Research article

The influence of cultural values on Enterprise System adoption, towards a culture – Enterprise System alignment theory

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A R T I C L E   I N F O

A B S T R A C T

During the last decades, organizations worldwide have replaced their fragmented and home-grown information systems with standardized Enterprise Systems that span the entire organization. The logics embedded in Enterprise Systems, such as a centralized and integrated view on the firm, standardized organization-wide working processes, and data sharing, may or may not be congruent with the cultural context of the user organization. Especially in case of a limited alignment, the adoption and full use of the Enterprise System will require specific attention from implementers. By developing a theoretical explanation of how responses to Enterprise Systems are influenced by cultural values, we contribute to the development of a cultural alignment theory of Enterprise Systems. Drawing on Hofstede's cultural values framework, we analysed 85 published cases from firms operating in different cultural contexts, which resulted in the modelling of two contrasting archetypical cultural profiles: one that is more, and one that is less, receptive to the logics embedded in Enterprise Systems. Our model provides implementers with the necessary insights to develop implementation strategies that take the cultural context into account.

1. Introduction

For the last decades, the use of packaged integrated software solutions, so-called Enterprise Systems (ES), has expanded at the expense of custom-made systems. Enterprise Systems are commercial software packages that enable the integration of transaction-oriented data and business processes throughout an organization (Davenport, 1998). Although the technology of Enterprise Systems has improved over the years due to cloud platforms, increased connectivity, improved user-friendliness, and mobile access, the large-scale adoption and effective use of Enterprise Systems is an ongoing concern since the 'one size fits all' logic of Enterprise Systems does not always match specific and sometimes idiosyncratic needs present in organizations (Strong & Volkoff, 2010; Berente, Lyytinen, Yoo, & Maurer, 2019). User-friendly screen layouts cannot resolve the incompatibility between the system and the organization.

Enterprise systems affect many aspects of a company's internal and external operations, and their successful deployment is critical to organizational performance and survival. The case for ensuring successful implementation is evident since the costs and risks of these technology investments rival their potential payoffs. Many of the problems linked with ES implementation are related to a misfit of the system with the characteristics of the internal or external context of the organization (Kohli & Kettinger, 2004; Boonstra, 2006; Strong & Volkoff, 2010; Berente et al., 2019). The logics that are embedded in Enterprise Systems can be characterized as a centralized and integrated view of the firm, disciplined and standardized organization-wide working processes, data sharing, transparency, management control, and top-down implementation approaches (Soh, Kien, & Tay-Yap, 2000; Strong & Volkoff, 2010). One important contextual factor of ES implementations is the culture (Soh et al., 2000), referring to the dominant national, regional, organizational, departmental, or occupational culture of the adopting organization, which to some extent will fit or misfit with the logics embedded in an Enterprise System.

Culture is a complex, dynamic and multidimensional concept that is contested, temporal and emergent (Myers & Tan, 2002). It has been conceptualized as shared symbols, norms, and values in a social collective, such as a country, a region, an occupation, or an organization (Lee, Trimi, & Kim, 2013). Hofstede (1980) defines culture as the collective programming of the mind that distinguishes the members of one group from those of another. We adopt an integrative approach to culture, which implies that cultural values, intertwined at the national,

regional, organizational, occupational, departmental, or team level, are assumed to influence the way organizations and their members act.

Information flows and information technology are assumed to be closely intertwined with culture and, from that perspective, culture is often blamed when organizations experience failures in the information systems (IS) domain (Berente et al., 2019; Kohli & Kettinger, 2004; Leidner & Kayworth, 2006; Colicchio, Cimino, & Del Fiol, 2019). Information is symbolic and subject to cultural interpretations. Culture influences what people consider as legitimate information and who should have access to what information. For example, access to information on individual staff members' performance might be perceived as acceptable in cultures with an individualistic orientation but as infringing people's honour in more collectivistic ones. Especially in multinational firms with locations all over the world, branches operating in specific national cultures (e.g., Sweden) may respond differently to those in others (e.g., Singapore) to the same Enterprise System (Soh et al., 2000). It is essential that implementers are sensitive to this cultural diversity so that they can develop strategies and interventions that suit specific cultures. Organizations with cultural differences within or between units also have to deal with inconsistent responses to IT systems that can be explained by cultural differences.

More than two decades ago, some authors (Straub, 1994; Straub, Keil, & Brenner, 1997) were already warning that culture has severe effects on the successful adoption of particular types of information systems. In 1994, Straub hypothesized that cultural dimensions, as identified by Hofstede (1980), could significantly influence the adoption and use of communication technologies. He examined how fax and e-mail were adopted in two inherently different cultures (USA and Japan) and found evidence that particular characteristics of the Japanese culture restrained the e-mail adoption in Japan. Two decades later, Choi et al. (2014) did comparable research in China, South Korea, and the United Kingdom when they examined the influence of national culture on the attitude towards mobile recommender systems and found again that cultural factors have significant impacts on user attitudes. These studies are representative of most of the empirical research into the influences of culture on IS adoption. This research is predominantly quantitative and usually compares just two or three countries (e.g., Im, Hong, & Kan, 2011; Kaba & Osei-Bryson, 2013; Lee et al., 2013; Muk & Chung, 2015; Zhang, Weng, & Zhu, 2018). Therefore, systematic research on the effects of culture on the adoption of Enterprise Systems has been limited. In this study, we ask: '*how do cultural values influence Enterprise System adoption?*'. By addressing this question, we aim to contribute to developing a cultural alignment theory of Enterprise Systems.

Due to the complex nature of cultural values and to complement the dominance of quantitative research in the field, rich data are needed to identify their influence on ES adoption. Therefore, we adopt the case survey approach, a method that combines the richness of published case studies with the benefits of large quantities of data. In recent decades, this method has been employed and developed in various disciplines, including political science (Lucas, 1974; Yin & Heald, 1975), management science (Larsson & Finkelstein, 1999; Larsson, 1993), public administration, and, more recently, in information systems (Rivard & Lapointe, 2012; Henningsson & Kettinger, 2016; Berente et al., 2019). The case survey approach enables one to study the influence of cultural values on different forms of user acceptance of and resistance to Enterprise Systems. Drawing on Hofstede's cultural values framework as a theoretical lens, we analyse 85 cases, covering 23 countries or regions from a wide range of industries with 253 instances of culture-influenced user adoption.

This paper is structured as follows. In the following theoretical background section, we discuss the literature on the alignment between enterprise systems and organizations and address views on acceptance and resistance towards ES. In addition, the literature on culture will be discussed, resulting in the research model used in this study. In the method section, we then explain in more detail why we adopted the case

survey approach to answer the research question, how we identified suitable cases, and then analysed the data from these cases. In the results section, we present the patterns identified that explain how cultural values influence ES adoption. The discussion section relates the findings to the extant literature on ES adoption and national culture.

2. Theoretical Background

2.1. Logics embedded in Enterprise Systems

Soh and her colleagues (2000, 2003) were the first IS scholars to demand attention be given to the alignment between Enterprise Systems and organizations. They compared logics embedded in the Enterprise System with those inherent in the organization and specified these in terms of data ownership, data entry, workflows, and job scope (Soh, Kien, Boh, & Tang, 2003). They claimed that integrated and centralized views of the firm, data sharing, and top-down implementation approaches reflect the logics typically embedded in Enterprise Systems. The authors argued that the unique characteristics of the Asian context should be recognized when adopting an Enterprise System in Asian cultures. The business models embedded in most common Enterprise Systems typically reflect a bias towards Western business practices.

Researchers who adopted the misfit perspective examined the relationship between fit and project success (Hong & Kim, 2002) and identified strategies for overcoming misfits (Soh et al., 2000; Van Beijsterveld & Van Groenendaal, 2016). Volkoff and Strong (2010) drew on the work of Soh and her colleagues and argued that cultural misfits occur when the Enterprise System requires operating in ways that contradict organizational norms. They suggest that 'discipline' is an essential source of the logics embedded in Enterprise Systems: '…*An integrated system inherently embodies a culture of discipline. This new culture imposed by the Enterprise Systems (doing things the way you are supposed to) differed significantly from ACRO's traditional "cowboy" or "hero" culture (doing whatever was necessary to get the product out the door). Many employees, including managers, identified this change as a misfit.*' (p. 745). Krumbholz, Galliers, Coulianos, and Maiden (2000) similarly studied cultural misfits with Enterprise Systems and considered corporate and national cultural misfits. Other authors have observed that widely used ES software often conflicts with department-, occupation-, organization-, sector- or country-specific values and ways of operating (Markus, 2004; Martinsons & Ma, 2014). The culture of organizations and organizational units can be influenced by factors covering country, region or the sector in which it operates, and by dominant occupational cultures. Kohli and Kettinger (2003) reported how an attempt to implement an Enterprise System in a hospital initially failed due to the system's aims of transparency and management control being incongruent with the physicians' occupational, cultural values of autonomy and professional control. Hanseth, Ciborra, and Braa (2001) illustrate with the introduction of SAP in a Norwegian company how an Enterprise System that emphasized control, standardization, and integration of business processes, conflicted with the adopting company's cultural values resulting in a difficult and slow implementation process.

Our study does not address the question of which factors influence a specific culture, which could be national, regional, departmental, or occupational, but on how certain cultures are relatively more or less receptive to Enterprise Systems.

2.2. User Adoption

We draw on the work of Van Offenbeek, Boonstra, and Seo (2013) by arguing that the constructs of acceptance/non-acceptance (related to use) and support/resistance (related to attitudes towards the system) are both expected to contribute to explaining adoption. Therefore, we consider these two distinct but related dimensions collectively as a set explaining adoption (Edwards, 2011). Focusing only on either acceptance or resistance provides an incomplete understanding of ES adoption

since both have different causative mechanisms.

Acceptance is defined as a user's utilization of an information system to perform a task (Burton-Jones & Straub, 2006; Maruping, Bala, Venkatesh, & Brown, 2017). The most prominent theories underpinning user acceptance are the Theory of Reasoned Action (Ajzen & Fishbein, 1980) and the extended Theory on Planned Behaviour (Ajzen, 1985). Both stress intrapersonal factors in explaining behaviour, and are widely applied within the IS field, especially the Unified Theory of Acceptance and Use of Technology (UTAUT) model (Venkatesh, Morris, Davis, & Davis, 2003). The UTAUT model includes four significant constructs in user acceptance: performance expectancy, effort expectancy, social influence, and facilitation conditions. These constructs are suitable for supporting a coding scheme since they are well defined and rooted in various theories.

User resistance is defined as the set of user behaviours that reflect discontent with the implementation of a new ES (Bartunek, 1993; Rivard & Lapointe, 2012). Within the IS field, the most cited user resistance models are Interaction Theory (Markus, 1983), Equity Theory (Joshi, 1991), and the more recent Multilevel Theory of Resistance to IT (Lapointe & Rivard, 2005). There can be various reasons for user resistance. According to Markus (1983), an individual's resistance to implementing a technology is determined by the interaction between the technology and the context of its use. For instance, from an individual's perspective, a newly introduced technology might negatively influence the balance of power, may create uncertainty, or users may be unconvinced of its need. Rivard and Lapointe (2012) synthesized the different views on resistance into five essential elements of resistance: initial conditions, object of resistance, subject of resistance, perceived threats, and manifestations of resistance.

2.3. Cultural Values

Most common taxonomies of culture describe it in terms of dimensions of opposites that are supposedly present in any specific context (Hall, 1983; Leidner & Kayworth, 2006; Trompenaars, 1996). This study draws on Hofstede's seminal work on corporate and national cultures (Hofstede, 1980), the most used and recognized framework in cross-cultural studies in management and organizations, with an unrivalled coverage in terms of respondents and references. His framework describes culture along with a limited number of non-overlapping bipolar dimensions and posits that cultural differences are due to these dimensions. The five dimensions of Hofstede's framework conceptualizing culture are power distance, uncertainty avoidance, individualism-collectivism, masculinity-femininity, and short-term versus long-term orientation (Hofstede & Bond, 1988). According to Google Scholar, his seminal study (Hofstede, 1980) received the most and ongoing attention with over 84,000 citations. His framework is still under scholarly scrutiny and considered relevant by prominent culture researchers (Beugelsdijk, Kostova, & Roth, 2017; Kirkman, Low, & Gibson, 2006). Hofstede's work has also been widely applied and has proved to be instrumental in the information systems discipline (Jones & Alony, 2007; Hallikainen & Laukkanen, 2018; Zhang et al., 2018) for explaining IT acceptance (Zakour, 2004) and technology adoption (Huang, Teo, Sánchez-Prieto, García-Peñalvo, & Olmos-Miguelánez, 2019; Lee et al., 2013). Hofstede's variables focus on generic human values related to social and organizational realities and behaviors (Zakour, 2004). This enables us to relate logics embedded in Enterprise Systems with values of Enterprise System adopters.

