowerment. Accordingly, the FLORA system was relegated to a support application that could return warning messages but not reject digressions from the default procedure. As one of FLORA's project managers explains:

“It is important that blockchain is flexible. Sure, smart contracts and automated process steps are helpful and even warning messages for digressions from the regular procedure. But in the end, it is vital that the employee, the user, still has the decision-making authority. They may be warned if they deviate in any way from the standard process, but ultimately, they still have the power to decide or the decision-making authority of how they want to proceed.”

Other narratives were partly reframed and re-implemented. A representative example is the 'transparency' narrative. Many blockchain systems are hyped as establishing transparency as the blockchain is replicated on several nodes in a blockchain network. Transparency is also an essential value for the authorities involved in Germany's asylum procedure. However, it is narrowly bounded by legal limits and data minimization requirements. Thus, the FLORA team was open to maintaining transparency but in a 'selective' way. In the words of one of FLORA's developers:

“Blockchain enables to work transparently, to disclose everything as is relevant for the users. At the same time, [...] blockchain enables to work together, to share the data that should be shared, while making sure that data can only be viewed by who is authorized, responsible and involved.”

A narrative that was kept and implemented mostly unchanged was the 'decentralization' narrative. Blockchain is typically marketed as a technological means to establish or maintain decentralized structures. For asylum management in Germany, centralized IT systems are often undesirable as their introduction and modification may require changes to the federal separation of competencies. Moreover, they often lead to unbalanced data control arrangements and fall short in supporting local differences and particularities. Accordingly, the project team began to strongly emphasize the FLORA system's ability to mediate these concerns. A quote by one of FLORA's project managers illustrates:

“Blockchain offers the possibility to map regional differences, leaves enough room for flexibility and still allows for standardization. Thus, the technology strengthens local autonomy, preserves federal structures, and even strengthens the latter. People retain their responsibility and, using this solution, also take on joint responsibility for the task.”

NexoEnergy. Energy providers are inherently concerned with ensuring reliable supply. These concerns often limit the adoption of new IT systems until they have undergone various testing and certification cycles. Moreover, new IT systems are typically designed to support the existing regulatory framework with its centralized structure, roles, and responsibilities. As such, blockchain's 'disintermediation' narrative was not welcome to the NexoEnergy team. This narrative originated from the area of cryptocurrencies and decentralized finance and presents blockchain as a technical means to eliminate banks and other intermediaries in traditional financial systems. For NexoEnergy's purposes, this narrative was not helpful as the blockchain system was not meant to disintermediate the energy provider but mediate a trustful relationship with its customers. Accordingly, the narrative was dropped. In the words of the Stadtwerke's lead blockchain developer:

“One of the [Stadtwerke's] main competitive advantages is that they are [a] local [company] and that they are reliable in supplying electricity. [...] The Stadtwerke Leipzig are perceived as a trusted electricity

supplier. While NexoEnergy can certainly encourage behavioral changes, customers still see added value in the fact that electricity is being delivered by the Stadtwerke in a dependable manner.“

A narrative that was kept and implemented in an adapted way was the ‘transparency’ narrative. Green Electricity Tariffs had been a bone of contention for the Stadtwerke Leipzig over several years. GET customers had felt irritated when their aggregated electricity demand was covered by so-called green electricity certificates. These certificates offer proof that a certain amount of green electricity has been fed into the grid. However, these certificates do not prove that this occurred when GET customers consumed electricity. The NexoEnergy team took up these concerns and used blockchain to transparently track when green supply coincided with customer demand. One of the Stadtwerke’s software developers and the NexoEnergy product owner explain:

“Customers today are much more interested in data transparency. It is a competitive advantage for energy providers to use NexoEnergy to make transparent where electricity comes from and what ‘color’ it has.”

“NexoEnergy was the answer to one of the biggest challenges that [the] Stadtwerke Leipzig have, which is how to engage with customers to reduce churn rates. So, the biggest value-added was to use [fashionable] IT to bind customers. We used blockchain to track changes in user behavior [towards more green electricity consumption] and level up the engagement by increasing data transparency.”

Summary. In both cases, the adopting organizations engaged not just blockchain as a technology but also the narratives woven around it. They tried to align these narratives and the values attributed to blockchain with their organizational values. The FLORA project became particularly active in this regard once the project team had recognized that promoting blockchain as an ‘enabler of federalism’ earned the FLORA system considerable traction both internally and with partner authorities. The NexoEnergy project, in turn, focused on dropping narratives that were hard to reconcile with basic assumptions and values in the electric power industry.

