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Mechanisms of Intra-Organisational Knowledge Transfer:
The Case of a Global Technology Firm

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This paper develops three mechanisms to facilitate knowledge transfer within a global technology firm. Documentation helps to codify knowledge and make it less ambiguous. Technology is used as an interactive media to spread the message codified whereas a face-to-face community develops social ties among different business units among the firm. After monitoring the impact of each mechanism we discuss the need for adaptation and the factors influencing this adaptation. The results give rise to the prevalent role of the manager of the business unit whose action affects both the properties of the unit and the relationships with other units.

INTRODUCTION

Intra-organisational knowledge transfer is necessary to firms, as it allows them to access a resource they already possess. It occurs when the experience of one unit affects the experience of another. In order to ease this process, firms are more and more often engaged in knowledge management strategies in which the transfer of business practices is viewed as a source of competitive advantage. This challenge is even more critical for multinational corporations (MNCs). In theory, one of the main advantages for being a big company rather than a small one is to capture on a grand scale the gains that come with applying smart processes or routines (Szulanski and Winter, 2002). In reality, the mere hope that one business unit might learn something useful from another is frequently a hope not realized (Porter, 1985: 352). That is why knowledge transfer is a real managerial challenge inside global firms.

In a perfect world, knowledge would flow uneventfully in organizations (Szulanski, 1996). Research on stickiness by Szulanski (1996) and on transnational contexts by Kostova (1999) has shown that the transfer of knowledge within organizations does not happen easily. There are many barriers to knowledge sharing both between peer subsidiaries and between subsidiaries and headquarters and the costs involved with knowledge transfer are likely to be substantial (Foss and Peder-

sen, 2002). Even if the ability to transfer knowledge from one unit to another has been found to contribute to the organisational performance of firms in the service sector (Darr, Argote and Epple, 1995; Baum and Ingram, 1998), Kostova and Roth (2002) has shown that the success of a transfer relies on numerous factors in MNCs. Therefore, there is a strong need for improving our understanding of knowledge transfer mechanisms between business units and for assessing which mechanisms have an impact on knowledge transfer. This is even more critical if we adopt a longitudinal view as the need for knowledge transfer facilitation evolves over time.

This work takes up the challenge to understand which mechanisms help business units to re-use existing knowledge from other ones in different geographical locales. By mechanisms, we mean all the devices, tools and methods used by the organization to transfer knowledge. Any progress that could be made in understanding the mechanisms which could facilitate this spatial replication process would have implications for MNCs as well as for knowledge management theory.

This study analyzes and evaluates different types of mechanisms seeking to improve the process of knowledge transfer in an organization operating across Europe, the Middle East, Africa and Latin America. Unlike previous research, our research strategy consists in being an insider within a global organization already engaged in a knowledge transfer program. This allows us to evaluate different mechanisms impacting the transfer process. We start by defining the process of intra-organisational knowledge transfer and by examining the literature on the mechanisms used inside firms. Then, we confront this literature to our views by using a qualitative case study. Finally we discuss implications and the limitations of our research.

MECHANISMS OF INTRA-ORGANISATIONAL KNOWLEDGE TRANSFER

The difficulties of transferring knowledge within the firm have been slighted both in theory and in practice (Szulanski, 2003). Although the benefits of knowledge transfer have been documented in many settings (e.g., transmission of local know-how, scale economies, etc.), the effectiveness of knowledge transfer varies considerably among organizations (Szulanski, 1996; Argote and Ingram, 2000). The variation of the effectiveness can be explained by the existence of impediments (Szulanski, 1996) or by the use of knowledge transfer mechanisms (Argote, McEvily, and Reagans, 2003). For example, prior research has examined the barriers to and facilitators of transferring tacit and complex knowledge within the organization (e.g., Szulanski, 1996; Kostova, 1999; Gupta and Govindarajan, 2000). As impediments to the transfer of knowledge exist, several mechanisms have been used by companies to ease this process.

To examine these mechanisms, we use the theoretical framework developed by Argote et al. (2003). This framework was designed to

organize the diverse literature on knowledge management based on the relative positioning of work along two dimensions: knowledge management outcomes —creation, retention and transfer— and properties of knowledge management context —properties of units, properties of relationships between units, and properties of knowledge— (see Argote et al., 2003: 573). In the first part, we spotlight on the transfer process. In the second part, we study three mechanisms related to the knowledge management context.