The core characteristics of the values are as follows. First, *power distance* refers to the differences in power distribution. Power distance is the degree to which a culture accepts hierarchy and the inequality of power distribution within institutions and organizations. When there is a large power distance, there is a general acceptance of the hierarchical order in which only a selected few should have a say (Hofstede, 1980). Flat organizational structures can characterize low power distance, and the decentralization of power and a high distance reflect a greater hierarchy and centralization of authority. Moreover, a high power distance typically implies a lack of feedback and discussion among the different stakeholders (Murcia & Whitley, 2007). We expect that cultures characterized by a high power distance will be inherently more inclined to accept Enterprise Systems than those with a low power distance since the emphasis of Enterprise Systems on integration, discipline, standardization, and a centralized view fits well is a high power distance.

Second, the *individualism-collectivism* dimension describes the preference for a social framework in which individuals take care of themselves as opposed to collectivism, where individuals expect a group to take care of them in exchange for loyalty (Hofstede, 1980). Individualist cultures typically support a competitive relationship among colleagues, while collectivist cultures support mutual loyalty. Moreover, promotion in individualist cultures is based on expertise, with poor performance also punished, while in a collectivist culture, poor performance is handled by changing the allotted work (Murcia & Whitley, 2007). Since Enterprise Systems perceive the organization as an integrated entity with shared goals and coordinated processes, we expect that collectivistic cultures will be inherently more inclined to accept Enterprise Systems than individualistic cultures (Rajapakse & Seddon, 2005).

Third, *uncertainty avoidance* refers to the extent to which individuals feel uncomfortable with uncertainty and ambiguity. As such, cultures with high uncertainty avoidance will be characterized by organizations having a preference for formalized structure, standardized procedures, and 'ritualized' behaviour. Ritualization refers to the importance of dressing the right way, using the right words, and acting in a certain way (Hofstede, 1984). In cultures where uncertainty avoidance is low, there is less desire for such strict rules. Such cultures are tolerant of inaccurate information and are more prone to taking risks (Shanks et al., 2000). We expect that uncertainty avoiding cultures will be inherently more inclined to accept Enterprise Systems than cultures with a low risk avoidance since the emphasis on formalization and standardization in Enterprise Systems fits well with the values of uncertainty avoiding cultures (Hwang, 2005).

Fourth, in terms of the *masculinity-femininity* dimension, masculine cultures are focused on work goals such as the acquisition of money or property, rather than caring about the quality of life or other people, and, in these cultures, assertiveness is a dominant value (Hofstede, 1980). On the other hand, feminine cultures are acknowledged as focussing more on personal goals such as a friendly atmosphere or a comfortable work environment rather than on work-related performance goals (Gallivan & Srite, 2005). We expect that masculine cultures will be more inclined to accept Enterprise Systems than feminine cultures due to the emphasis of Enterprise Systems on masculine values as goal orientation, performance measurement, and discipline.

Fifth, and finally, the *long-term* vs. *short-term orientation* dimension concerns how individuals view time when making decisions or taking action (Hofstede & Bond, 1988). At one end of the scale, there is a strong focus on immediate, short-term results as against being comfortable with a sacrifice now for the prospect of long-term benefits (Hofstede & Bond, 1988). Short-term oriented cultures are typically found in Western countries and focus more on the immediate impact of decisions such as quarterly business targets. In comparison, long-term oriented cultures focus more on, and value, tradition and more extensively consider the long-term implications of actions and decisions (Gallivan & Srite, 2005). We expect that long-term oriented cultures will be more inclined to accept Enterprise Systems due to the extensive and long-term efforts that have to be made to implement and maintain a comprehensive Enterprise System (Peng & Nunes & Chen, 2012).

In this study, we examine whether and how the initial conditions in terms of Hofstede's cultural values explain the adoption of Enterprise Systems. As such, the Enterprise System is the object of adoption, and its intended users are the subjects of adoption (Rivard & Lapointe, 2012). More specifically, through a case survey we seek to understand whether and how the cultural values trigger specific adoption antecedents, such

as perceived benefits or threats, that subsequently influence user adoption.

3. Research approach and methods

Seeking to explore how specific cultural values influence ES adoption requires rich data, as collected through case studies to account for the cultural context of such implementations. Further, only a large number of case studies, including rich narratives, that represent diverse cultural contexts can properly answer our research question. For these reasons, we adopted a case survey approach. In this approach, which is also labelled 'qualitative meta-analysis', 'meta ethnography', 'meta synthesis' or 'meta interpretation' (Berente et al., 2019), published cases are re-used as data for a study. The case survey approach has received increasing attention in the IS literature field (Henfridsson & Bygstad, 2013; Henningsson & Kettinger, 2016; Rivard & Lapointe, 2012). Case surveys constitute a powerful approach, using coding schemes to transform multiple qualitative case studies into coded semi-quantitative data (Jurisch, Wolf, & Krcmar, 2013; Larsson & Finkelstein, 1999; Larsson, 1993; Lucas, 1974). Jurisch et al. (2013) argue that the case survey method offers the following benefits for IS research, it: (1) allows IS researchers to tap the vast experiences reported in IS case studies; (2) provides an approach for synthesizing qualitative data to provide quantitative results; (3) helps to answer basic questions in IS research; and (4) helps establish summative validity for some of the theory developed or extended in IS case studies.

3.1. Case selection

To achieve a comprehensive set of cases from scholarly sources, we used the following search strategies: computer search via Academic Search Premier and Business Source Premier, peer consultation, manual search, and reference list search. The computer search strategy was a flexible one, adapting the strategy as the search progressed in order to find the most appropriate set of keywords (the final set being: user, resistance, acceptance information, system, implementation). The selected cases had to meet four inclusion criteria. First, they needed to describe an ES implementation. Enterprise Systems are defined as integrated and standardized organization-wide modules using a centralized database to process information for tasks and coordinate activities across various units (Berente et al., 2019). Second, they should contain evidence of user adoption behaviour (reflecting resistance or acceptance). Third, they should include a rich narrative description of events in order to identify cultural nuances and evidence of user behaviour. Fourth, and finally, the case should include the influence of cultural values on ES implementation. Further, to ensure that the set of cases represented various cultural contexts, information on the specific country or region of the organization should be available. The various search strategies resulted in the identification of 85 appropriate cases, presented in 80 published articles (case codes reflect the search strategy; see Appendix 1, including a flow diagram of the selection process). Some of the articles covered multiple case studies but failed to differentiate between them in the narrative. For example, one study contained quotes collected across 15 different firms in the region of Andalusia in Spain but did not tie these to one particular firm (Bruque & Moyano, 2007). Consequently, in our analysis, we treated these 15 firms as a single case.

The 85 ES implementation cases covered 23 different countries or regions, including 15 from the UK, 27 from the USA, 3 from Australia, 6 from Canada, 5 from The Netherlands, 5 from China, 4 from New Zealand, 3 from Norway 14 from other countries, and 3 from regions including the Caribbean and Eastern Europe. The industries ranged from public organizations including healthcare (26) and education (11), to private businesses including manufacturing (12), energy (5) and financial services (4). The implementation narratives in these cases were mostly collected post-implementation (56). Eleven cases were based on pre-implementation narratives, and eighteen cases provided both pre-

and post-implementation narratives (a list of case sources is included in Appendix 1; see also Appendix 4).

3.2. Coding and analysis

A pattern-matching approach (Sheu, Yen, & Krumwiede, 2003; Yin, 2013) was applied to each of the 85 cases (see final coding scheme in Appendix 2). Through this, patterns between cultural values and user adoption were identified based on user adoption antecedents. In this study, the unit of analysis is an adoption episode that is triggered by cultural values. We followed a similar approach to Rivard and Lapointe (2012) in their case survey study in which they analysed implementer responses to user resistance by identifying episodes of resistance.

In our study, the patterns isolated as episodes include indications of cultural values, in the form of quotes from the narrative, that were linked to specific antecedents of user adoption, again in the form of quotes from the narrative, that preceded low-high user adoption (as illustrated in Appendix 3). From the 85 cases, 253 different episodes were identified where culture influenced user adoption via antecedents of adoption. We illustrate the coding approach for three articles in Appendix 3.

In coding the cultural values, we used Hofstede's approach to operationalization (Appendix 2) but refrained from using the specific country scores (Hofstede, 1980). This was to avoid potential controversy given that these scores are argued to be outdated, to misrepresent cultures (Ford, Connelly, & Meister, 2003; Gallivan & Srite, 2005; Murcia & Whitley, 2007) and, more importantly, that culture and the nation-state do not necessarily align (Beugelsdijk et al., 2017; Myers & Tan, 2002).

4. Results and Analysis

4.1. Descriptive results

The observations that together form the episodes are displayed in two tables (as rounded percentages). Table 1 depicts the distribution of culture observations. The percentages of the different cultural values are relative to the total number of observations (e.g., hierarchy was identified in 10.7% of the 253 episodes). Percentages in the Low/High columns are relative to their own totals (e.g., 4 of the hierarchy observations covered episodes of Low user adoption, which is 14.8% of the 27 observations).

Table 2 shows the distribution of low and high user adoption observations across the cultural values. In total, 177 observations (70%) led to low user adoption through various antecedents and 76 observations (30%) to high user adoption, again through various antecedents. These low and high observations of user adoption are distributed across the different cultural values. The percentages shown are relative to their respective low/high total number of observations. For instance, 44 observations of high power distance resulted in low user adoption, which is 24.9% of the 177 low adoption observations. In the next column, Table 2 shows 16 observations of high power distance that resulted in high user adoption. This is 21.1% of the 76 observations that represent high user adoption.

4.2. Analysis: adoption episodes triggered by culture

In this section, we present the most common adoption episodes triggered by cultural values. In each of the figures representing these values, the most common episodes per polar value are depicted in bold. Given our focus in the analysis on distinct cultural values, we define the threshold as more than 10 observations or at least 30% of the observations for a polar value. The observations of low power distance and low uncertainty avoidance were very dispersed over the various antecedents of user adoption, resulting in a low number of observations per antecedent. This resulted in not meeting the threshold. Of femininity, there were no observations. The values described in this section are ordered

Table 1

Distribution of the culture observations in the episodes.

Cultural values	Operationalization	Culture observation (both poles)	Percentages[a]	Low[b]		High[b]	
High power distance vs Low power distance	Hierarchy	27	10.7%[a]	4	14.8%[b]	23	85.2%
	Communication	23	9.1%	3	13.0%	20	87.0%
	Work supervision	13	5.1%	4	30.8%	9	69.2%
	Decentralization	10	4.0%	7	70%	3	30.0%
	Job-satisfaction	5	2.0%	0	0.0%	5	100.0%
	Total	78	30.9%	18		60	
Individualism vs Collectivism	Relationships	39	15%	15	38.5%	24	61.5%
	Performance promotion	11	4.0%	9	81.9%	2	18.2%
	Training	7	3.0%	6	85.7%	1	14.3%
	Company loyalty	1	0.0%	0	0.0%	1	100.0%
	Total	58	22.0%	30		28	
High uncertainty avoidance vs Low uncertainty avoidance	Technology & innovation	47	19.0%	5	11.0%	42	89.4%
	Degree of laws/rules	13	5.0%	1	8.0%	12	92.3%
	Punctuality	10	4.0%	5	50.0%	5	50.0%
	Total	70	28.0%	11		59	
					Feminine		Masculine
Masculinity vs Femininity	Goals	10	4.0%	0	0.0%	10	100.0%
	Assertiveness	9	3.0%	0	0.0%	9	100.0%
	Total	19	7.0%	0		19	
					Short-term		Long-term
Long-term vs short-term orientation	Targets	24	9.5%	18	75.0%	6	25.0%
	Tradition	4	1.6%	2	50.0%	2	50.0%
	Total	28	11.1%	20		8	

[a] Percentage is relative to the total number of culture observations (in the 253 episodes).