Case	Blockchain narratives in the fashion market	Adaptation of blockchain narratives and systems	Pivotal value
FLORA	<u>Distrust mediation:</u> Blockchain can mediate distrust in low trust environments	<u>Dropped:</u> Authorities involved in the German asylum procedure trust each other	Trust
	<u>Automated validation:</u> Blockchain enables automated data validation	<u>Reframed and reimplemented:</u> The FLORA system supports employees with automated checks and warning messages	Empowerment
	<u>Transparency:</u> Blockchain supports data sharing and transparency	<u>Reframed and reimplemented:</u> The FLORA system supports controlled data sharing and ‘selective’ transparency	Transparency
	<u>Decentralization:</u> Blockchain enables decentralized structures and processes	<u>Reframed and reimplemented:</u> The FLORA system enables authorities involved in the German asylum procedure to use a shared system and avoid the shortcomings of centralized systems	Separation of competencies
NexoEnergy	<u>Disintermediation:</u> Blockchain allows to replace intermediaries	<u>Dropped:</u> Most actors in electric power systems have well-defined roles and responsibilities, and their replacement may threaten system stability	Reliability
	<u>Transparency:</u>	<u>Reframed and reimplemented:</u>	Transparency

	Blockchain supports data sharing and transparency	The NexoEnergy system supports controlled data sharing and 'selective' transparency	
Table 3. Observed adaptation of blockchain narratives and systems (selection)			

Transformation of organizational culture

In both the FLORA and NexoEnergy case, we could observe not just an adaptation of the blockchain systems and narratives woven around them but also a transformation of certain local and overarching organizational values (Table 4). This transformation process was less pronounced in the FLORA project but dominant in the NexoEnergy project.

FLORA. Although the adaptation process strongly dominated in the FLORA case, we could also identify changes to beliefs over the course of the project. One such change was the increased emphasis on 'cooperation'. While cooperation between authorities plays an important role for the German asylum procedure, it often follows rigid structures that can limit adaptive and joint innovation. The FLORA project helped to recast these structures and engage in local innovation efforts between offices of the federal government and competent state authorities. Several project members traced this increased readiness to collaborate directly to 'cooperation' narratives that surround blockchain. One quote by a manager at one of FLORA's partner authorities illustrates:

"Blockchain is exactly what we need to enable digital collaboration between the federal government and the states. That's when you can see that a technology has an overall impact and doesn't just mediate between two units, two groups, or two departments."

NexoEnergy. In the NexoEnergy case, cultural transformation processes dominated the adaptation of the blockchain system and the narratives woven around it. Cooperation was again a pivotal value, but cultural changes went further. More specifically, the Stadtwerke Leipzig re-thought its approaches to customer loyalty, IT projects, and IT infrastructure, and transferred several values embedded in blockchain narratives to its organizational culture.

'Cooperation' was strengthened especially between the business and the IT department. Although these departments had cooperated on projects in the past, their cooperation had followed rigid structures that defined departments as clearly separated units that communicated according to well-defined rules. The NexoEnergy project, however, required more flexible structures and rules. For instance, flexibility was important to reach a common understanding of blockchain and how it could be used to facilitate customer loyalty. Moreover, agile development was instrumental in aligning customer needs with the perspectives of the business and IT departments. Several of the involved project members pinned this increased readiness to cooperate on blockchain technology and the mobilizing effect of its fashionable character. Quotes by one of the Stadtwerke's software developers and the CTO of their IT service partner illustrate:

"Each department was initially afraid of the unknown technology. However, by creating a joint understanding of the technology, the fear was quickly reduced, and agile collaboration was established. The departments entered into a constructive dialog in which problems could be named more precisely through the prior creation of a common understanding."

"The new way of cooperation between departments was quite the opposite to the existing culture at the Stadtwerke Leipzig. Traditionally, the business departments came up with an idea, created requirements and commissioned the IT department to implement them. This one-way channel was broken up by the NexoEnergy project. [...] These changes all started with Blockchain as the CIO said "Blockchain is popular, let's find a use case for it at the Stadtwerke Leipzig."

