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ABSTRACT
Multinational corporations have been at the front of the ERP movement since its origins. The globalization of markets had a profound effect on multinational corporations’ IT strategies, including ERP systems, to facilitate supporting the global outlook. Despite the increasing growth of global ERP systems, the focus of research has been mostly on the intra-organizational aspects. Implementation of ERP systems in multinational corporations is considerably more difficult due to the presence of different business actors and their heterogeneous interests influenced by the local strategies and context. Inspired by the social and economic theories explaining standardization, convergence and transfer of practices in a network context, this study is intended to provide a descriptive and explanatory framework of factors decisive for harmonization of practices during global ERP implementation in multinational corporations. The framework is tentatively verified based on the secondary data as well as a case study conducted in a multinational corporation.

Keywords
Global Enterprise Resource Planning Systems, Harmonization, Multinational Corporations

INTRODUCTION
The increasing business trend towards globalization has increased the popularity of Enterprise Resource Planning (ERP) systems among multinational corporations (MNCs) as a tool to control and coordinate the remote operating units and to improve efficiency, predictability, transparency and visibility across the enterprise. Instead of accommodating individual business units’ processes and requirements through separate multiple ERP systems, corporations are aiming at reducing complexity and cost by developing corporate-spanning ERP strategies. Using ERP systems as a tool to create a common language across the operating units, global consensus is required (Holland and Light, 1999). This has proved to be difficult to achieve due to the differences in the local criteria, infrastructures, business processes, semantics of data, authorization hierarchies, and decision centers (Daneva and Wieringa, 2005).

Using a single logical database to facilitate transactions and information exchange across the business units, a global ERP necessitates standardization of data and business processes (Gattiker and Goodhue, 2004). Often a conflict arises between local requirements on the one hand and the enterprise-wide objective to introduce common global business processes on the other hand. While harmonization has been one of the main drivers of global ERP system implementations in MNCs, the challenges for reaching a global consensus among corporate subsidiaries about the unified ways of working have not been sufficiently addressed. There are few studies which discuss the fit between global ERP and organizational factors such as international management strategy, competitive strategy, interdependence and differentiation and organizational structure, among which can be mentioned the studies by Benders, Batenburg and Blonk (2006), Clemmons and Simon (2001), Gattiker and Goodhue (2004, 2005), Madapusi and D’Souza (2005), Markus, Tanis and van Fenema (2000), Morton and Hu (2008), and Yen and Sheu (2004). Based on an extensive literature study and using different theoretical points of view, we propose a descriptive and explanatory framework incorporating the factors decisive for harmonization of practices in MNCs while implementing a global ERP system. For verification purposes, the framework is tentatively applied in the context of a corporation in the process of harmonization of its practices along with a global ERP implementation.

The remainder of the paper is organized as follows: The theoretical framework and research question formulation are followed by a description of the harmonization framework’s elements. A brief description of the framework application to the secondary data and the findings of the empirical study follows and the paper is concluded with a discussion of implications and potential extensions of the research.
THEORETICAL FRAMEWORK

Kostova (1999) defines organizational practices as taken-for-granted institutionalized ways of conducting organizational functions that have evolved over time under the influence of an organization’s history, people, interests, and actions. They are habitualized actions, routines, and standard operating procedures that reflect an organization’s shared knowledge, competences, values, and beliefs embedded in individual skills and collaborative social arrangements. Organizational practices are suggested to consist of different elements, including a set of rules and cognitive understanding of how a particular organizational function should be conducted (Kostova, 1999).

Uncoordinated business processes with isolated business units constantly re-inventing the wheel are not desirable in any organization. The cost of variations may take the form of customer dissatisfaction, inefficiency, ineffectiveness, costly training, more variations in documentation, lack of comparable information for decision-making, loss of best practices, increased complexity, higher staffing costs and more costly IT development and support (Tregear, 2010), while process harmonization across operating units is expected to lead to better communications, more efficient handoffs and performance benchmarking, and enabling implementation of uniform information systems (Davenport, 2005). Though Levitt (1983) believes that the days of national and regional preferences are gone and that there is a convergence in commonality, there are studies which point to the differences in the way of doing business in MNCs as a result of differences in national culture, management style, politics, regulations, customs, market requirements etc. (e.g. Sheu, Chae and Yang., 2004). Harmonization of business processes and organizational structures in multinational organizations requires a common understanding of the future business, which may be hampered by communication problems and different priorities and habits, and may even be completely blocked by political conflicts and prestige (Gulla and Mollan, 1999). Moreover, adapting business processes to a global template does not necessarily yield the same benefits across the local subsidiaries of a multinational (Carton and Adam, 2003). Therefore, a fundamental question remains for MNCs as how much uniformity should exist in the way it does business in different regions or countries (Davenport, 1998).