[b] The percentages in the Low and the High columns are relative to the total of the subcategory.

Table 2

Distribution of user adoption episodes across the culture dimensions.

		Low Adoption (177 / 70%[a])			High Adoption (76 / 30%[a])	
Power Distance (high-low)	High	44	24.9%[b]	High	16	21.1%[c]
	Low	9	5.1%	Low	9	11.8%
	Total	53	30.0%	Total	25	32.9.1%
Individualism-Collectivism	Individualist	26	14.7%	Individualist	4	5.3%
	Collective	5	2.8%	Collective	23	30.3%
	Total	31	17.5%	Total	27	35.6%
Uncertainty avoidance (high-low)	High	49	27.7%	High	10	13.2%
	Low	7	4.0%	Low	4	5.3%
	Total	56	31.6%	Total	14	18.4%
Masculinity-Femininity	Masculine	16	9.0%	Masculine	3	4.0%
	Feminine	0	0.0%	Feminine	0	0.0%
	Total	16	9.0%	Total	3	4.0%
Long-term vs Short-term orientation	Short-term	20	11.3%	Short-term	0	0.0%
	Long-term	1	0.6%	Long-term	7	9.2%
	Total	21	11.9%	Total	7	9.2%

[a] Relative to the total number of episodes (253).

[b] Relative to the low adoption episodes (177).

[c] Relative to the high adoption episodes (76).

based on the number of observations (including both polar extremes, apart from those with no observations or not meeting the threshold).

4.2.1. Power distance (high)

We collected 60 high power distance observations, making high power distance the most common influencer of the cultural dimensions in our sample.

Fig. 1 shows that 'manifestation of resistance' is the main adoption antecedent triggered by high power distance, subsequently associated with low user adoption. An example of such episodes was found in case MS4 (see Appendix 1): *"the communication was: this is what is happening!"*, which in turn led to the manifestation of resistance where users admitted that *"people found it hard to commit"*. This episode illustrates how an Enterprise System became an agent and enforcer of stricter and more instrumental policies at non-academic departments in a university institution at the expense of academic departments. This had a negative effect on user adoption. However, in contrast, the second most frequent antecedent affected by high power distance (Social Influence) increased user adoption. The high power distance underpinned a strong

social influence over the users, which generally increased their adoption. For instance, in cultures with a high power distance, a classic champion for the project is not necessary, as illustrated in the following quote: *"We suggest that in the Chinese context, the concept of a champion, as distinct from top management, is not important because the top manager is perceived to be champion."*. The social influence of top management had a clear impact in this case: *"What top management insists on will happen."* and *"Change is accepted if it is demanded"* (RL11). This led to high user adoption. Two other antecedents were frequently affected by a high power distance, namely 'performance expectancy' (10%) and 'facilitating conditions' (11.7%), which both caused low user adoption. Facilitating conditions are the organizational and technical infrastructures that support the use of the system.

4.2.2. Individualism - Collectivism

Of the 58 related observations (22.9% of 253 instances), 30 indicated an individualist and 28 a collectivist culture. This makes the distribution fairly balanced between the two polar extremes. Further, the results include 31 observations where user adoption was associated negatively
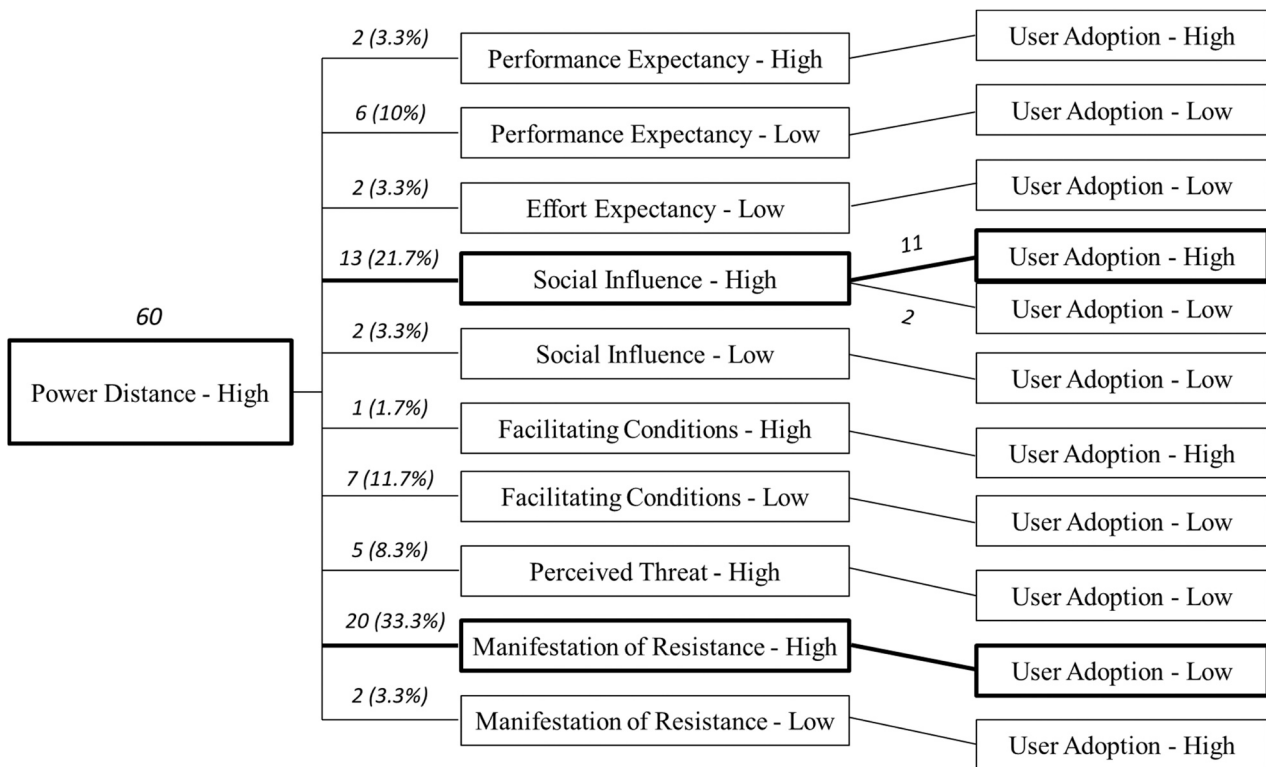
Fig. 1. Distribution of adoption episodes triggered by high power distance.

and 27 associated positively with user adoption of enterprise systems.

Of the 30 observations of an individualist culture, 26 were negatively associated with user adoption (Fig. 2). Manifestations of resistance are reflected in the following quotes: *"This shed light on the existence of a continuing struggle to impose one organization identity as being dominant over and against the other competing alternative."*. This led to *"us-versus-them"* scenarios and even talked about *"war between the two adult sites"* (RL52). Another antecedent that was regularly found to cause decreased user adoption was low 'facilitating conditions' (8 observations, Fig. 2). This was due to the 'individualist' nature of the training provided during the implementation. An episode from case RL12 shows this individualist nature: *"team members developed their skills based on self-study and self-training during the project."* which led to *"project team members complaining about their training,"* which was associated with low user adoption of the system.

In contrast to the overview of the individualistic episodes, collectivist observations tended to be associated with high adoption behaviour. The distribution of collectivist observations indicates that collectivism was positively associated with facilitating conditions, which in turn increases user adoption (12 observations). While training was most effective under individualist cultures, system compatibility, by increasing the facilitating conditions, was primarily beneficial under collectivist cultures, as illustrated in the following example. *"Careful attention was given to the development of a participative and flexible culture"*, to which users responded as follows: *"Professionals considered the acceptance of EMR to be directly linked to their participation in these problem-solving groups"*, suggesting a positive association with facilitating conditions for user adoption (EX1). Collectivism has the most positive association with user adoption (see Table 2; Fig. 3).
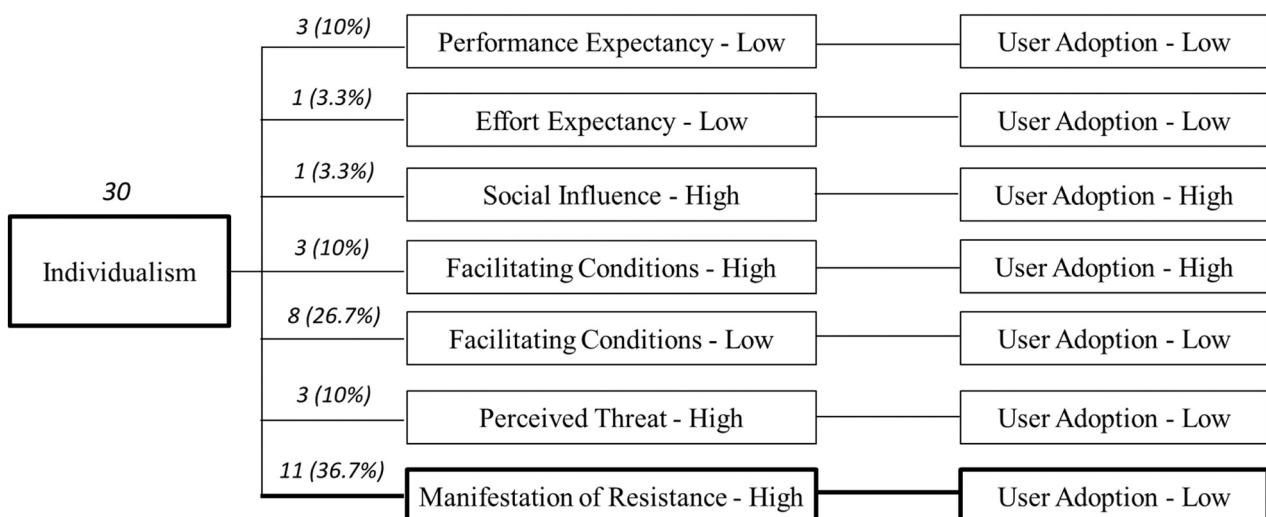

Fig. 2. Distribution of adoption episodes triggered by individualism.

4.2.3. Uncertainty avoidance (high)

Compared with all the other dimensions in the sample, high uncertainty avoidance has the most negative association with user adoption. Of the 59 observations, 49 were associated with low user adoption. Fig. 4 depicts the distribution of these episodes, and it shows that 'manifestations of resistance' and 'perceived threat' are particularly key antecedents in these negatively framed episodes. An example of such an episode was seen in case EX3, where the uncertainty avoidance represented a clear sign of fear of the new technology: *"I remember that there was a lot of anxiety with the physicians around jumping into CPOE and starting in with the new technology. I would say fear…"*. In this case, this led to a clear manifestation of resistance: *"There was a tremendous pushback by a few doctors early on who swore this was going to make care more dangerous, who swore that doc[tor]s were going to rebel.",* which resulted in low user adoption.

4.2.4. Masculinity

Although this dimension covered both masculinity and femininity, there were no femininity observations (and only 19 masculinity observations). This dimension included only 7.5% of the total observations, making it the least observed dimension. Most of the masculinity observations seemed to be associated with low user adoption (16), while only three observations appeared to be positively associated (Fig. 5). In six of the episodes, masculinity triggered 'manifestations of resistance', subsequently leading to low adoption behaviour. For example: *"the pace and competition in the sales group were high"* served as a masculinity indicator, which was connected with resistance: *"The sales staff resisted the additional work involved: the slowing in pace the system created"*. This, in turn, led to low user adoption (RL51).

4.2.5. Short-term vs long-term orientation

In total, there were 28 observations related to this cultural dimension (11.1% of 253 instances) of which the majority reflects a short-term orientation (20). All the instances of short-term orientation trigger negatively framed episodes leading to low adoption behaviour. Short-term orientation was particularly associated with a low level of facilitating conditions, subsequently related to low user adoption (see the upper half of Fig. 6). The hindering facilitating conditions were mainly in the form of less effective training, as illustrated in the following quote: *"For example, some staff had one day of training three weeks before we went live, and production staff got about a four-hour overview. It was too much too quickly for the staff, and a lot of it went right by them"* (RL17). Another episode pointed towards the low compatibility of the system due to the short-term orientation: *"During development, we could not prioritize according to the needs of the business; instead it was a time box. (…) It wasn't easy"* (MS6).