THE INTRA-ORGANISATIONAL KNOWLEDGE TRANSFER PROCESS

The process of intra-organisational knowledge transfer has been deeply analyzed by several academics in the last few years. The work undertaken by Szulanski (1996), Kostova (1999), and Argote and Ingram (2000) has set the ground for studying the spatial replication of knowledge inside an organization (i.e., intra-organisational). To unpack this concept, we study the process on two levels: the individual level and the organisational level.

INDIVIDUAL LEVEL
Singley and Anderson (1989: 1, cited by Argote and Ingram, 2000: 151) define transfer at the individual level as «how knowledge acquired in one situation applies (or fails to apply) to another». Existing models in the field of communications theory have influenced many of the models about knowledge transfer at the individual level. Of particular importance has been the work undertaken by Shannon and Weaver (1949), who proposed a general, mathematical model of communication examining each step within the message transfer process in an inter-personal relationship. Breaking the communication process down into parts highlighted different influencers and mediators as a message moves from sender to receiver. The emphasis was made on the transmission and reception of information. Mehrabian (1968) has also provided a very valuable contribution to our understanding of the most important and effective aspect of communication between two persons. This research revealed that in any face-to-face communication, 55% of what is communicated is done through body language and expression, 38% is communicated through tone, and only 7% is communicated through words. This cognitive problem is transcended if we move at the organisational level.

ORGANISATIONAL LEVEL
At the organisational level, knowledge transfer manifests itself through changes in the knowledge of a unit. For example, one marketing team may learn from another how to better answer to a request for proposal, or a product team learn from another how to reduce time-to-market. Thus, knowledge transfer in organizations can be defined as the process through which one unit (group, department or division) is affected by the experience of another (Argote and Ingram, 2000: 151). Whereas communication theory views the process of information

transfer as costless and instantaneous, research on knowledge transfer has suggested that impediments can block the transfer of knowledge between the sender and the receiver. Building on the work of Shannon and Weaver, Davenport and Prusak (1999) consider that knowledge transfer involves two actions: transmission (sending or presenting knowledge to a potential recipient) and absorption by a group of people. Therefore, if knowledge has not been absorbed, it has not been transferred. Szulanski (1996) represents knowledge transfer as a sequential process which encompasses four steps between the sender and the receiver: initiation, implementation, ramp-up and integration (**Figure 1**).

One implication of that model is the existence of impediments to knowledge transfer. The nature of difficulty at each stage is different. In the initiation phase, the difficulty consists in recognizing opportunities to transfer and in acting upon them (Szulanski, 1996). Following the decision to transfer, attention shifts to the exchange of information between the sender and the receiver. Bridging the communication gap may require solving problems caused by incompatibilities of language, coding schemes and cultural conventions (Szulanski, 2003: 36). Then, the ramp-up phase leads to solve unexpected problems that can occur once the recipient begins using the knowledge. Finally, in the integration phase defined by Szulanski, the re-use of knowledge gradually becomes routine.

As knowledge transfer should be seen as a sequential process, we should focus now on the contexts where this process can be affected by management.

CONTEXTS FOR MANAGING INTRA-ORGANISATIONAL KNOWLEDGE TRANSFER PROCESS

Despite the diversity of research on knowledge transfer, theoretical explanations of this phenomenon can be organized into three organisational contexts: the properties of units, the properties of relationships
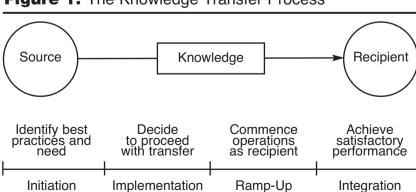
Figure 1. The Knowledge Transfer Process*

* based on Szulanski (2003)

between units, and the properties of knowledge itself (Argote et al., 2003).

PROPERTIES OF UNITS

The properties of a particular unit (group, department or division) can be referred to the concept of absorptive capacity. Absorptive capacity has been mainly used to capture a company's ability to recognize, assimilate, and apply external knowledge to commercial ends (Cohen and Levinthal, 1990: 128). Several studies on the MNC knowledge flows propose that the absorptive capacity of the receiving unit is the most significant determinant of internal knowledge transfer in the MNC (Gupta and Govindarajan, 2000). Merely making knowledge available is not transfer. Access is necessary but by no means sufficient to ensure that knowledge will be used. For example, when subsidiaries differ in their absorptive capacity, this affects the level of knowledge transfer from other MNC units (Cohen and Levinthal, 1990). The context of the unit is one of the main dimensions for learning (Argyris and Schön, 1978). Then, the culture of this unit and how it is designed and organized is a source of efficiency in the absorption process of a new knowledge. The realization of these potential synergistic benefits depends on the openness of the unit and how effectively linkages between business units are managed (Gupta and Govindarajan, 1986). Transmission and absorption together have no useful value if the new knowledge does not lead to some change in behaviour or the development of some new idea that leads to new behaviour.