Though the terms harmonization and standardization are often used interchangeably, in this paper the term process standardization refers to the process of reducing process randomness, while harmonization of practices is used to refer to the process of unifying diverse corporate processes into a global template. In other words, harmonization is defined as the activity of establishing a limited set of solutions for the parties involved and balancing their requirements (Rosenkranz, Seidel, Mendling, Schaefermeyer and Recker, 2010). Subsequently, the level of harmonization of a set of business processes refers to the degree of commonality that is achieved between different process variants (Remco, 2012) or the extent to which subsidiaries perform the same practices the same way. Assuming the factors influencing harmonization of practices in MNCs as a subset of factors influencing standardization, convergence and transfer of practices across an enterprise, the papers relies on social and economic theories to provide a conceptual framework answering the following research question: What are the factors and conditions which influence harmonization of practices in an MNC while developing the template for a global ERP roll-out?

In the following, an overview of the factors that influence standardization, convergence and transfer of practices within MNCs and thereby the process of harmonization for global ERP implementations is provided. Figure 1 provides an overview of the proposed harmonization framework. Since harmonization is considered to be relatively faster than a gradual process of dissemination, the framework excludes those factors which describe slower forms of convergence and transfer, e.g. mechanisms applied for gradual organizational learning such as administrative devices to stimulate vertical and horizontal integration to facilitate knowledge flow.

CHARACTERISTICS OF THE MULTINATIONAL CORPORATION

Organizational form and capabilities and strategic profile of an MNC are shaped by technical and economic rationality, constraints in resource allocation, cognitive orientation of managers and social and institutional structure of the environments (Ghoshal and Bartlett, 2010). In the following some characteristics of an MNC are discussed that influence inter-organizational convergence and transfer of practices, and are suggested to affect harmonization of practices for global ERP implementations.
International Management Strategy: Bartlett and Ghoshal (1998) introduce a widely used framework describing the strategic disposition of MNCs. Based on the relative importance of global efficiency and local responsiveness, the framework introduces a typology for international strategy of MNCs, categorized as global, international, multinational and transnational organizations. While the multinational strategy is based on building local presence through allowing for sensitivity and responsiveness to national differences, the global strategy is driven by the need for global efficiency and cost advantages through centralized strategic and operational decision-making and global-scale operations. The need for worldwide coordination in global companies to exploit scale economies encourages adoption of common practices across subsidiaries (Cavusgil, Yeniyurt and Townsend, 2004), while isomorphism with local patterns are stronger in multinational strategies to ensure responsiveness.

Resource Dependency: According to resource dependency theory an organization's structure reflects the need to manage uncertainty related to importing resources from the environment. Using this to predict the structure of subsidiaries in different MNCs, Rosenzweig and Singh (1991) suggest that the subsidiary of an MNC in a multi-domestic industry, in which there are independent competitions in the countries, may strongly resemble other host-country firms due to its relatively higher dependence on local resources, while MNC subsidiaries in global industries, where scale economies are paramount, may exhibit a higher degree of interdependence with the parent and other subsidiaries within the MNC, leading to more complete manifest of the corporate features. Underlying these hypotheses is the assumption drawn from institutional theory, that resource exchange between organizations generates isomorphic pulls on the dependent organization to gain the legitimacy required to access resources (Westney, 2010).