In contrast with the short-term observations, the results show that a long-term orientation is generally associated with high user adoption (7 of the 8 observations). The lower half of Fig. 6 shows that long-term orientation can be associated positively with facilitating conditions leading to high user adoption. These facilitating conditions were in the form of appropriate training (*"Training was really useful"*, CS6), a compatible system (*"We need to get really busy and at least get the key strategic elements of our long-term plan and get them in place and start to drive 'Threshold' [the IT system] from those business propositions"*, CS2) and especially, an organizational infrastructure that supports the project (*"This [phased implementation] will allow the necessary business evaluation and also perfect the roll-out processes, techniques and tools, prior to subsequent roll-out activities."*, MS5). In this case, the adopting organization established an extensive organizational infrastructure based on the view that an Enterprise Resource Planning (ERP) system should facilitate the organization its long term goals of integration and standardization.

4.3. Two archetypical cultural profiles: inclination to accept or to resist ES implementation

Fig. 7 summarizes our findings by distinguishing between the high and low adoption episodes (only those that met the threshold for sufficient observations), resulting in two archetypical cultural profiles: one with an inclination towards accepting the ES and one that inclines towards resisting it.

In the accepting profile, a long-term orientation, collectivism and a high power distance make ES adoption more likely, through the triggering of facilitating conditions and social influence. In the resisting profile, the poles of five cultural values play a role. Four of them may give rise to manifestations of resistance: high power distance, high uncertainty avoidance, individualism, and masculinity. The fifth, a short-term orientation connects with low levels of facilitating conditions and performance expectancy. This implies that a high power distance
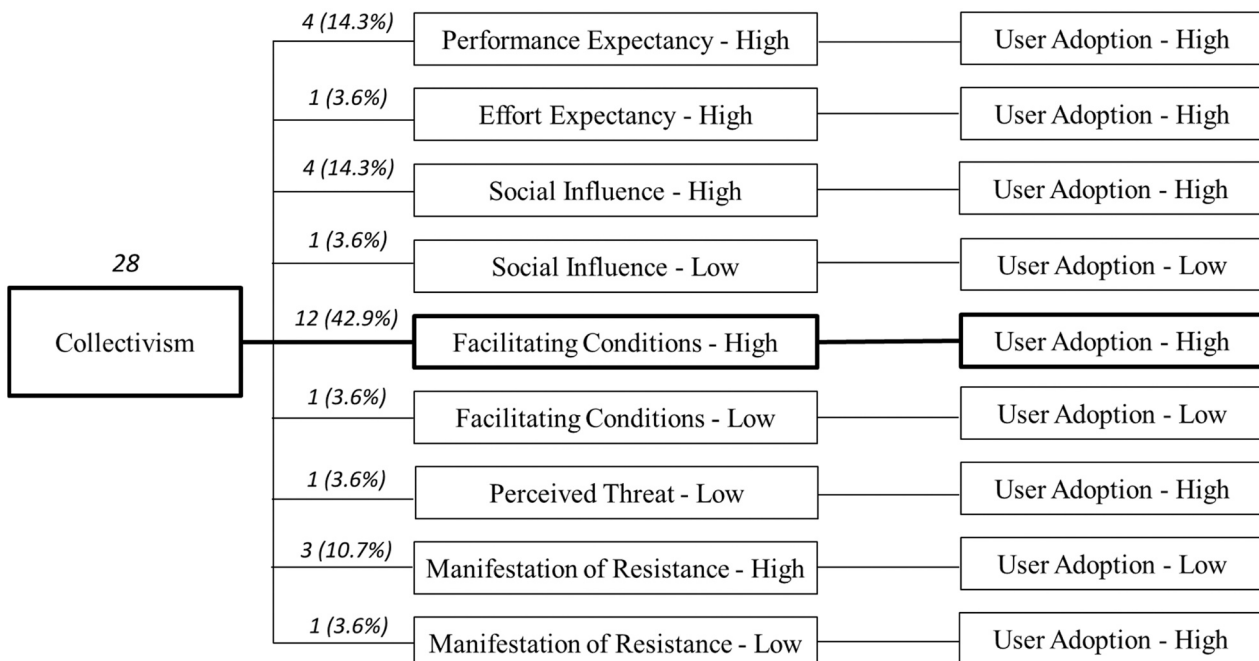

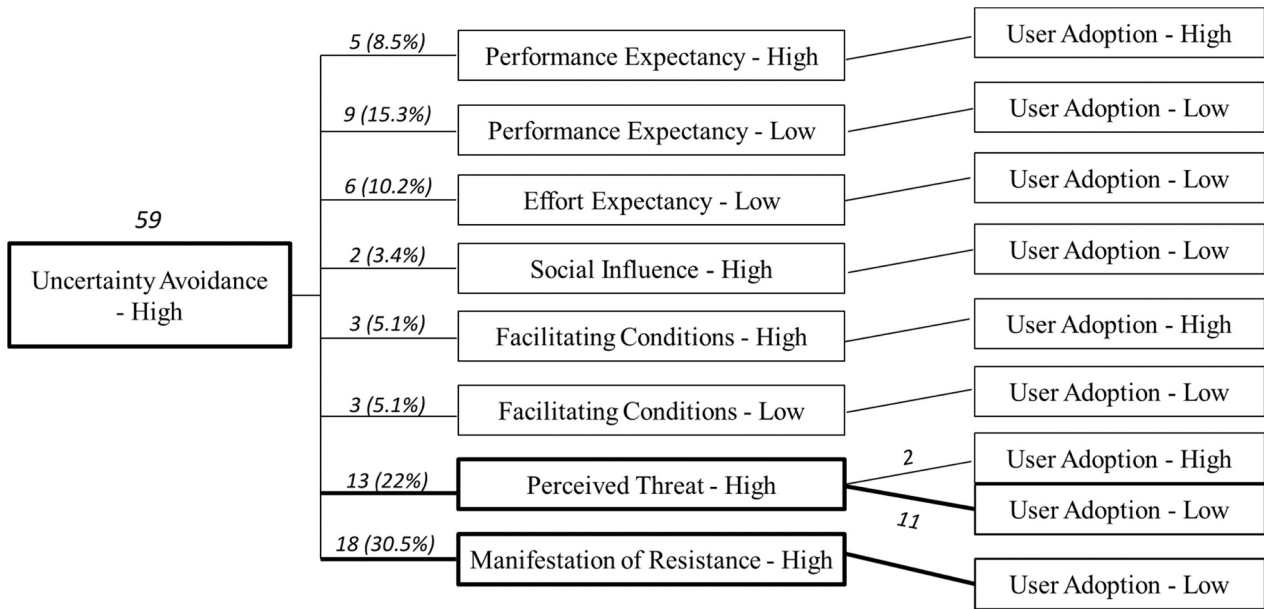**Fig. 3.** Distribution of adoption episodes triggered by collectivism.

Fig. 4. Distribution of adoption episodes triggered by high uncertainty avoidance.
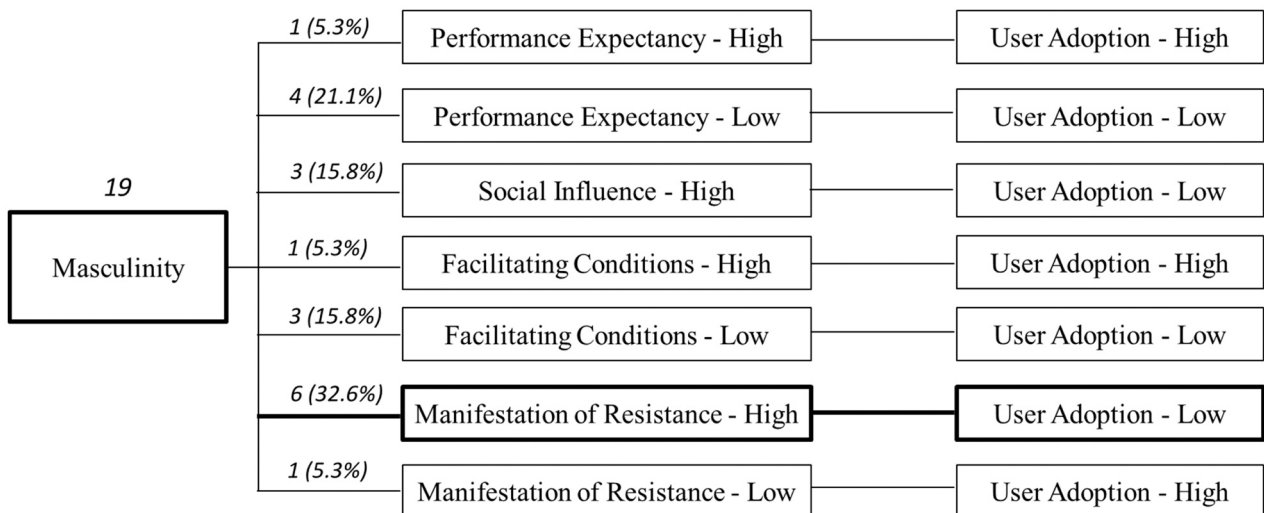

Fig. 5. Distribution of adoption episodes triggered by masculinity.

can be associated positively as well as negatively with ES adoption, depending on the other cultural values.

A typical example of a cultural profile that is inclined to accept the logics of an Enterprise system is described in the case study of Aubert, Bourdeau, and Walker (2012). This case describes how the Canadian aerospace company Bombardier successfully implemented an ERP system after a failed first attempt. The top management was highly committed to implementing this system in a top-down style (high power distance), since this was an essential part of Bombardiers long-term vision to become one integrated company with standardized processes (long-term orientation). Sufficient resources were made available (high facilitating conditions) and an experienced project team was responsible for the implementation. At the same time, there was ample opportunity for all of Bombardier's facilities to express their opinions and ideas to create a shared vision (collectivism and high social influence). After some time, the use of the system induced changes on a larger scale that could linked various parts of the organization and modify its structure by deploying standardized processes and data models, which added to

higher efficiency and cost savings (expressions of adoption). This case illustrates the adjustment dynamics between the logics of the Enterprise System and other parts of the organization, including its cultural values.