Besides cooperation, the NexoEnergy project also effected the inclusion of 'customer agency' in its organizational beliefs. In the past, the Stadtwerke had focused on developing products and services that required little customer agency and that shielded customers from complexity. The NexoEnergy project, however, showed that customers were interested in more responsibility and more complex products. For instance, the test customers requested a wallet for their loyalty tokens that only they could access even if this meant that the tokens would be lost if they forgot their log-in credentials. Moreover, they asked for more control over their token transactions, even though the purchase and sale of tokens can be complex.

These requests led the Stadtwerke Leipzig to re-think its approach to product and service design: customers should be given more responsibility and more complex products. This belief in customer agency persisted after the introduction of NexoEnergy and many project members attributed it to discussions about blockchain and the innovativeness it embodied. In the words of a developer and the CTO of the Stadtwerke's IT service partner:

"NexoEnergy changed the [Stadtwerke's] approach to customer management from [offering] standard electricity tariffs to offering a real product with a compelling story. With NexoEnergy, the Stadtwerke enabled their customers to interact with their source of electricity. [...] NexoEnergy is the first product of the Stadtwerke that really made customers aware of their electricity: it really loaded electricity with emotions. NexoEnergy is more like a lifestyle choice than an electricity product and has a high level of customer engagement."

"First of all, NexoEnergy is a whole new product with a significantly higher level of complexity for the customer. It is thus also very new in terms of communication. Why? New technologies are used that need to be explained to customers. [...] This higher level of complexity was not only understood by the customers. The project also showed that by sending price signals at times of green electricity surplus, it was possible to create a completely different, more partnership-based relationship [with customers]."

A third transformation occurred in relation to 'control'. More specifically, the NexoEnergy project led the Stadtwerke Leipzig to re-think its approach to data control. Before the project, data control was understood in a narrow physical sense – all data had to be stored on company premises. NexoEnergy broadened the conceptualization of control. Blockchain networks typically replicate data on several blockchain nodes, which complicates data control in the narrow physical sense. At the same time, private blockchains allow a high degree of non-physical control through hard-coded rules for read and write access. The realization that data control was possible even when deployed on third party IT infrastructure, was instrumental in developing a cloud strategy and establishing readiness to cooperate with cloud service providers. Several decision-makers at the Stadtwerke re-traced the origins of these changes to the NexoEnergy project and discussions about blockchain. The CIO of the Stadtwerke Leipzig explains:

"NexoEnergy has clearly brought about a rethinking of our data silos. Where in 2018 everyone was still storing and hoarding data [in their own silos], in 2022 we are now using cloud infrastructures and systems-of-systems approaches. This [change] was necessary and important because the data volume of [our] municipal utilities is already no longer manageable and this type of infrastructure [...] is thus indispensable."

A fourth transformation was related to the product and service development process. Before, products and services were matched to requirements of the business department, which in turn were based on market research. The NexoEnergy project, in turn, introduced a community approach that involved customers, external partners, researchers, and freelancers in the product and service development process. This approach was adapted from blockchain's 'community' narrative. Many blockchain projects are developed by heterogenous groups with a strong community mindset. These groups combine different perspectives to develop blockchain frameworks and systems that meet both technical and social, 'community acceptance' criteria. Although the adoption of this community approach turned out to be more time-consuming than in previous projects, it increased customer acceptance substantially and it was retained in subsequent projects. In the words of the COO of the Stadtwerke's IT service partner and the NexoEnergy Product Owner:

"By involving customer groups in product development at an early stage, it was possible to determine very quickly how the product works and what problems arise in everyday use. Furthermore, the feedback loops allowed us to quickly determine the level of complexity customers can be expected to accept, which in turn had a positive effect on customer acceptance. [Our] customers' level of trust also grew as they realized 'I'm working on something bigger for my city here.' This led to a significant change in the [Stadtwerke's] product development process. [...] The exchange and handling of information over the product development process has improved thanks to NexoEnergy."

"The cooperation between [various] different stakeholders such as developers, universities, and early customers in NexoEnergy changed the product development for the better as the exchange of information from different perspectives was possible and needed."

Summary. In both cases, the adopting organizations transformed their organizational culture based on values embedded in the narratives surrounding blockchain technology. The FLORA project was especially successful in encouraging more local cooperation. The NexoEnergy project, in turn, effected local and overarching changes organizational values. These changes were triggered when the project team realized that blockchain narratives had a high degree of cultural dissonance with its organizational culture yet held desirable values that could be transplanted to its organizational culture. Blockchain's fashionable character was an important enabler because it increased readiness to innovate and reconsider existing structures and practices.