PROPERTIES OF THE RELATIONSHIPS BETWEEN UNITS

The network structure in which the units are embedded also affects the effectiveness of knowledge transfer (Reagans and McEvily, 2003). The literature has highlighted some critical factors for enhancing knowledge transfer such as direct relations with short path-length between the transmitter and the recipient (Hansen, 2002). Knowledge transfer is a prerequisite to learning but requires effective networks and appears difficult across different units of an organization if pre-existing relationships are absent (Szulanski, 1996). Tsai (2001) argues that the transferability of knowledge within organisational units is contingent on the network position of the transmitter and the absorptive capacity of both transmitter and recipient. Networks of inter-unit links favor access to and exchange of knowledge between different units in an organization. Further, according to Tsai (2001), the centrality of position is critical.

PROPERTIES OF KNOWLEDGE

Knowledge transfer can also be facilitated or inhibited by the degrees of tacitness of knowledge (Nonaka, 1991; Nonaka and Takeuchi, 1995; Baumard, 1996). Regarding the nature of knowledge itself, explicit knowledge is more obviously transferable, and tacit knowledge is better transmitted through actionable and social experiences. Therefore, tacit knowledge is best transferred through rich communication media such as observation rather than more explicit media (Nadler, Thomp-

son and Van Boven, 2003). Another dimension of the properties is the ambiguity of knowledge which is an important pediment to transfer (Simonin, 1999). For Kostova (1999), the transfer of routines (organisational practices) is determined by the transferability of meaning and value, in addition to the transferability of knowledge (Kostova, 1999). Contrary to information, knowledge is sticky (Szulanski, 2003). The notions of information and knowledge are hierarchical. Information is data to which an individual attributes significance. As for knowledge, it requires that the individual first articulates all available information and then appropriates and incorporates it.

According to the different organisational contexts where knowledge transfer needs to be facilitated, we study now the possible mechanisms for managing the process.

MECHANISMS FOR MANAGING INTRA-ORGANISATIONAL KNOWLEDGE TRANSFER PROCESS

Understanding of the impact and power of group dynamics in facilitating learning and knowledge transfer was first highlighted by Festinger in 1957. Since this time, there has been extensive interest and research on the conditions that make self-managing teams an effective vehicle for motivating individuals, transferring knowledge and getting organisational work done (Probst, Raub, and Romhardt, 2000). Reducing barriers to knowledge transfer is of key importance for organizations. Three common mechanisms can be found in the literature to successfully facilitate knowledge transfer: documentation, technology, and face-to-face.

DOCUMENTATION

Within an organization, documentation encompasses all the written practices or procedures that help people to adopt existing knowledge. Knowledge that can be described through language (i.e., explicit knowledge) can be documented. This is a common way of capturing and communicating knowledge (Hansen, Nohria, and Tierney, 1999). A document contains knowledge that has been codified in a specific way. Szulanski and Winter (2002) underline the importance of using a structured form to document knowledge through the image of template. Template is an important part of knowledge transfer process, particularly if the organisation has many employees and is geographically dispersed. Documenting explicit knowledge and particularly the more complex explicit knowledge, is not an easy task: collecting, codifying and documenting knowledge is actually a high level skill. Dixon (2000: 117) suggests that an external person, who has been trained in interviewing and who has a good understanding of the organisation, should be used to document explicit knowledge with regard to best practices. This action will help to reduce and neutralize the actual or perceived biases of those collecting the data. According to Dixon, using a third party increases believability of the resulting knowledge. These are all important considerations when examining the quality of explicit information capture and documentation processes within an

organisational setting. Timing is an important factor in documenting knowledge. It is better where possible to collect and construct knowledge in real time than when team members rely on their memory of past events and reasoning (Dixon, 2000: 117).