A typical example of a cultural profile that is inclined to resist an Enterprise System is described in the study by Avison and Malaurent (2007). This case exposes the cultural problems that arose when a French energy company with an individualistic culture at the headquarters tried to quickly implement an already working ERP system in the company's Chinese subsidiary (individualistic, short-term orientation, masculine culture). The project was characterized by limited involvement of the risk-averse local employees due to poor communication (uncertainty avoidance). Only implementers from the European headquarters were really engaged in the project. The implementers rushed and did not spend much time with the local employees to get support and create the necessary enabling conditions (low facilitating conditions). Global working routines were embedded in the ERP system and were forced on local working methods, sometimes violating established business routines or national regulations. The implementers
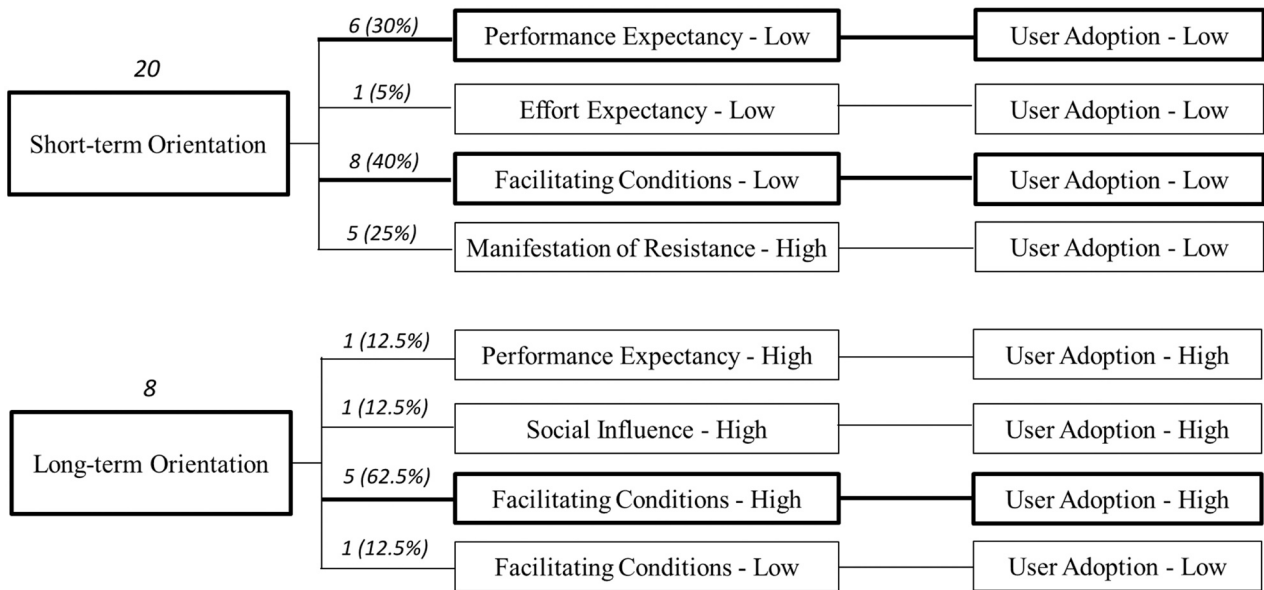
Fig. 6. Distribution of adoption episodes triggered by short-term and long-term orientations.
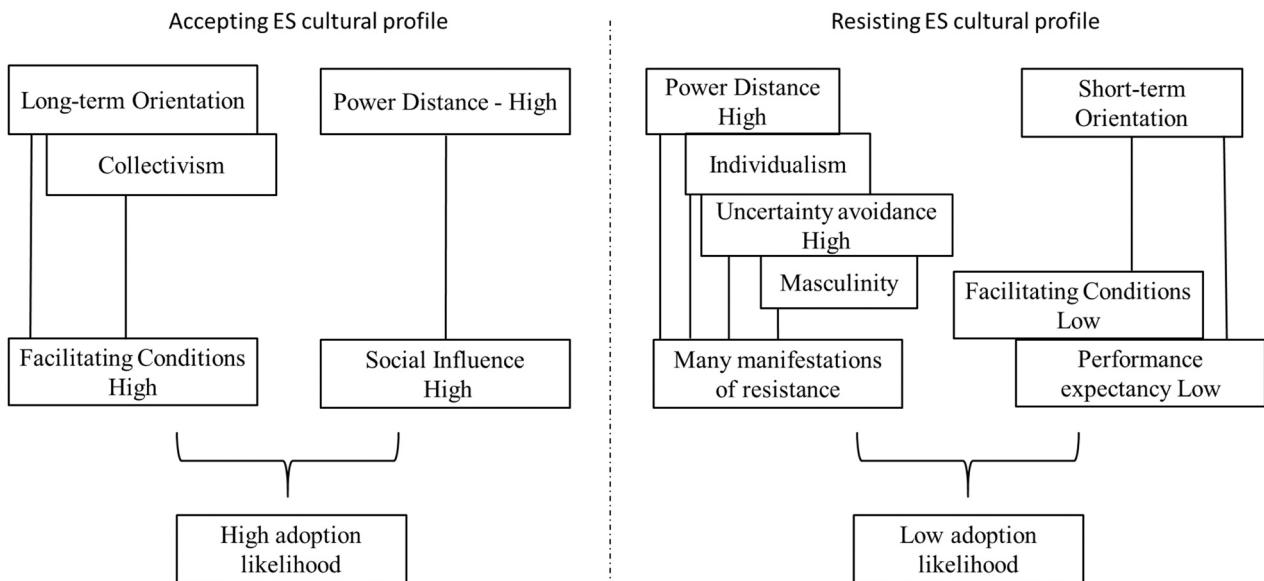

Fig. 7. Archetypical cultural profiles that are likely to accept and resist Enterprise Systems.

ignored local cultural values related to control, management and communication. Headquarters staff did not hesitate to expose the assumed weaknesses of local managers to their own subordinates.

5. Discussion

Cultural values at the national, organizational, or occupational level have a powerful influence on people and organizations. They can help explain adoption behaviours related to information technologies, including Enterprise Systems. Since the 1990 s Enterprise Systems promise integration and standardization of organization-wide information flows, real-time access to corporate data, enabling management control. While the technology of these software suites changed over the years by cloud solutions, mobile access, and enhanced user-friendliness, the logics underlying these systems remained fairly similar. In this study, we examined how these logics relate to the cultural values of adopting firms by answering the question 'how do cultural values influence

Enterprise System adoption?' By drawing on Hofstede's cultural values framework, we analysed 85 published cases of Enterprise System implementations from firms operating in different cultural contexts, which resulted in the modelling of two contrasting archetypical cultural profiles.

One of these profiles tends to accept Enterprise Systems and its associated logics, while the other profile tends resist Enterprise Systems and its associated logics. The accepting profile is characterized by a long-term orientation, collectivism and a high power distance. A long-term orientation and collectivism help to develop the facilitating conditions for successful ES implementation, and a high power distance triggers the social influence, which makes ES adoption more likely. In contrast, a short-term orientation hinders the efforts to implement a comprehensive Enterprise System. It negatively affects the facilitating conditions necessary for ES implementation. In addition, a short-term orientation is also associated with low levels of performance expectancy. Further, this profile incorporates four cultural values that may boost resistance towards the implementation: high power distance, high

uncertainty avoidance, individualism, and masculinity.

In Section 2.3, we formulated and explained the following five literature-based initial expectations regarding the influence of Hofstede's cultural values on the adoption of Enterprise Systems: (1) Cultures characterized by a high power distance will be more inclined to accept Enterprise Systems than those with a low power distance; (2) Collectivistic cultures will be inherently more inclined to accept Enterprise Systems than individualistic cultures; (3) Uncertainty avoiding cultures will be inherently more inclined to accept Enterprise Systems than cultures with a low risk avoidance; (4) Masculine cultures will be more inclined to accept Enterprise Systems than feminine cultures; (5) Long-term oriented cultures will be more inclined to accept Enterprise Systems than short-term oriented cultures. The expectations 1, 2, and 5 are at least partially confirmed by our findings, while the expectations 3 and 4 are not confirmed.

Expectation 1, regarding power distance, is partially confirmed, as our findings not only include cases where a high power distance results in support for ES implementation but also include other examples where this mobilizes resistance. This apparent contradiction illustrates that culture is a multi-faceted phenomenon where the inherently interrelated cultural dimensions can mobilize both acceptance and resistance. The two culture profiles (Fig. 7) indicate that a culture that combines a high power distance with a long-term orientation and collectivism tends to accept an ES, while high power distance combined with individualism and short-term orientation, is more likely to result in resistance.

Expectation 2 indicating that collectivistic cultures will be more inclined to accept Enterprise Systems, is confirmed by this study. The selected cases provide evidence that the ability of Enterprise Systems to integrate the organization and allow subunits to work together fit well with the needs of collectivist organizational cultures.

This study does not confirm the third expectation that uncertainty avoiding cultures are more likely to accept Enterprise Systems. Some of our cases demonstrate that the insecurity caused by the introduction of ES leads to resistance in uncertainty avoiding cultures. At the same time, we think that it is likely that the acceptance within such cultures will increase if the Enterprise System is in use for some time and smoothly supports the processes resulting in standardization and formalization. These are values that a uncertainty avoiding culture embraces.

Expectation 4, indicating that masculine cultures tend to accept ES is not confirmed by this study. We even found evidence to the contrary, namely that masculine cultures are more likely to resist the implementation of Enterprise Systems, especially when masculinity is combined with high power distance, individualism, and a short-term orientation. Our cases indicated that this combination of cultural values could lead to significant resistance during the planning, implementation, and early use of Enterprise Systems. At the same time, we think that acceptance may increase in masculine cultures when the Enterprise System is in use for some time since the typical masculine values of goal orientation, performance measurement, and discipline fit well with the system's logics.

Expectation 5, indicating that long-term oriented cultures tend to accept Enterprise Systems is confirmed by this study. The cases found provide evidence that implementing an ES requires long-term efforts and resources, the implementation phase only can easily require multiple years. Once implemented, organizations tend to use the same system for a long period of time. Obviously such efforts fit better with a relatively stable environment and a long-term orientation than with a volatile short-term oriented culture.

5.1. Theoretical implications

This study contributes to the literature in several ways. Our study confirms that culture matters in Information Systems and that the notion of cultural fit is an essential concept in the IS adoption literature (Berente et al., 2019; Im et al., 2011; Kaba & Osei-Bryson, 2013; Leidner & Kayworth, 2006; Muk & Chung, 2015; Soh et al., 2003; Straub et al., 1997; Strong & Volkoff, 2010). The concept of fit is that the level of agreement between the general values of a particular group or organization and the logics embedded in a particular system determines how the organization perceives and ultimately uses the system. A lack of a cultural fit will lead to negative perceptions and behaviors regarding the system, while a cultural fit will lead to more favorable responses. While this idea of fit has become popular, the existing fit literature has not sufficiently elaborated and operationalized the cultural fit. Little has been done to better clarify the types of IT values that may exist and how they can influence choices for ES use. We not only confirm the importance of a cultural fit in the context of Enterprise Systems, but also provide a theoretical model as to how specific cultural values trigger certain adoption antecedents that consequently result in low to high adoption behaviour. As mentioned, empirical studies into the influences of culture on IS adoption are predominantly quantitative and usually compare just two countries (e.g., South Korea and the US in the studies of Im et al., 2011; Lee et al., 2013; Muk & Chung, 2015; Sharma, Singh, & Sharma, 2020) on the adoption of a specific technology, such as internet banking or advertising through short message services. Our study goes beyond such two or three country comparisons in that our dataset covers 23 countries and regions, involving the rich narratives of 85 cases.

Another theoretical contribution is that, up to now, IS literature treated national, organizational, occupational or subunit cultures as separate research streams. Our approach to cultural values suggests a more integrative perspective and assumes that particular cultural values may have a fit or a misfit with the logics of Enterprise System, regardless of the question of where these cultural values come from.

Focusing on Enterprise Systems, our results demonstrate that certain cultural profiles are more receptive to these systems than others. The inherent values of Enterprise Systems fit well with cultures characterized by high power distance, collectivism, and long-term orientation. On the other hand, we observe a misfit of ES with cultures characterized by individualism, masculinity, short-term orientation, uncertainty avoidance, and, again, high power distance. These findings challenge the suggestion of vendors that Enterprise Systems are universal, neutral and value free.

Hofstede's seminal cultural values framework proved to be helpful for the identification of patterns of cultural receptivity to the logics of Enterprise Systems at various levels (Huang et al., 2019; Lee et al., 2013). Our study differs from other studies on the relationship between culture and IS by adopting the case survey approach. This proved to be a suitable approach for addressing the central question of this study.

The case survey is a powerful and rigorous method for transforming qualitative case-based evidence into quantifiable results. This method, which is relatively unknown in the IS field, has been proven to have potential in IS studies. It can tap into the ever-growing body of published IS cases to address research questions with an aggregated unit of analysis. The elegance of the case survey method is that it can help achieve theoretical and statistical generalization using secondary resources and, by doing so bridge the gap between quantitative and qualitative research approaches (Rivard & Lapointe, 2012).

5.2. Suggestions for practitioners

The first generic practical contribution of this research is the recognition that dominant logics of Enterprise Systems, may, in varying degrees, align or conflict with the cultural values of adopting firms. The system's logics can be summarized as: a centralized and integrated view of the business, disciplined and standardized organization-wide work processes, data sharing, transparency, management control, and top-down implementation approaches. Implementers and other responsible managers should be aware of these logics, as Enterprise Systems imposes these logics upon a company's strategy, organization, processes, and culture when implemented. This can, therefore, either fit well or cause tensions. Thus, implementers must consider to what extent the adopting company's dominant cultural values match the logics embedded in the Enterprise System before deciding to implement an Enterprise System.

Therefore, in specific terms, one must ask whether the organization fits closer to the accepting or the resisting profile. In other words, if the

organization is characterized by a long-term orientation, collectivism, and high power distance, it seems to fit better with the logics of an Enterprise System (Davenport, 1998; Soh et al., 2000). On the other hand, if the organization is more characterized by a short-term orientation, individualism, and uncertainty avoidance, implementers can expect resistance from users. The logics of the system then conflicts with the dominant cultural values of the organization. If that is the case, consideration can be given to adjusting the system, the organization, or both, to create a better fit.