Control and Coordination: Rosenzweig and Singh (1991) suggest that the tendency for subsidiaries of an MNC to resemble each other is due to two factors: organizational replication and the imperative of control. The process of replication and the need for consistency within MNCs is driven by the similarities in their technologies and the ambiguity and uncertainty of the foreign country. The challenges of establishing and maintaining control within MNCs compared to domestic firms explains the importance of control and coordination mechanisms in MNCs. A higher level of control from headquarters is expected to increase the potential for similarity and convergence of practices across MNCs (Kostova, 1999). The more the strategic decision-making approach is decentralized, the higher the freedom of local subsidiaries for bottom-up development of local strategies, idiosyncratic power resources and local practices (Geppert and Williams, 2006). However, looking at an MNC as a network of organizations rather than a unitary organization, a differentiated approach for application of control mechanisms -
including formalization through standardization of work processes - might be needed to fit the heterogeneous task environments of subsidiaries, the local resources and the complexity and dynamics of the local environment (Ghoshal and Nohria, 1989; Mintzberg, 1983).

**Inter-subsidiary Operational Similarity and Interactions**: Ross, Weil and Robertson (2006) suggest the level of standardization of business processes to be determined by the degree of operational similarity of the business units, while the level of integration of business processes should be decided considering the degree of shared data and transactions across a corporation. Common products and process technologies suggest a similar type of work organization (Mueller, 1994) while any differences in products and services may necessitate variation in the associated processes (Tregear, 2010). Standardization across heterogeneous sub-units may result in either design or compromise costs (Gattike and Goodhue, 2004), since it is less likely that standardization will meet all units’ requirements equally well (Gattiker and Goodhue, 2005).

In addition to strong isomorphic pulls across an MNC’s subsidiaries, efficiency and transaction cost grounds also prescribes similarity of the interacting units (Westney, 2010). High interdependence, resulted from high degree of information and material exchange between the business units, justifies the need for a common formalized language (Gattike and Goodhue, 2004) to reduce the transaction costs (Westney, 2010). However, the value of an integrative coordination mechanism in one subsidiary depends on its interdependence to other corporate units (Gattiker and Goodhue, 2005).

**Quality and Types of Relations**: The ease of communication and the intimacy of the overall relationship between the source and the recipient in a transfer process may affect the number of attempts to transfer knowledge and the outcome of those attempts (Szulanski, 1996). Szulanski (2003) has suggested that stickiness is more likely to occur in case of an arduous relationship between the recipient and the source of knowledge. Kostova (1999) also considers two types of relationships important in the context of practice transfer: attitudinal and power dependence relationships. She proposes three types of attitudinal relationships, namely the transfer coalition members’ commitment to, identity with, and trust in the parent company, influential on the motivation for and success of a transfer process. Similarly, we suggest the quality of relations between the headquarters and the subsidiaries of an MNC to influence acceptance of the harmonized solution imposed by the headquarters.

**CHARACTERISTICS OF THE SUBSIDIARY**

Alternative to the views considering an MNC as a unitary organization is the view which regards it as a set of differentiated structures and processes that reside in the many subunits of an organization. Conceptualization of an MNC as a differentiated network highlights the diversities among the subsidiaries caused by the differences in resources, business context, history, type of establishment etc. (Andersson, Forsgren and Holm, 2002). In the following, we discuss those subsidiary characteristics, which are suggested to impact harmonization of practices for a global ERP implementation.

**Cultural Environment**: Organizational practices are suggested to vary across countries due to the differences in the sociocultural environments in which they have evolved and are used. The cultural distance between home and host countries of a practice has been argued as a factor influencing the success of its transfer (Kostova, 1999). Nevertheless, there is believed to be a practice-specific effect of local unit organizational culture. The compatibility between the values implied by a particular practice and the underlying values of an organizational unit is expected to be influential on the success of transfer (Kostova, 1999).

**National Institutions**: The national business systems approach widens the scope by considering a broader range of institutional factors at the national level, rather than culture, which influence standardization (Tempel and Walgenbach, 2007). National institutional arrangements influence companies’ strategies and organizational practices to reflect typical national patterns in companies’ structures and processes (Muller, 1994). Therefore, a transfer success is suggested to be negatively correlated with the institutional distance between the home and host countries, since the differences in the national institutional characteristics may cause misfits between the transferred practice and the recipient’s environment (Kostova, 1999).