TECHNOLOGY

Another mechanism to transfer existing knowledge is the use of technology. Most modern organisations recognise that technology such as Lotus Notes, collaborative tools, e-mails, databases, etc., are efficient way to distribute explicit knowledge (O'Dell and Grayson, 1998). According to Lei, Slocum, and Pitts (1999) the availability of computer-based technology components, models and inter-intra network connectivity can significantly enhance the rapid and multi-level, multi-location sharing of knowledge, innovation and status of progress on all fronts. Further, they believe that knowledge management approaches that overemphasize technology are less effective than those that focus on creating human knowledge sharing processes, changing behaviours and organisational change. However, technology may not be the most effective transfer mechanism as reflected in the following comment from Davenport and Prusak (1999: 99): «successful knowledge transfer involves neither computers not documents but rather interactions between people».

FACE-TO-FACE COMMUNITY

Based on the work of Daft and Lengel (1984) on media richness, face-to-face mechanisms are recognized as the most effective way for transferring knowledge by many authors, including Davenport and Prusak (1999), Dixon (2000), Nonaka and Takeuchi (1995) and Wenger, McDermott, and Snyder (2002). As highlighted by Davenport and Prusak (1999), knowledge transfer can work only if people are brought together physically. O'Dell and Grayson (1998) comment that the actual transfer of people from one location to another was and probably still is, the most effective way of transferring knowledge and practices between areas. With a physical transfer of a person, one moves the implicit or tacit knowledge as well as the explicit. Their example of the difficulty of transferring knowledge between two groups of tunnelers, one in New Zealand the other in Boston, highlights this point. Davenport and Prusak's story illustrates how difficult it can be to make tacit knowledge explicit, and to transfer it quickly and easily. The fact that the knowledge to transfer may have been too subtle and complex to express in words, is only one of the reasons for failure. They suggest that the instinctive resistance to change and the need for trust are at least as important. Some organisations use designated experts to transfer knowledge in specific topic areas (Hansen et al., 1999). With clearly identified experts, all employees know whom to contact on specific topic areas. Dixon (2000) sees a limitation with this type of transfer mechanism on the receiver. All employees have expertise in some area, and people are more likely to accept the knowledge of others when their own knowledge is accepted. By identifying some people as experts over others, there is a change in the dynamic of sharing knowl-

edge between the two parties, which has a negative impact on knowledge transfer. That is why the importance of informal networks or communities of practice has also emerged in the last decade. Such mechanisms are seen as important for knowledge sourcing, creation, leveraging and transfer within organisations (Brown and Duguid 1991; Wenger, 1999). By way of definition, Wenger et al. (2002: 4) have defined a community of practice as «a group of people informally bound together by shared expertise and passion for a joint enterprise». They comment that while communities of practice have been pervasive in society and organisations for a long time, it is only recently that organisations have recognised both the central role that these communities play in managing knowledge, and the need to be more systematic and intentional in supporting them. O'Dell and Grayson (1998) found that once an organisation created the environment and technology to support networks, they often emerged and flourished in corporations. In **Table 1**, we have summed up the different mechanisms used according to the different organisational contexts found in the literature.

Our literature review has allowed us to define the process of intra-organisational knowledge transfer and to identify the main mechanisms used to ease this process in specific organisational contexts. Now, we examine how these mechanisms have been implemented in a multinational corporation.

RESEARCH METHOD

Given the complex nature of knowledge transfer and the variety of mechanisms, a qualitative approach to undertaking this research was adopted. Our study evaluated knowledge transfer mechanisms in sales and marketing practices throughout units of Europe, the Middle East, Africa and Latin America in a global technology firm.

RESEARCH PARADIGM
This research stems from the positivist paradigm for the following main reasons: the research has been developed with consideration for existing theory; a questionnaire survey instrument was used as the princi-

Table 1. Factors and mechanisms impacting knowledge transfer

Contexts	Main Factors	Main Mechanisms
Properties of units	Absorptive capacity (Cohen and Levinthal, 1990; Szulanski, 1996, 2003; Gupta and Govindarajan, 2000)	Appoint a benchmark coordinator external to the unit (Dixon, 2000)
Properties of relationships between units	Arduous relationship between source and recipient (Szulanski, 1996, 2003)	Organize face-to-face meetings or communities (Davenport and Prusak, 1999; Wenger et al., 2002) complementary to IT tools (O'Dell and Grayson, 1998)
Properties of knowledge	Knowledge tacitness (Nonaka, 1991) and stickiness (Szulanski, 2003)	Document explicit knowledge according to a template (Szulanski and Winter, 2002; Dixon, 2000)

pal data gathering tool; the survey questions were well defined, although there was ample provision for open-ended responses to questions and opportunistic data collection. While an essentially quantitative and deductive approach was used for analysing the questionnaires, a qualitative and inductive approach was used when combining and analysing the data pulled together from all sources. Brewer and Hunter (1989) comment that there are distinct advantages for theoretically oriented research in adopting what they describe as a multi-method approach. They also use the term paradigmatic pragmatism to describe the process of synthetic problem formulation and theory generation.