Especially when a company operates in different regions (sub- or supra-national), implementers may consider whether the system should and could be adapted to better suit context-specific characteristics in management style, operation logic, and language, across various entities and lines of the company. Alternatively, managers can configure or adapt the Enterprise System to improve cultural fit. Many Enterprise Systems allow adopting organizations to accept so-called best practices embedded in the system or configure or customize the system to established organizational practices (Shang & Seddon, 2002). This choice implies a trade-off between generally agreed processes with a poor fit or tailored ones with a better fit.

Of course, it is also possible to consciously use the Enterprise System as a trigger to intervene in the organizational culture in order to enhance a better fit with the system's logics. In adopting such an approach, we recommend to combine the system implementation with a broader program that helps employees getting accustomed to working in a different way: with more discipline, collaboration, and transparency. Focusing on the system's technical implementation only, is not sufficient in such circumstances.

It is also relevant to consider the possibility of adapting the implementation strategy to the different cultures. Questions about the degree of user participation, a big-bang versus an incremental approach, rolling out the system globally, or limiting it to specific countries or regional units can be addressed in cultural-sensitive ways (Boonstra, Van Offenbeek, & Vos 2017).

Finally, when a dominant culture has a poor fit with the logics embedded in an Enterprise System, one can consider whether alternative forms of information management might be a solution than a standardized organization-wide ES, such as a more federalized or localized information architecture. The early identification of misfits will provide a basis for contingency planning and appropriate change management practices. Solution strategies, such as customization or modification, must be carefully thought through (Shang & Seddon, 2002).

5.3. Limitations and future research direction

Our study on the influences of cultural differences on the adoption of Enterprise Systems resulted in a generic model of accepting and resisting cultural profiles, which may guide future research. Although this research is grounded on 253 instances originating in 85 cases covering 23 countries, this is still a tentative model that needs to be validated, extended, and refined in future studies. This is especially the case since certain dimensions, especially the time orientation, are based on few observations. An obvious limitation of our case survey method is that the case studies are used as secondary data. Originally, these studies were not conducted to address our research question. This means that the conclusions should be treated with caution. The method also relies on basic descriptive statistics, which implies that the statistical significance of the findings is limited. Quantitative studies could measure the relative importance of the various culture dimensions and the correlations between these values. Case studies should examine in more detail how and why different cultures respond differently to integrated, standardized Enterprise Systems. Future studies could use other models than Hofstede's cultural values framework to extend the model to include cultural dimensions that are not included in Hofstede's model (Beugelsdijk et al., 2017).

Our level-independent study focused on Enterprise Systems, and we examined how certain cultural values suit the logics of these systems. We acknowledge that culture is multidimensional and can be studied on different levels. A challenge for future research is to determine at what level culture should be studied, recognizing that culture plays roles on multiple levels. Research of the influence of IS on culture should consider cultural interactions on multiple levels. Individuals will be influenced simultaneously by a range of cultural values found on the national, organizational, departmental and/or occupational levels. For example, a Chinese cardiologist working in a hospital in Paris could be influenced by his Chinese national values, the French national culture, the occupational culture of cardiologists as well as the organizational culture of that particular hospital. This suggests that a study of cultural influences on Electronic Health Records (as an example of an Enterprise System) should examine not only organizational culture, but also its interactions with other levels and how these interactions influence adoption behaviours (Strong et al., 2014).

We would suggest studying what can be done in the event of a cultural misfit. Theoretically, four alternative directions could be pursued: (1) change nothing and let the cultural misfit continue; (2) adapt the system to fit the cultural profile better; (3) change the culture to better fit the system; or (4) change both the system and the culture. Given the complexity and difficulty of cultural change, future studies could examine how the alternative routes can unfold and how efficacious these directions are. In particular, an interesting and relevant question for future research is how an Enterprise System, or the implementation process for an ES, can be adapted to a specific cultural profile. Alternatively, it would be relevant to explore how technology use, especially ES use, can potentially transform culture over time and create a more homogeneous culture in cross-cultural contexts.

Enterprise systems embed particular logics, and we have examined how and to what extent these logics suit particular cultural profiles. Future research should also examine what logics are embedded in other information technologies, such as decision support systems, communication systems, social media, artificial intelligence, and data analytics. This raises a range of interesting research questions. Do these technologies embed particular logics, and how do these fit with diverse cultural contexts? To what extent can embedded values be adapted and customized by the user organization?

A final suggested direction for future research, since IT can be seen as an influencer of the cultural values of its adopters, is how Enterprise Systems and other ITs can play a role in cultural change. If Enterprise Systems are implemented carefully, they can contribute to the development of a culture of transparency, discipline, and to the adoption of best practices from other organizations. As such, we propose research that examines the conditions under which IT implementations influence cultural change.

6. Conclusion

This study has examined how the adoption of Enterprise Systems implementations is influenced by cultural values. By doing so, we contribute to the development of a cultural alignment theory of Enterprise Systems. The logics embedded in Enterprise Systems can be characterized as a centralized and integrated view of the firm, disciplined and standardized organization-wide working processes, data sharing, transparency, management control, and top-down implementation approaches. These logics may or may not be congruent with the cultural values of the user organization. Using a case survey approach and drawing on Hofstede's cultural values framework, we analysed 85 published cases from firms operating in different cultural contexts.

The main theoretical contribution is that we develop a model for how specific cultural values trigger certain adoption antecedents that result in adoption behaviours. The case survey data resulted in the modelling of two contrasting cultural profiles: one that is accepting and one that is resisting the logics embedded in Enterprise Systems. In the accepting profile, a combined long-term orientation and collectivism help create the facilitating conditions for successful ES implementation. At the same time, a high power distance triggers the social influence, which makes ES adoption more likely. Conversely, in the resisting profile, a short-

term orientation hinders implementing an Enterprise System, and it negatively affects the facilitating conditions necessary for ES implementation. Further, this resisting profile incorporates four cultural values that may boost resistance towards the implementation: high power distance, high uncertainty avoidance, individualism, and masculinity. The main practical contribution is that cultural values have to be taken into account when Enterprise Systems are introduced. We also provide project managers with insights to develop culture-sensitive implementation strategies.

Acknowledgements

Appendix 1. Flow diagram and the resulting case sources

.
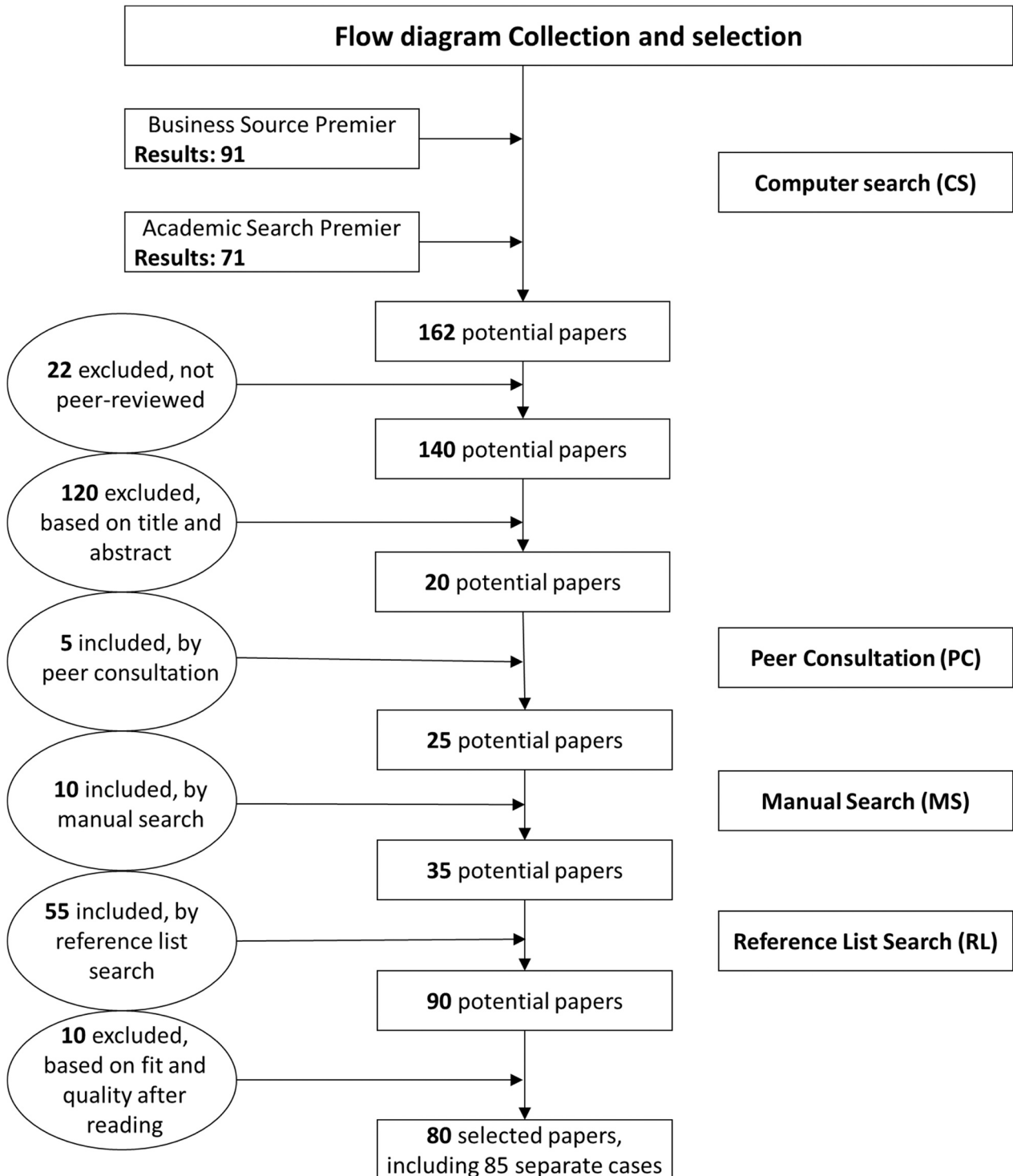
No	Code*	Source
1	CS1	Waring, T., & Skoumpopoulou, D. (2013). Emergent cultural change: unintended consequences of a Strategic Information Technology Services implementation in a United Kingdom university. *Studies in Higher Education*, *38*(9), 1365–1381.
2	CS2	Levine, H. G., & Rossmoore, D. (1993). Diagnosing the human threats to information technology implementation: A missing factor in systems analysis illustrated in a case study. *Journal of Management Information Systems*, 55–73.
3	CS3	Hartmann, T. (2011). Goal and process alignment during the implementation of decision support systems by project teams. *Journal of Construction Engineering and Management*.
4	CS4	Smith, R. J., & Eaton, T. (2014). Information and communication technology in child welfare: The need for culture-centered computing. *J. Soc. & Soc. Welfare*, *41*, 137.
5	CS6	Jackson, S., & Fearon, C. (2014). Exploring the role and influence of expectations in achieving VLE benefit success. *British Journal of Educational Technology*, *45*(2), 245–259.
6	CS8	Edgerton, M. E., Grizzle, W. E., & Washington, M. K. (2010). The deployment of a tissue request tracking system for the CHTN: a case study in managing change in informatics for biobanking operations. *BMC Medical Informatics and Decision making, 10*(1), 32.
7	CS10	Sharma, U., & Clarke, M. (2014). Nurses' and community support workers' experience of telehealth: a longitudinal case study. *BMC health services research, 14*(1), 164.
8	CS11	Kossek, E. E., Young, W., Gash, D. C., & Nichol, V. (1994). Waiting for innovation in the human resources department: Godot implements a human resource information system. *Human Resource Management, 33*(1), 135–159.
9	CS12	Borman, M., & Janssen, M. (2013). Similarities and Differences in Critical Success Factors across Context and Time: An Examination in the Setting of Shared Services. *e-Service Journal, 9*(1), 85–105.
10	CS13	Tan, W. G., Cater-Steel, A., & Toleman, M. (2009). Implementing it service management: A case study focussing on critical success factors. *Journal of Computer Information Systems, 50*(2), 1.
11	CS15	Guillemette, M. G., Fontaine, I., & Caron, C. (2009). A Hybrid Tracking System of Human Resources: A Case Study in a Canadian University. *Communications of the Association for Information Systems, 24*(1), 15.
12	CS16	Lockett, A., Currie, G., Finn, R., Martin, G., & Waring, J. (2014). The influence of social position on sensemaking about organizational change. *Academy of Management Journal, 57*(4), 1102–1129.
13	CS18	Leschinsky, M., & Messemer, J. E. (2010). Providing System Compliance Training to Accountants of a Global Pharmaceutical Company: The Switzerland Case. *Adult Learning, 21*(3–4), 13.
14	CS19	Symon, G. (1998). The work of IT system developers in context: an organizational case study. *Human-Computer Interaction, 13*(1), 37–71.
15	CS20	van den Broek, J., Boselie, P., & Paauwe, J. (2014). Multiple institutional logics in health care: 'Productive Ward: Releasing Time to Care'. *Public Management Review, 16*(1), 1–20.
16	CS22	Beynon-Davies, P., Mackay, H., & Tudhope, D. (2000). 'It's lots of bits of paper and ticks and post-it notes and things.': a case study of a rapid application development project. *Information Systems Journal, 10*(3), 195–216.
17	CS23	Siau, K., & Messersmith, J. (2003). Analyzing ERP Implementation at a Public University Using the Innovation Strategy Model. *International Journal Of Human-Computer Interaction, 16*(1), 57–80.
18	CS24	Meijerink, J., & Bondarouk, T. (2013). Exploring the central characteristics of HR shared services: evidence from a critical case study in the Netherlands. *International Journal of Human Resource Management*, 24(3), 487–513.
19	PC1	Boyer, L., Samuelian, J. C., Fieschi, M., & Lancon, C. (2010). Implementing electronic medical records in a psychiatric hospital: A qualitative study.*International journal of psychiatry in clinical practice, 14*(3), 223–227.
20	PC2	Scott, J. T., Rundall, T. G., Vogt, T. M., & Hsu, J. (2005). Kaiser Permanente's experience of implementing an electronic medical record: a qualitative study.*Britisch Medical Journal, 331*: 1313.
21	PC3	Simon, S. R., Keohane, C. A., Amato, M., Coffey, M., Cadet, B., Zimlichman, E., & Bates, D. W. (2013). Lessons learned from implementation of computerized provider order entry in 5 community hospitals: a qualitative study. *BMC Medical Informatics and Decision Making, 13*(1), 67.
22	PC4	Takian, A., Sheikh, A., & Barber, N. (2012). We are bitter, but we are better off: case study of the implementation of an electronic health record system into a mental health hospital in England. *BMC Health Services Research, 12*(1), 484.
23	PC5	Yoon-Flannery, K., Zandieh, S. O., Kuperman, G. J., Langsam, D. J., Hyman, D., & Kaushal, R. (2008). A qualitative analysis of an electronic health record (EHR) implementation in an academic ambulatory setting. *Informatics in Primary Care, 16*(4), 277–284.
24	MS2	Avison, D., & Malaurent, J. (2007). Impact of cultural differences: A case study of ERP introduction in China. *International Journal of Information Management, 27*(5), 368–374.
25	MS4	Skoumpopoulou, D., & Nguyen-Newby, T. (2015). The Organizational Impact of Implementing Information Systems in Higher Education Institutions: A Case Study from a UK University. *Strategic Change, 24*(5), 463–482.
26	MS5	Aubert, B. A., Bourdeau, S. & Walker, B. (2012). Successfully Navigating the Turbulent Skies of a Large-Scale ERP Implementation. *International Journal of Case Studies in Management, 10*(1).
27	MS6	Hammar, T., Ohlson, M., Hanson, E., & Petersson, G. (2015). Implementation of information systems at pharmacies–A case study from the re-regulated pharmacy market in Sweden. *Research in Social and Administrative Pharmacy, 11*(2), e85-e99.
28	MS7	Zakaria, N., & Yusof, S. A. M. (2016). Understanding Technology and People Issues in Hospital Information System (HIS) Adoption: Case study of a tertiary hospital in Malaysia. *Journal of Infection and Public Health, 9*(6), 774–780.
29	MS8	Jensen, T. B., Kjærgaard, A., & Svejvig, P. (2009). Using institutional theory with sensemaking theory: a case study of information system implementation in healthcare. *Journal of Information Technology, 24*(4), 343–353.
30	MS9	Walsham, G., & Waema, T. (1994). Information systems strategy and implementation: a case study of a building society. *ACM Transactions on Information Systems, 12*(2), 150–173.
31	MS10	Bruque, S., & Moyano, J. (2007). Organisational determinants of information technology adoption and implementation in SMEs: The case of family and cooperative firms. *Technovation, 27*(5), 241–253.
32	RL1	Aarts, J., Doorewaard, H., and Berg, M. 2004. Understanding Implementation: The Case of a Computerized Physician Order Entry System in a Large Dutch University Medical Center, *Journal of the American Medical Informatics Association, 11*(3), 207–216.
33	RL2	Allen, D. K., Colligan, D., Finnie, A., & Kern, T. (2000). Trust, power and interorganizational information systems: the case of the electronic trading community TransLease. *Information Systems Journal, 10*(1), 21–40.
34	RL3	Bartis, E., & Mitev, N. (2008). A multiple narrative approach to information systems failure: a successful system that failed. *European Journal of Information Systems, 17*(2), 112–124.
35	RL4	Bondarouk, T. V. (2004). Implementation of a Personnel Management System" Beaufort": successes and failures at a Dutch Hospital. *Annals of Cases on Information Technology, 6*, 352–369.
36	RL5	Doolin, B. (1999). Casemix management in a New Zealand hospital: rationalisation and resistance. *Financial Accountability & Management, 15*(3–4), 397–417.
37	RL6	Jones, M. R. (2003). "Computers can land people on Mars, why can't they get them to work in a hospital?" Implementation of an Electronic Patient Record System in a UK Hospital. *Methods of Information in Medicine, 42*(4), 410–415.
38	RL7	Massaro, T. A. (1993). Introducing physician order entry at a major academic medical center: I. Impact on organizational culture and behavior. *Academic Medicine, 68*(1), 20–25.