However, Gamble (2010) states that not all institutions are equal: while some norms might be easily ignored, others are deeply embedded. In addition, not all elements of an organization are equal: while some norms might be easily ignored, others are deeply embedded. In addition, not all elements of an organization are equal by the national institutions (Rosenzweig and Singh, 1991). There are as well country-level effects on the success of transfer, where some countries provide relatively more favorable environments for transfer of certain practices (Kostova, 1999), while implementation of global best practices are more limited in units situated in highly integrated national systems (Geppert and Williams, 2006).

**Organizational Field**: Survival of an organization depends on its compliance with the institutionalized expectation of its environment and organizational field incorporating key suppliers, resources, consumers, regulatory agencies and other
organizations involved in the same products and services (Tempel and Walgenbach, 2007). Andersson et al. (2002) by studying the subsidiaries of MNCs in relation to their external networks of suppliers and customers conclude that high density of customer-supplier relationships between a subsidiary and its external network and over-time extension of arm’s-length relationships to relationships based on adaptation and trust will usually lead to adaption of partners’ behavior to each other in terms of business routines, planning systems, information etc.

**Subsidiary Role:** Looking at MNCs as networks of organization, several dimensions are used to differentiate between the diverse strategic roles of the subsidiaries in a corporation. Amongst all can be mentioned level of local resources, relative environmental complexity (Ghoshal and Nohria, 1989), strategic importance of the local environment, firm-specific competences (Bartlett and Ghoshal, 1986), foreign direct investment type (Rugman et al, 2011), resource configuration, market, product, and value-added scope (Birkinshaw and Morrison, 1995), magnitude and direction of transactions (Gupta and Govindarajan, 1991; Ghoshal and Bartlett, 2010), strategy for integration and localization (Jarillo and Martinez, 1990), and subsidiary’s control of critical linkages with key local actors (Ghoshal and Bartlett, 2010). The strong strategic position of a subsidiary and its satisfactory performance within an MNC may have implications for the parent-subsidiary relations and might provide the subsidiary with the bargaining power to protect local expertise and work processes and to resist the imposition of a centralized approach for global standardization of local practices (Geppert and Williams, 2006).

**Perception of Competitive Advantage:** Gamble (2010) highlights the context-specific, firm-level perceptions of sources of competitive advantage as the key motive encouraging transfer of parent company practices. Such perceptions are suggested to be context-specific, dependent upon the history and experience of individual firms, and mediated by diverse factors including parent company experience and the relative economic development of the parent and the host countries. Therefore instead of the generic notion of best practice, competitive advantage should be considered context-dependent with preferences based on assumptions, hunches and subjective judgments as much as objective factors. In addition, research on subsidiary initiatives have indicated that individual subsidiaries can benefit from some diversity of practices within an MNC by having the opportunity to imitate leading local or global competitors to respond to conditions in the host country (Cheng and Yu, 2012).

**Motivation, Absorptive and Retentive Capacity:** The level of motivation of the recipient to accept knowledge from the outside and its absorptive and retentive capacity are the characteristics which influence the success of a transfer process (Szulanski, 1996). The ability to exploit outside sources of knowledge is suggested to be a function of the prior level of related knowledge. Lack of absorptive capacity is an impediment to recognizing the value of knowledge and consequently knowledge recreation and implementation, especially when it comes to person-embodied technologies (Kostova, 1999; Szulanski, 2003). On the other hand, institutionalization of the transferred knowledge and its long-term retention depend on the recipient’s retentive capacity (Szulanski, 2003). Therefore, organizational culture and cultural orientation of the subsidiary towards learning, innovation and change will influence the success of practice transfer, irrespective of the practice being transferred (Kostova, 1999).

**CHARACTERISTICS OF THE PRACTICE**

The practices exercised in overseas subsidiaries of an MNC are usually a hybrid of both country of origin and host country practices, as well as adaptations and innovations. Therefore the necessity to trace and analyze each practice separately, rather than treating organizational practices as a discrete whole, is highlighted by Gamble (2010). In the following some characteristics of a practice that influence its standardization and transfer and consequently, as we suggest, its harmonization are discussed.

**Nature of the Practice:** The nature of a process influences its standardization potential (Rosenkranz et al., 2010), and consequently the success of any attempt for reduction of its variety across an MNC. Lilfrank (2003) classifies processes under three categories: standard, routine and non-routine processes. While some processes are knowledge-intensive and creative, some are mass-customized or automated. Management of a process needs to fit its degree of variability. While standard processes can be controlled by specifications, manuals and automation, tools for control of routine processes are limited to guidelines, repertoires, and checklists, and non-routine processes can only be controlled through shared values, competences and resources (Rosenkranz et al., 2010).