CONTEXT OF THE STUDY

The company studied, a global player in information technology (IT) services for the leisure industry, was of particular interest because although it is a service company, its activity differs from consulting companies, its structure is decentralized and its environment is turbulent. As a result, there are pressures to continuously sustain organisational change as well as to adapt performance to the variation of the environment. The research setting for this study was something of a natural choice as it was the organisation within which one of us was employed as Knowledge Manager. The organisation is global with operations in 200 countries. In 2000, this organization had developed and implemented a knowledge transfer program in sales and marketing practices for their National Marketing Companies (NMCs) of Europe, the Middle East, Africa and Latin America (EMEA LA).

SELECTION OF RESPONDENTS

The principal data-gathering method is a structured interview conducted with senior staff from the all European, Middle East, African (EMEA) and Latin American (LA) markets. The survey was conducted by telephone with 36 managers from 28 EMEA and LA markets. Some interviews had two or three participants from the same market (e.g., Pakistan and Ukraine). The interviews were undertaken over a three-month period. The participants for the study were generally drawn from a pool of General Managers and Sales Directors from the National Marketing Companys. The maximum survey population for the study was sixty. The researchers were keen to obtain interviews with a representative group from NMCs across all four regions. Perry and Coote (1994) mention the value in conducting interviews at different hierarchical levels of a network of relationships. In the present study, interviews were undertaken at two levels, i.e., General Manager and or/direct report such as Sales Director, although we did not expect differences in the results reported based upon the managerial level of the respondent. An overview of the objectives for the size and makeup of the survey's group, together with the actual achievements are outlined in **Table 2**.

CASE STUDY APPROACH

At the time of the study, the knowledge transfer program was two years old. This duration of time had allowed the program sufficient opportu-

nity to demonstrate clear outcomes, which meets Yin's criteria for a strong, positive example in site selection (Yin, 2003: 12). More specifically, Yin asserts that case study is appropriate for exploratory analysis when investigating contemporary phenomenon within its real-life context, and when the boundaries between the phenomena and the context are not clear. Furthermore, case studies are the strategy of choice when the focus is on understanding the dynamics present within single settings (Eisenhardt, 1989). Moreover, a case study approach permits flexible and opportunistic data collection methods that allow additions to questions during interviews (Easterby-Smith, 1994: 532). Additionally, it was an easily accessible site for researchers as employees of the organisation, with significant potential not only for follow-up but also for validation of all findings.

DATA COLLECTION
We have limited our data collection to the transfer of sales and marketing practices. In the organisational context, knowledge can be found in numerous forms: information, tacit know-how, documents, etc. We have chosen to focus on sales and marketing practices because it is the aim of the knowledge transfer program to ensure that other NMCs re-use existing practices. An organisational practice can be defined as an organization's routine use of knowledge for conducting a particular function that has evolved over time under the influence of the organization's history, people, interests and actions (Kostova, 1999: 309).
Given that the nature of the information to be collected related to an individual's experiences and perspectives on knowledge transfer, a questionnaire used within an interview was deemed to be the most appropriate data collection tool for this study. A number of alternative methods (i.e., focus group and face-to-face interview) were considered appropriate, but were rejected for reasons including geographic spread, practicality, cost and/or lack of suitability. All of the participants within the knowledge transfer program were physically resident within their country/market. They visited Nice in France (the location of the researchers) on average twice a year. Thus the window of opportunity

Table 2. Criteria for survey participant selection with justification

Criteria	Sample	Justification
Sample size: Obtain a representative number of survey respondents	47% sample (28 markets out of the 60 markets in EMEA LA). Note: Some markets were not approached due to an organisational request	Of key importance was to obtain regional subsamples of sufficient size to have redundant data. This was achieved after a relatively small number of interviews.
Geographic/Cultural representation: Achieve representation across all four regions, i.e. Western Europe (WE), Central Europe (CESE), Middle East-Africa (MEA), and Latin America (LA)	Representation as follows: WE: 7 CESE: 6 MEA: 9 LA: 6	It was important that the survey group included respondents from across all regions and from a range of cultural perspectives to have credibility within the organisation.
Gender Representation Achieve representative gender mix	Representation as follows: Male: 20 Female: 8	This gender split closely reflects the ratio within the total units population in the region.

to undertake this study on a face-to-face basis through individual interviews or focus groups was very small.