(*continued*)

No	Code*	Source
39	RL8	Nanji, K. C., Cina, J., Patel, N., Churchill, W., Gandhi, T. K., & Poon, E. G. (2009). Overcoming barriers to the implementation of a pharmacy bar code scanning system for medication dispensing: a case study. *Journal of the American Medical Informatics Association*, *16*(5), 645–650.
40	RL9	Robey, D., & Rodriguez-Diaz, A. (1989). The organizational and cultural context of systems implementation: Case experience from Latin America. *Information & Management*, *17*(4), 229–239.
41	RL10	Williams, L. S. (1992). Microchips versus stethoscopes: Calgary hospital, MDs face off over controversial computer system. *CMAJ: Canadian Medical Association Journal*, *147*(10), 1534.
42	RL11	Shanks, G., Parr, A., Hu, B., Corbitt, B., Thanasankit, T., & Seddon, P. (2000). Differences in critical success factors in ERP systems implementation in Australia and China: a cultural analysis. *ECIS 2000 Proceedings*, 53.
43	RL11	
44	RL12	Esteves, J., Pastor, J., & Carvalho, J. (2003). *Organizational and national issues of an ERP implementation in a Portuguese company* (pp. 139–153). Springer US.
45	RL13	Doolin, B., & Lawrence, S. (1998). Managerialism, information technology and health reform in New Zealand. *Journal of Management in Medicine*, *12*(4/5), 302–316.
46	RL14	Markus, M. L. (1983). Power, politics, and MIS implementation. Markus (1983)(6), 430–444.
47	RL16	Hartmann, T., & Fischer, M. (2009). A process view on end-user resistance during construction IT implementations. *Journal of Information Technology in Construction*, *14*, 353–365.
48	RL17	Doolin, B. (2004). Power and resistance in the implementation of a medical management information system. *Information Systems Journal*, *14*(4), 343–362.
49	RL18	Snider, B., da Silveira, G. J., & Balakrishnan, J. (2009). ERP implementation at SMEs: analysis of five Canadian cases. *International Journal of Operations & Production Management*, *29*(1), 4–29.
50	RL19	Hirt, S. G., & Swanson, E. B. (1999). Adopting SAP at Siemens power corporation. *Journal of Information Technology*, *14*(3), 243–251.
51	RL20	Brown, C. V., & Vessey, I. (2001). NIBCO's "Big Bang". *Communications of the Association for Information Systems*, *5*(1), 1.
52	RL20	Gattiker, T. F., & Goodhue, D. L. (2000). Understanding the plant level costs and benefits of ERP: will the ugly duckling always turn into a swan? *Proceedings of the 33rd Annual Hawaii International Conference on System Sciences* (pp. 10-pp). IEEE.
53	RL21	Lee, Z., & Lee, J. (2000). An ERP implementation case study from a knowledge transfer perspective. *Journal of Information Technology*, *15*(4), 281–288.
54	RL22	Gulla, J. A., & Mollan, R. (1999). Implementing SAP R/3 in a multi-cultural organization. *Proceedings of 1° International Workshop on Enterprise Management Resource and Planning Systems EMRPS, Venice, Italy* (pp. 127–134).
55	RL23	Ross, J. (1999). Dow Corning Corporation: business processes and information technology. *Journal of Information Technology*, *14*(3), 253–266.
56	RL24	Sarker, S., & Lee, A. S. (2003). Using a case study to test the role of three key social enablers in ERP implementation. *Information & Management*, *40*(8), 813–829.
57	RL26	Volkoff, O. (1999). Using the structurational model of technology to analyze an ERP implementation. *AMCIS 1999 Proceedings*, 84.
58	RL27	Seng Woo, H. (2007). Critical success factors for implementing ERP: the case of a Chinese electronics manufacturer. *Journal of Manufacturing Technology management*, *18*(4), 431–442.
59	RL28	Yusuf, Y., Gunasekaran, A., & Abthorpe, M. S. (2004). Enterprise information systems project implementation: A case study of ERP in Rolls-Royce. *International Journal of Production Economics*, *87*(3), 251–266.
60	RL30	Keller, C. (2006). Technology acceptance in academic organisations: Implementation of virtual learning environments. *Technology*, *1*, 1–2006.
61	RL30	
62	RL30	
63	RL32	Clark, C. E., Cavanaugh, N. C., Brown, C. V., & Sambamurthy, V. (1997). Building change-readiness capabilities in the IS organization: Insights from the Bell Atlantic experience. *MIS Quarterly*, (1), 425–455.
64	RL33	Smith, M. L. (2011). Limitations to building institutional trustworthiness through e-government: a comparative study of two e-services in Chile. *Journal of Information Technology*, *26*(1), 78–93.
65	RL34	May, C., Gask, L., Atkinson, T., Ellis, N., Mair, F., & Esmail, A. (2001). Resisting and promoting new technologies in clinical practice: the case of telepsychiatry. *Social Science & Medicine*, *52*(12), 1889–1901.
66	RL35	Peddle, K. (2007). Telehealth in context: Socio-technical barriers to telehealth use in labrador, canada. *Computer Supported Cooperative Work (CSCW)*, *16*(6), 595–614.
67	RL36	Nicolini, D. (2010). Medical innovation as a process of translation: A case from the field of telemedicine. *British Journal of Management*, *21*(4), 1011–1026.
68	RL37	Hu, P. J. H., Chau, P. Y., & Sheng, O. R. L. (2002). Adoption of telemedicine technology by health care organizations: an exploratory study. *Journal of organizational Computing and Electronic Commerce*, *12*(3), 197–221.
69	RL39	Lu, X. H., Huang, L. H., & Heng, M. S. (2006). Critical success factors of inter-organizational information systems—A case study of Cisco and Xiao Tong in China. *Information & Management*, *43*(3), 395–408.
70	RL40	Akkermans, H., & van Helden, K. (2002). Vicious and virtuous cycles in ERP implementation: a case study of interrelations between critical success factors. *European Journal of Information Systems*, *11*(1), 35–46.
71	RL41	Plant, R., & Willcocks, L. (2007). Critical success factors in international ERP implementations: a case research approach. *Journal of Computer Information Systems*, *47*(3), 60.
72	RL41	
73	RL42	Barker, T., & Frolick, M. N. (2003). ERP implementation failure: A case study. *Information Systems Management*, *20*(4), 43–49.
74	RL43	Bussen, W., & Myers, M. D. (1997). Executive information system failure: a New Zealand case study. *Journal of Information Technology*, *12*(2), 145–153.
75	RL44	Elbanna, A. R. (2007). Implementing an integrated system in a socially dis-integrated enterprise: a critical view of ERP enabled integration. *Information Technology & People*, *20*(2), 121–139.
76	RL45	Pan, G., Hackney, R., & Pan, S. L. (2008). Information Systems implementation failure: Insights from prism. *International Journal of Information Management*, *28*(4), 259–269.
77	RL46	Avital, M., & Vandenbosch, B. (1999, January). SAP implementation at Metalica: an organizational drama. In *Proceedings of the 20th international conference on Information Systems* (pp. 650–653). Association for Information Systems.
78	RL47	Sieber, T., Siau, K., Nah, F., & Sieber, M. (1999). Implementing SAP R/3 at the University of Nebraska. *ICIS 1999 Proceedings*, 77.
79	RL50	Robey, D., & Sahay, S. (1996). Transforming work through information technology: A comparative case study of geographic information systems in county government. *Information Systems Research, 7*(1), 93–110.
80	RL50	
81	RL51	Gunawardane, G. (1985). Implementing a management information system in an extremely dynamic (and somewhat hostile) environment—A case study. *Interfaces*, *15*(6), 93–99.
82	RL52	Vieru, D., & Rivard, S. (2014). Organizational identity challenges in a post-merger context: A case study of an information system implementation project. *International Journal of Information Management*, *34*(3), 381–386.
83	RL53	Tolsby, J. (1998). Effects of organizational culture on a large scale IT introduction effort: a case study of the Norwegian army's EDBLF project. *European Journal of Information Systems*, *7*(2), 108–114.
84	RL54	Laumer, S., Maier, C., Weitzel, T., & Eckhardt, A. (2012, January). The Implementation of Large-Scale Information Systems in Small and Medium-Sized Enterprises–A Case Study of Work-and Health-Related Consequences. In System Science (HICSS), 2012 45th Hawaii International Conference on (pp. 3159–3168). IEEE.
85	RL55	Cooke, F. L. (2006). Modeling an HR shared services center: Experience of an MNC in the United Kingdom. *Human Resource Management*, *45*(2), 211–227.