**Local Environment Influence on the Practice:** Leijen (2005) associates unique features of a process to its unique environment, which imposes requirements and changes on it. Product features, value discipline, customer binding, size, asynchronicities in process innovation cycles and complexity reduction efforts are suggested as the factors influencing local differences in processes. In addition differences in the resource level may also delimit harmonization as what works in one location may not be possible in another if the necessary resources are not available or affordable (Tregear, 2010).
**Value of the Practice:** Causal ambiguity, defined as the ambiguity of the reasons for success or failure in replicating a capability in a new setting, and unproveness, referring to knowledge without a proven record of past usefulness, have been identified as the characteristics of a practice that influence the success or failure of its transfer (Szulanski, 1996). The uncertainty about the value of a practice is expected to increase when transferred to a foreign subsidiary, since much of its perceived value is socially derived (Kostova and Roth, 2002). In addition, some researchers have suggested that those activities with an unclear link to the overall performance are more likely to be subject to institutional pressure and thereby isomorphism pressure to resemble the structure and processes of the leading organizations in the field, compared to those practices for which there are clear performance indicators (Westney, 2010). Therefore corporate-wide adoption of unproven best practices for ill-understood operations is expected to be challenging.

**Local importance of the Practices:** Leijen (2005) considers process standardization as the process of knowledge decontextualization. Replacing local differences with best practices is expected to increase efficiency and effectiveness when the local differences in process structure have only historical significance. Conversely, process standardization may damage competitiveness when local differences are due to unique commercial propositions.

**Adaptability of the Practice:** The difficulty of implementing best practices is adapting them to local circumstances (Leijen, 2005). Knowledge development is considered to be context-specific, or even relation-specific. The more context-specific the solutions created in one subsidiary, the more difficult it is expected to apply the same knowledge in the business context of another corporate unit (Andersson, 2003). Rugman, Verbeke and Wenlong (2011) similarly divide subsidiary competences into location-bound and non-location-bound competences. While non-location-bound firm-specific advantages can be exploited globally to take advantage of benefits of scale, scope and national differences, location-bound firm-specific advantages require substantial time to be developed, can be exploited only in a particular location to provide the firm with local responsiveness (Rugman et al., 2011), and their transfer to other locations require significant adaptation (Rugman and Verbeke, 1992).

**CHARACTERISTICS OF THE TRANSFER PROCESS**

Szulanski (1996) defines a transfer process as a dyadic exchange of organizational knowledge between a source and a recipient in which the identity of involved parties matters. Organizations have more difficulties implementing best practices than choosing them (Leijen, 2005). Szulanski (2003) analyzes the process of transfer by breaking it down to four phases: initiation, implementation, ramp-up and integration. In accordance with the four phases, he suggests a typology of stickiness, defined as the difficulty of knowledge transfer inside a firm. In the following the different types of stickiness and their predictors in different stages of a transfer process is described.

**Initiation Stickiness:** Initiation stickiness is defined as the difficulty to recognize opportunities to transfer and in acting upon them. The transfer will not be initiated unless a gap and knowledge to address the gap are found within an organization. This is expected to be challenging in case of source unreliability, ill-understood operations, and causal ambiguity and unproven value of the transferred practice (Szulanski, 2003). Similarly, a harmonization process is suggested to be more challenging to initiate in case of causal ambiguity and unreliability of the source of practice.

**Implementation Stickiness:** During the implementation phase, when the exchange of information and resources between the source and the recipient occurs, stickiness depends on challenges to bridge the communication gap between the involved partners and to fill the recipient’s technical gap. Assuming the source motivated enough, the success of this stage highly depends on the quality of the relations between the source and the recipient and the motivation of the recipient to overcome disruptions in the operations (Szulanski, 2003). This is suggested to hold as well in the context of harmonization.