Case	Blockchain narratives in the fashion market	Transformation of organizational culture	Pivotal value
FLORA	<u>Cooperation:</u> Blockchain enables cooperation between participants of a blockchain network	<u>Emphasized:</u> The FLORA project strengthened local readiness to cooperate and innovate across organizational boundaries	Cooperation
NexoEnergy	<u>Cooperation:</u> Blockchain enables cooperation between participants of a blockchain network	<u>Emphasized:</u> The NexoEnergy project strengthened readiness to cooperate across departmental boundaries	Cooperation
	<u>Participant agency:</u> Blockchain enables read and write access without the need for a 3rd party	<u>Recast:</u> The NexoEnergy project encouraged the emphasis of customer agency in the design of new products and services	Empowerment
	<u>Data sovereignty:</u> Blockchain networks replicate data on several nodes, but private networks enable strict rules for read and write access.	<u>Recast:</u> The NexoEnergy project encouraged a non-physical conceptualization of data control and paved the way for an off-premise cloud strategy	Control
	<u>Community:</u> Blockchain networks are developed and maintained according to community principles	<u>Recast:</u> The NexoEnergy project introduced and popularized a community approach to product and service development	Involvement
	<u>Cooperation:</u> Blockchain enables cooperation between participants of a blockchain network	<u>Emphasized:</u> The FLORA project strengthened local readiness to cooperate and innovate across organizational boundaries	Cooperation
Table 4. Observed transformation of organizational culture (selection)			

Discussion

We began our study with the observation that the literature on (fashionable) management practices emphasizes cultural fit as an important factor for adoption (Ansari et al., 2010; Canato et al., 2013; Piazza & Abrahamson, 2020; van Grinsven et al., 2016). However, the literature on fashionable IT remains silent on this type of fit - even though organizational values can be important determinants of IT adoption (Alavi et al., 2005; Koch et al., 2013; Leidner & Kayworth, 2006).

By studying two blockchain projects, we provide corroborative evidence that cultural sensemaking and dissonance reduction can indeed play an important role in the adoption of fashionable IT. Moreover, we

develop a tentative process model that explains how cultural fit can be promoted through a two-way process of cultural dissonance reduction between fashionable IT and organizational culture.

The importance of cultural fit for the adoption of fashionable IT

We contribute to the literature on fashionable IT by adding cultural fit as a third dimension relevant for successful adoption. Prior research on fashionable IT has already identified the importance of legitimacy and performance considerations as well as political and technical fit (Wang, 2010). What is missing is an in-depth analysis of cultural fit as suggested in the literature on (fashionable) management practices (Ansari et al., 2010; Canato et al., 2013; Piazza & Abrahamson, 2020). Our analysis corroborates the existence and relevance of this fit for fashionable IT.

Secondly, we offer empirical support for the existence and resolution of what Leidner & Kayworth (2006) proposed as cultural dissonance or 'system conflict'. The reasoning behind this conflict is that technologies can be embedded or attributed with values and that these values can conflict with organizational culture, which complicates adoption. We offer support for this notion of conflict in fashionable IT adoption, highlighting how the fashion market attributes various values to fashionable IT, which then require cultural sensemaking and dissonance reduction by adopting organizations. What is more, we find strong evidence that the dissonance reduction process can play out both ways. Organization culture can adapt fashionable IT systems and the narratives woven around them (Alavi et al., 2005; Kappos & Rivard, 2008; Leidner & Kayworth, 2006). In turn, values embodied in fashionable IT narratives can 'reorient' organizational values (Kappos & Rivard, 2008; Koch et al., 2013; Leidner & Kayworth, 2006). An interesting implication of our work - albeit one that our evidence remains inconclusive on - is that fashionable IT may require more cultural sensemaking and dissonance reduction than conventional IT.

Thirdly, we broaden the discussion of what makes innovation with fashionable IT different from innovation with non-fashionable IT. One core characteristic of IT is its 're-programmability' which enables generativity and interpretative variability (Gal et al., 2022; Yoo et al., 2010, 2012). Interpretative variability is especially high when IT has a highly nonmaterial character (Gal et al., 2022). Fashionable IT may thus be different from non-fashionable IT not just because it affords legitimacy but also because the narratives surrounding it are nonmaterial and offer high degrees of interpretative flexibility.