*CS1 = Computer Search 1, RL1 = Reference List 1, MS1 = Manual Search 1, PC1 = Peer Consult 1. When a source has multiple cases, this source has multiple case numbers while the code remains the same.

Appendix 2. Overview of codes

Themes	Subthemes	Operationalization	Source	Code	Poles
Culture Dimensions	Power Distance	Work supervision	Hofstede, 2001	PD1	PD-L vs. PD-H
		De-centralization		PD2	
		Job satisfaction		PD3	
		Hierarchy		PD4	
		Communication		PD5	
	Individualism	Relationships	Hofstede, 2001	IDV1	IND vs. COL
		Performance promotion		IDV2	
		Training		IDV3	
		Company loyalty		IDV4	
	Uncertainty avoidance	Degree of laws/rules	Hofstede, 2001	UA1	UA-L vs. UA-H
		Punctuality		UA2	
		Technology & Innovation		UA3	
	Masculinity	Goals	Hofstede, 2001	MF1	MAS vs. FEM
		Assertiveness		MF2	
	Long-term orientation	Targets	Hofstede, 2001	LS1	LTO vs. STO
		Tradition		LS2	
Antecedents	Performance Expectancy	Performance gain	Venkatesh et al. (2003)	PE1	PE-L vs. PE-H
		Perceived usefulness	Davis, 1989	PE2	
		Output quality	Thompson et al., 1991	PE3	
	Effort Expectancy	Ease of use	Venkatesh et al. (2003)	EE1	EE-L vs. EE-H
	Social Influence	Social Influence	Venkatesh et al. (2003); Ajen, 1991	SI1	SI-L vs. SI-H
		Image	Moore & Benbasat, 1991	SI2	
	Facilitating Conditions	Training	Thompson et al., 1991	FC1	FC-L vs. FC-H
		Compatibility	Moore & Benbasat, 1991	FC2	
		Organizational infrastructure	Venkatesh et al. (2003)	FC3	
		Initial Conditions	Rivard and Lapointe (2012)	FC4	
	Potential Threat	Threat	Rivard and Lapointe (2012)	PT1	PT-L vs. PT-H
		Inequality	Rivard and Lapointe (2012)	PT2	
	Manifastation of Resistance	Apathy	Rivard and Lapointe (2012)	MR1	MR-L vs. MR-H
		Destructive Behavior	Rivard and Lapointe (2012)	MR2	
		Persistance of former behavior	Rivard and Lapointe (2012)	MR3	
		Formation of coalitions	Rivard and Lapointe (2012)	MR4	
Adoption behavior			Venkatesh et al. (2003);Van Offenbeek et al. (2013)		USE-L vs. USE-H

Appendix 3. Codebook illustrated

The table illustrates the coding schema for three episodes, from three articles. The CV Code represents the cultural value that triggered an episode. For instance, for the case in article CS23, it was an indication of high uncertainty avoidance (via the punctuality sub-code) that was found in the narrative as well as indications of performance expectancy as the users' attitude towards the system (for CS23, this is coded PE1 via the antecedent sub-code performance gain, which is low in this case). Finally, a code is attached that indicated whether the episode in the narrative represented high or low adoption behavior.

Article	CV	CV-pole	Representative quotation	Antecedent	Antecedent Pole	Representative quotation	Adoption
CS23	UA3	UA-H	*"…our business unit is definitely aware of advancements in technology, and is somewhat willing to capitalize on new technologies, but at the same time we are fairly cautious."*	PE1	PE-L	*"We are definitely aware of new technology, yes, but the flexibility is hampered a little bit by a fear of technology and whether or not technology advances will really add value to what the business unit is doing."*	Low
RL14	PD1	PD-H	*"Given the details of the design of FIS, it is likely that divisional accountants would have resisted it even if the loss of power implied for the divisions had been accidental."*	MR3	MR-H	*"It is not surprising that those who gained access were pleased with the system and that those who lost control resisted it by writing angry memos, maintaining parallel systems, engaging in behavior that jeopardized the integrity of the database, and participating in a task force with the public objective of eliminating FIS and replacing it with another system."*	Low
CS3	IDV1	COL	*"Project team members will need to actively engage in the change."*	PE3	PE-H	*"… by not only developing necessary knowledge regimes that allow an understanding of the goals and process of the change but also by sharing this knowledge with the project team outsiders that support the project team with the change."*	High

Appendix 4. Case descriptives

This Appendix provides an overview of the descriptives of the 85 cases. The code in the second column represents the search strategy used to find the case (CS1 = Computer Search 1, RL1 = Reference List 1, MS1 = Manual Search 1, PC1 = Peer Consult 1). The last column shows if the narrative represents pre-, or post-implementation. Some of the cases present both a pre- and post-implementation narrative.

No #	Code	Country / Region	Industry	Enterprise System	Implementation narrative (pre-, post or both)
1	CS1	UK	Education	SITS	Pre- & Post
2	CS2	USA	Financial services	Threshold program	Pre
3	CS3	USA	Construction	Decision support system (4D)	Pre- & Post
4	CS4	USA	Child welfare	Case management system	Post
5	CS6	UK	Education	Virtual learning environment	Post
6	CS8	USA	Healthcare	Tissue ordering system	Pre- & Post
7	CS10	UK	Healthcare	Telehealth	Post
8	CS11	USA	Energy Sector	HR system	Pre- & Post
9	CS12	Australia	Education	Shared services IT	Post
10	CS13	Australia	Healthcare	IT infrastructure library	Post
11	CS15	Canada	Education	Security tracking system	Post
12	CS16	UK	Healthcare	IT cancer research	Post
13	CS18	Switzerland	Pharmaceutical	ERP	Post
14	CS19	UK	Public sector	ERP	Pre
15	CS20	the Netherlands	Healthcare	Quality improvement system	Pre- & Post
16	CS22	UK	Telecommunications	Customer Relation System	Pre
17	CS23	USA	Education	ERP	Post
18	CS24	Netherlands	Public sector	HR system	Post
19	PC1	France	Healthcare	EMR	Post
20	PC2	Hawaii (USA)	Healthcare	EMR	Post
21	PC3	USA	Healthcare	EMR	Post
22	PC4	UK	Healthcare	EMR	Post
23	PC5	USA	Healthcare	EMR	Post
24	MS2	China	Energy Sector	ERP	Post
25	MS4	UK	Education	SITS	Post
26	MS5	Canada	Aviation	ERP	Pre- & Post
27	MS6	Sweden	Pharmaceutical	Dispensing system	Pre- & Post
28	MS7	Malaysia	Healthcare	HIS	Post
29	MS8	Denmark	Healthcare	EPR	Post
30	MS9	UK	Financial services	Decentralized IS	Pre- & Post
31	MS10	Spain	Wood/furniture, services, computing, textiles, and manufacturing	Diverse	Pre- & Post
32	RL1	the Netherlands	Healthcare	Computerized order system	Post
33	RL2	UK	Automotive	Inter-organizational lease system	Pre
34	RL3	CE Europe	FMCG	Electronic work time registration	Post
35	RL4	the Netherlands	Healthcare	HR system	Post
36	RL5	New Zealand	Healthcare	ERP	Post
37	RL6	UK	Healthcare	EMR	Post
38	RL7	USA	Healthcare	Computerized order system	Post
39	RL8	USA	Healthcare	Bar code scanning system	Post
40	RL9	Chile	Aviation	Automated accounting system	Post
41	RL10	USA	Healthcare	ERP	Post
42	RL11	China	Manufacturing	ERP	Post
43	RL11	Australia	Refining	ERP	Post
44	RL12	Portugal	Manufacturing	ERP	Pre- & Post
45	RL13	New Zealand	Healthcare	Executive information system	Pre
46	RL14	USA	Manufacturing	Financial information system	Post
47	RL16	New Zealand	Healthcare	ERP	Post
48	RL17	Canada	Manufacturing	ERP	Post
49	RL18	USA	Energy Sector	ERP	Post
50	RL19	USA	Manufacturing	ERP	Pre- & Post
51	RL20	USA	Manufacturing	ERP	Post
52	RL20	USA	Automotive	ERP	Post
53	RL21	USA	Education	ERP	Post
54	RL22	Norway	Energy Sector	ERP	Pre
55	RL23	USA	Chemical Technology	ERP	Pre- & Post
56	RL24	USA	Air pollution & dust collection	ERP	Post
57	RL26	Canada	Manufacturing	ERP	Post
58	RL27	China	Manufacturing	ERP	Post
59	RL28	UK	Manufacturing	ERP	Post
60	RL30	Lithuania	Education	VLE	Post
61	RL30	Norway	Education	VLE	Post
62	RL30	Sweden	Education	VLE	Post
63	RL32	USA	Telecommunications	Centers of Excellence (ERP)	Pre- & Post
64	RL33	Chile	Public sector	E-governance system	Post

(*continued*)

No #	Code	Country / Region	Industry	Enterprise System	Implementation narrative (pre-, post or both)
65	RL34	UK	Healthcare	Tele-psychiatry	Post
66	RL35	Canada	Healthcare	Telemedicine	Post
67	RL36	Italy	Healthcare	Telemedicine	Post
68	RL37	China	Healthcare	Telemedicine	Post
69	RL39	China	Telecommunications	IOS	Pre- & Post
70	RL40	the Netherlands	Aviation	ERP	Post
71	RL41	Caribbean	FMCG	ERP	Pre- & Post
72	RL41	UK	Energy Sector	ERP	Pre- & Post
73	RL42	USA	Soft drink bottling	ERP	Pre
74	RL43	New Zealand	Manufacturing	EIS	Pre
75	RL44	CE Europe	FMCG	ERP	Pre- & Post
76	RL45	Singapore	Electronics	ERP	Post
77	RL46	USA	Manufacturing	ERP	Pre- & Post
78	RL47	USA	Education	ERP	Pre- & Post
79	RL50	USA	Public sector	GIS	Post
80	RL50	USA	Public sector	GIS	Pre- & Post
81	RL51	USA	Manufacturing	MIS	Post
82	RL52	Canada	Healthcare	LIS	Post
83	RL53	Norway	Army	EDBLF IT System	Pre- & Post
84	RL54	Germany	Financial services	Financial information system	Post
85	RL55	UK	Financial services	HR system	Pre- & Post

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