**Ramp-up Stickiness:** At the ramp-up stage, when the recipient starts using the acquired knowledge, the eventfulness depends on the number and significance of unexpected problems and the effort needed to solve them. The problems may occur as a result of incompatibility between the transferred practice and the new environment, inadequate training, and resources leaving the organization. The difficulty during this stage is expected to correspond to causal ambiguity of the practice and the absorptive capacity of the recipient (Szulanski, 2003).

**Integration Stickiness:** The success of a transfer process is defined as the degree of institutionalization - implementation and internalization - of the practice at the recipient (Kostova, 1999). During the integration phase, the risk of abandoning the transferred practices depends on the effort required to routinize them and to remove obstacles caused by external and internal events such as environmental changes, arrival of new members, emergence of superior alternatives, individual lapses in performance, unmet expectations, dysfunctional consequences, sudden changes in the scale of activities etc. The institutionalization success is suggested to depend on the recipient’s retentive capacity (Szulanski, 2003). High uncertainty about a practice and its value combined with high pressure for its adoption from the legitimating environment is expected to
result in ceremonial adoption, which is suggested to be particularly likely in the case of a subsidiary (Kostova and Roth, 2002). Similarly, ceremonial adoption of a harmonized solution may result in use of alternative solutions and workarounds to bridge the gap, bypassing the unified way of working.

The proposed harmonization framework is supported with the help of real cases exemplifying some of the factors mentioned above. The cases along with the identified factors are presented in Table 1.

<table>
<thead>
<tr>
<th>Author</th>
<th>Firm</th>
<th>Harmonization issue</th>
<th>Identified factor</th>
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<tbody>
<tr>
<td>Barry and Sikorski (2008)</td>
<td>A healthcare multinational corporation</td>
<td>The global ERP implementation was abandoned due to the different motivations of the headquarters and local subsidiaries. The strategic and operational benefits of standardization and ERP system were questioned by the local subsidiaries and perceived as a trade-off for the lost customization, and overemphasis of the systems’ importance rather than business fundamentals.</td>
<td>Perception of competitive advantage</td>
</tr>
<tr>
<td>Gattiker and Goodhue (2004)</td>
<td>Multinational manufacturer of construction material</td>
<td>Standardization led to deficiencies in one of the plants that, unlike other plants, manufactured a wide-variety of non-standard products that required a different set of processes.</td>
<td>Operational similarity</td>
</tr>
<tr>
<td>Geppert and Williams (2006)</td>
<td>a Finnish multinational corporation</td>
<td>There were difficulties transferring the global operating model to the German subsidiary due to the subsidiary’s important strategic position, outstanding economic performance and high degree of institutional embeddedness in the host country. The global model was perceived a threat to skills and jobs, and the subsidiary’s expertise. The headquarters decided to maintain the local processes of the German subsidiary to preserve the host-country advantages.</td>
<td>Subsidiary role, National institutions, Nature of the practice, Initiation stickiness</td>
</tr>
<tr>
<td>Grant (2003)</td>
<td>Multinational corporation, leading in specialty metal products</td>
<td>One of the causes of resistance in winning the buy-in of senior corporate and business unit managers identified as the misalignment between the centralized IT execution model and the decentralized business operating model of the corporation.</td>
<td>Control and coordination</td>
</tr>
<tr>
<td>Hepsø et al. (2000)</td>
<td>Statoil</td>
<td>There have been almost as many designs as implementation projects, due to the diversity between the units, their existing organizations and their lack of trust in the central team practical experience. The new regime planned for geographical divisions were the core areas are self-supported with all competence needed independent of the centralized staff.</td>
<td>Control and coordination, Source-recipient quality of relations, International management strategy</td>
</tr>
<tr>
<td>Markus et al. (2000)</td>
<td>Multinational manufacturer of telecommunications and power cables</td>
<td>Several years were spent in consensus-building before beginning the implementation as the changes brought by the central configuration were perceived to be excessive by the similar but autonomous units that used to have control over technology decisions.</td>
<td>Control and coordination</td>
</tr>
<tr>
<td>Markus et al. (2000)</td>
<td>Kraft Foods</td>
<td>The one-size-fits-all ERP system did not work for the corporation as a diversified manufacturer.</td>
<td>Operational similarity</td>
</tr>
<tr>
<td>Sheu et al. (2004)</td>
<td>Hydro Agri Europe</td>
<td>National and cultural differences led to differences in the business processes and local requirements, which subsequently necessitated local ERP implementations rather than a global system.</td>
<td>Cultural institutions, National institutions</td>
</tr>
<tr>
<td>Sheu et al. (2004)</td>
<td>Multinational computer manufacturer</td>
<td>The U.S. facilities refused to adopt the ERP software configuration requested by the headquarters due to the differences in its operating processes partly caused by the culture and regulatory environment.</td>
<td>Cultural institutions, National institutions</td>
</tr>
<tr>
<td>Worthen (2002)</td>
<td>Nestle</td>
<td>The ERP rollout collapsed into chaos and faced major resistance from the workers and divisional executives, mainly due to the lack of understanding of the new processes. Nestle had to restart the project.</td>
<td>Absorptive capacity, Implementation stickiness</td>
</tr>
</tbody>
</table>