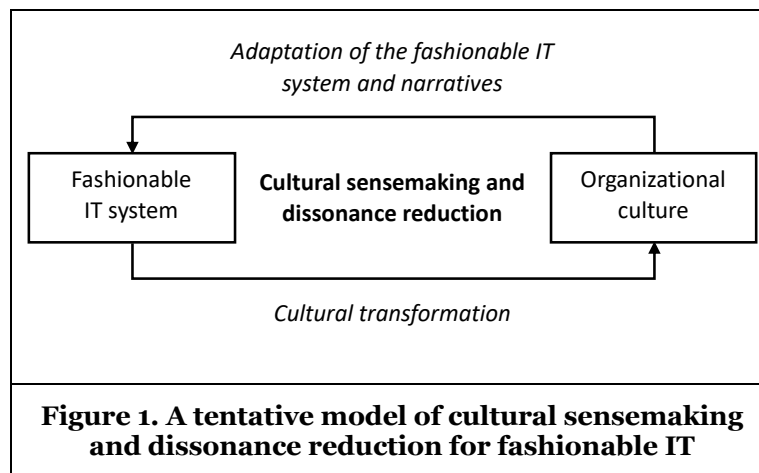
A tentative model of cultural sensemaking and dissonance reduction for fashionable IT

Our core contribution is a tentative theoretical model of 'cultural sensemaking' (Gioia & Chittipeddi, 1991; Su, 2015) and dissonance reduction for fashionable IT. Our model (Figure 1) builds on theories of cultural fit in the (fashionable) management practice literature (Ansari et al., 2010; Canato et al., 2013; Piazza & Abrahamson, 2020) as well as related theories on cultural conflict in organizational IT adoption (Alavi et al., 2005; Kappos & Rivard, 2008; Koch et al., 2013; Leidner & Kayworth, 2006). The theory of cultural fit describes the alignment of management practices with the organizational values of the recipient organization (Ansari et al., 2010; Canato et al., 2013; Piazza & Abrahamson, 2020). Cultural conflicts in organizational IT adoption result from diverging values embedded or attributed to technology and those of the recipient context. Our framework combines these two theoretical perspectives and makes them available for the study of fashionable IT.

Our emergent theoretical model argues that cultural conflict can be created and mediated through the narratives surrounding fashionable IT. More specifically, our framework suggests that these narratives facilitate attributing values to fashionable IT. However, this interpretative viability (Ansari et al., 2010) also means that adopting organizations will face narratives woven around values that digital fashion setters and other adopting organizations have attributed to fashionable IT.

These values may not match those of the adopting organization and require actions that reduce cultural dissonance. This sensemaking and dissonance reduction process is iterative and can occur both ways. Fashionable IT systems and the narratives surrounding them can be adapted to fit organizational culture. Organizational values, in turn, can be transformed to capitalize on values embodied in digital fashion narratives. These changes to organizational culture may be local or overarching (Alavi et al., 2005; Kappos & Rivard, 2008).

Successful cultural sensemaking and dissonance reduction can earn fashionable IT projects considerable momentum and effect cultural changes that would not be possible with non-fashionable IT. However, the process can be complex when the 'fashion market' has attributed values that conflict with the culture of the recipient organization. While organizations can choose to drop or reframe these values in the narratives surrounding the fashionable IT, their adaptation may lead to a loss of the "collective belief, that an information technology is new, efficient, and at the forefront of practice" (Wang, 2010). So, while the long-term goal of adopting fashionable IT may be performance gains and institutionalization, caution is required in the short term to avoid losing the perception of conformance with norms of rationality and progress. Certain fashionable IT projects may require multiple smaller sensemaking and dissonance reduction cycles to balance legitimacy and performance considerations.



Practical Implications

Our findings suggest that organizational leaders interested in associating with fashionable IT would do well to not just focus on hyping their investments and projects with the hottest IT and fitting it to their organization's existing IT systems. They should be equally concerned with the cultural aspect of these investments and projects. More specifically, organizational leaders should develop a sense of the values associated with the fashionable IT they want to invest in. They should then evaluate these values for their fit with those of their organizations and work on adjusting the fashionable IT and the narratives surrounding it, and sometimes their organizational values to make such cultural fit apparent. If such a fit is not given, they will risk that their organizations will have a hard time adopting the fashionable IT and moving from proofs-of-concept to productive systems that offer performance gains.