Table 1: Real cases exemplifying the harmonization framework

**EMPIRICAL STUDY**

The framework was tested in the context of an engineering MNC in the process of business harmonization and consolidation of ERP systems across more than 50 subsidiaries. The firm is a conglomerate of gradually acquired companies specialized in the design and development of process solutions. To identify the encountered issues while setting the harmonization strategy,
a series of semi-structured interviews were arranged with the CEO’s assistant, the CIO who functions as the program director, and the six global business process councils coming from the pilot subsidiaries who, in the context of the global ERP project, play the role of owners of the main functional areas and are responsible for formulating the harmonization strategy. The interviews’ transcripts were coded and analyzed based on the proposed framework and since the space limitation does not allow for any detailed description, only a summary of the findings is presented in Table 2.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Remarks from the interviews</th>
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<tr>
<td>International Management Strategy</td>
<td>Different perceptions of the IT and business people regarding the future international business strategy - specifically potential disposition along the local responsiveness-global efficiency continuum - has led to different opinions about the harmonization strategy, and different expectations of its potential benefits and its implications for the resource configuration.</td>
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<tr>
<td>Control and Coordination</td>
<td>Different perceptions of the IT and business people regarding the control and coordination mechanisms - specifically formalization and centralization of decision-makings compared to the existing decentralized structure - has led to different opinions regarding the harmonization strategy and its implications for the local autonomy, and the strategic and operational responsibilities at the headquarters and subsidiary levels.</td>
</tr>
<tr>
<td>Ressource Dependency</td>
<td>-</td>
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<tr>
<td>Inter-organizational Operational Similarity and Interactions</td>
<td>The operational similarities among the subsidiaries have been a factor encouraging harmonization, however integration has been taken for granted without any investigation into its potential side-effects. The program director expects the differences in the subsidiaries’ density of interactions with the sister companies to influence the harmonization benefits and the subsidiaries’ willingness to conform to the common ways of working. The value of harmonization was questioned by some of the business process councils who, despite the common belief, did not find the subsidiaries operationally similar enough to encourage consolidated decision-making enabled by harmonization.</td>
</tr>
<tr>
<td>Type of Relation</td>
<td>-</td>
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<tr>
<td>Cultural and National Environment</td>
<td>While the national institutions, especially the legal legislations in the emerging markets, were mentioned as impediments to harmonization, the implications of cultural differences were not emphasized.</td>
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<td>Organizational Field</td>
<td>Except for the emphasis on local responsiveness and local value creation for local customers, the density of interactions with the external network, especially suppliers, was not stated as a burden of harmonization. Though some preferred trading with local vendors over a central vendor when it comes to commercial common standard parts.</td>
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<td>Subsidiary Role</td>
<td>There is expected to be higher resistance from the larger subsidiaries, those in the possession of technology and those with better performance. While the strategic importance of a market was mentioned to influence the subsidiary’s importance, its potential implications for harmonization was not clear. The density and direction of transactions were mentioned to influence the publicity of a subsidiary role.</td>
</tr>
<tr>
<td>Perception of Competitive Advantage</td>
<td>Making a subsidiary, especially the mature ones, accept a harmonized solution, developed for many, is expected to result in lower efficiency and lower competitiveness. There was also a high focus on the importance of local knowledge.</td>
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<tr>
<td>Subsidiary's Motivation</td>
<td>Harmonization challenges were expected to be different in the subsidiaries depending on the local company’s openness to change, bought-in to the vision, the magnitude of the change in that subsidiary, and its perception of loss of control.</td>
</tr>
<tr>
<td>Nature and Importance of the Practice</td>
<td>The majority saw higher potential for harmonization of back-office and administrative processes compared to front office processes. Standardization of processes associated with standard components was also considered more feasible, while harmonization of core value creation processes were not found attractive.</td>
</tr>
<tr>
<td>Local Environment Influence on the Practice</td>
<td>The level of complexity of a subsidiary as a function of its size, functional scope and product portfolio are pointed as influential factors for harmonization. Harmonization in those subsidiaries with more mature IT systems and business processes was also expected to be a step-back while it may result in a higher level of complexity in less mature subsidiaries.</td>
</tr>
<tr>
<td>Value of the Practice</td>
<td>There were concerns about the superiority of the new processes over the existing ones. The program director considered communication of potential benefits and increasing their visibility to the local companies vital for the project success.</td>
</tr>
<tr>
<td>Practice Adaptability</td>
<td>-</td>
</tr>
<tr>
<td>Initiation Stickiness</td>
<td>Emphasizing on the importance of local knowledge, some signs of not-invented-here syndrome could be seen in the business process councils who were not convinced of having their practices defined by others, though some other saw it as an opportunity for improvement.</td>
</tr>
<tr>
<td>Implementation Stick.</td>
<td>-</td>
</tr>
<tr>
<td>Ramp-up Stickiness</td>
<td>-</td>
</tr>
<tr>
<td>Integration Stickiness</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 2: Coding of the interviews’ data based on the harmonization framework

Since the company was at the initial stages of the project, it could not provide the possibility to identify all suggested factors, especially those associated with the transfer process. However, the study indicated the influence of factors such as
international management strategy, inter-subsidiary similarity and dependency and intended control and coordination mechanisms, decisive for justifying the harmonization initiative. Furthermore, the difficulties of achieving consensus about the harmonized solution could be explained by other factors including the nature of the practice and its value and importance, national institutions, and the subsidiaries’ role. Though there was an emphasis on responsiveness towards the local customers, any potential impact of suppliers on the local practices was not highlighted. Furthermore, assuming integration taken-for-granted, the interviewees did not seem to be concerned about the potential drawbacks of the resulted tight-coupling. Moreover, despite the high emphasis of the previous studies on the significant role of cultural distances in global ERP implementations, the sociocultural differences across the enterprise were not mentioned as a burden of harmonization.

Though the empirical study was helpful in making sense of the framework in a real case, it could not verify the entire set of suggested factors. However the influence of the disregarded factors still cannot be rejected, as a more thorough empirical study is needed.

CONCLUSION

ERP is about the way of doing business (Davenport, 1998), which can be quite heterogeneous across the subsidiaries of a multinational corporation, largely influenced by the local strategy and context. Using social and economic theories, especially institutional and transaction cost theories, and the literature on standardization, convergence and transfer process, a holistic framework was developed to identify and explain the factors that influence harmonization of practices along with the global ERP implementation in multinational corporations. The empirical study and the secondary data also confirmed the presence and influence of some of these factors in the harmonization efforts.

The study suggests two main conclusions. Firstly, as suggested by other studies as well, practices differ from one another in terms of transferability. The characteristics of a practice itself and its compatibility with the subsidiaries’ environment influence its potential for harmonization. This may result in a hybrid outcome characterized by a mixture of global standardization and local adaptation. The second remark is that the subsidiaries’ response to a harmonization initiative enforced by a corporate headquarters may differ depending on, amongst all, their institutional context, their role in the network and the benefits associated with the harmonization. This may necessitate a differentiated approach towards the subsidiaries while pursuing harmonization across a corporation.

The harmonization framework provides the managers involved in global ERP implementations with a better overview to estimate the effort and foresee the expected challenges while harmonizing practices across a multinational corporation. For future global ERP research, it will be interesting to investigate into the relative importance of the identified factors and potential actions for mitigation of their influence. It will also be interesting to study the structural contingency factors at the subsidiary level that are influential on the adoption of a particular practice or groups of practices.

REFERENCES