Establishing cultural fit may also be something fashion setters like consultants can and should support only to a certain degree. Instead, projects with fashionable IT may require 'cultural entrepreneurship' from both organizational leaders and members of the adopting organization. Conveniently, management and IS research already offer insights into how cultural fit can be created (Alavi et al., 2005; Canato et al., 2013; Koch et al., 2013; Leidner & Kayworth, 2006).

However, this is not to say that IS researchers do not have a role to play – on the contrary. IS researchers, especially those with a deep understanding of cultural theories, are well-positioned to guide the fashion adoption process. They can do more than just shape the fashion-setting process or offer post-hoc critique (Baskerville & Myers, 2009).

Boundary conditions

Boundary conditions are important for all research, especially theories built from cases (Eisenhardt, 2021). One such condition is establishing the valence of cultural fit compared to political and technical fit. Our framework demonstrates the existence of and importance of cultural fit for the adoption of fashionable IT, but it does not support any statements on its relative valence. Moreover, our framework remains silent on the importance of cultural fit in contexts with a higher or lesser emphasis on values, norms, and belief systems.

Another boundary condition is the existence of 'interpretative viability' of a fashionable IT and the narratives surrounding it, and the ability of recipient organizations to use this viability. Ansari et al. (2010), for instance, argue that earlier adopters of a fashionable management practice may have more leeway in establishing cultural fit than later adopters who feel more conformity pressures. Given the limited scope of our study, our evidence naturally stays silent if such an observation also holds true for fashionable IT.

A third potential boundary condition is the generalizability of our findings to IT that is non-fashionable. Since narratives and IT culture conflicts are not limited to fashionable IT, the core ideas of our framework might also hold for non-fashionable IT. In other words, cultural sensemaking and dissonance reduction may be an important process to explicate values "assumed in the work behaviors that the IT is designed to enable" (Leidner & Kayworth, 2006) and support the adoption of new technologies in organizational contexts.

The last boundary condition arises from whether fashionable management practices and fashionable IT are separate phenomena. This question builds on the observation that many management practices are supported by IT, which affords these practices a certain degree of materiality. Many fashionable information technologies, in turn, support changes in management practices, which blurs the line between management practice and IT (Wang, 2010). While this argument may be legitimate, our two cases provide strong reason to believe it does not hold in all cases. Neither the FLORA project nor the NexoEnergy project were concerned with re-organizing administrative procedures. Accordingly, we believe that fashionable IT is a separate phenomenon requiring independent investigation and theories.

Conclusion

In this study, we investigate the role of cultural fit for the successful adoption of fashionable IT. Based on insights from two blockchain projects, we derive a tentative theoretical model that explains the establishment of cultural fit between fashionable IT and adopting organizations. We find that this fit can be established through a process of cultural sensemaking and dissonance reduction. Dissonance reduction occurs iteratively and reduces the cultural distance between organizational values and the values attributed to the fashionable IT.

Naturally, our study is not free from limitations. For instance, two cases may be too limited to cover all aspects of the phenomenon in question. We have thus started to collect evidence on a third case that will examine the use of the European Union's European Blockchain Services Infrastructure (EBSI) in the context of digital diploma management. Tentative evidence from this investigation corroborates both the adaptation and transformation processes. Another limit may originate from the selection of our cases. We had opted to focus on blockchain technology which is typically replete with value-laden narratives. Moreover, both examined contexts are characterized by strong values and belief systems. While this does not mean that cultural fit may be irrelevant for other fashionable technologies and contexts, their effect may be less pronounced.

Lastly, our model is still tentative. It only unpacks the 'sensemaking' part of the process and does not yet cover the proceeding process of 'cultural sensegiving' by the fashion market and the subsequent process of 'giving back sense to the market'. In the proceeding process, the fashionable IT is attributed with values outside of the adopting organization's control. These 'diffuse cultural loadings' complicate cultural sensegiving by organization leaders as well as sensemaking by organizational members. In the subsequent process, informational engagement with the fashionable IT can shape the discourse in the fashion market. Moreover, our model does not yet fully unpack the interplay of material and discursive changes.

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