The principal data-gathering tool selected for this study was a survey interview conducted by telephone. A structured interview as defined by Kvale (1983: 174) is an interview which purpose is to gather descriptions of the life-world of the interviewee with respect to interpretation of the meaning of the described phenomena. The questions included in this questionnaire were developed directly from extant literature with consideration for the knowledge management processes that had been established in the case study site. Telephone interviews typically lasted between 30 and 40 minutes. The length of time taken for the interview was in direct relationship to the level of survey participant's involvement with, and connection to the program. For example, some participants had had extensive exposure to the program, having participated in a knowledge exchange forum and were regular visitors to the programs intranet site. The questionnaire used in this survey was tested in a face to face interview with a General Manager from a European NMC who was visiting the Nice office. This interview revealed a need to re-sequence some of the questions and to provide additional guiding instructions for the interviewer for when the respondent had not participated in a particular aspect of the best practices program.

In summary, four data collection methods were employed in this study, including: telephone interviews utilising a structured survey instrument, but with opportunity for probing and for opportunistic data collection; observation of best practice forums together with commitment report; face-to-face interviews with staff in central organisation; and review of intranet usage statistics. The forums were facilitated by one researcher who was in an ideal position to observe the behaviour of participants in discussing, debating and committing to adopt knowledge from other markets.

KNOWLEDGE TRANSFER MECHANISMS IN ACTION

Within the study site for this research, three main mechanisms were examined according to our literature review: documentation, technology, and face-to-face community (see **Table 3**).

Table 3. Description of the three mechanisms used to facilitate knowledge transfer

Documentation	In a written format via a one page best practice summary or "snapshot", and in a more detailed written format, with a case study or 'How to do it'. Documentation was distributed in paper format and on CD
Technology	Two technological components: the company's intranet, which had an area dedicated to hosting documentation on sales and marketing practices, and a newsletter distributed via email each month. The newsletter summarised all recently posted best practice papers and had automatic links to the intranet
Face-to-face community	The principal face-to-face channel was sales and marketing practices forums. Other face-to-face distribution channels included the Knowledge Manager describing practice at a regional meeting or another member of the central team discussing the practice.

DOCUMENTATION

As seen in Table 3, the documentation used by the company was a single page where the knowledge was codified into a specific format called "Best Practices Snapshots". As a first step, it was established whether or not the respondent had read the documentation. Then, the next set of questions sought feedback on the quality and usability of the best practices documentation. The respondents' answers are summarised in **Table 4**.

As we can see from Table 4, around 60% of respondents had read at least one of the documents. Of this population, there was widespread agreement that the documentation was easy to read, with useful content, and with enough detail to implement. These points are reflected in the following comments from interviewees: "Light, basic, easy to implement with the right level of detail" (CESE, interview # 12), "Liked the business unit context area and the Do's and Don'ts" (CESE, # 25), "Liked the fact that they provided contact details" (WE, # 21), "Are very detailed (…) was perfect" (WE, # 2), "Liked the fact that you could read the snapshot to get a feel for the paper and then make the decision as to whether or not to read the 'how to do it'" (WE, # 10). Someone made an interesting comment about reading a paper format instead of an electronic version: "Written documentation is essential, as it is easier to share. I prefer reading a paper document to an electronic one on my notebook. However written documentation does not replace face-to-face knowledge sharing" (MEA, # 22).

While negative comments about the documentation were in the minority, the feedback in this area and suggestions for improvement were focused on translation of the document, with the use of English clearly being an issue for some units. One respondent from a French speaking market (MEA, # 24), commented that the documents were too difficult to read and he would have preferred them to have been written in French. One respondent from a Spanish speaking unit had already taken steps to have the best practices presented in Spanish at local team meetings. They commented that while their English was sufficient for understanding the documentation, they knew that this was not the case for their staff (LA, # 1). Translation into Spanish from the management would be appreciated. Another respondent commented that the level of English used was simply "too complex", and another remarked that they would like the how-to-do-it papers to be "less long-winded". These comments were particularly interesting in light of the fact that special attention had been directed to writing the papers with simple English.

Table 4. Summary of respondents' feedback on practice documentation

Response	Read Snapshot?		Read How-to-do it?		Easy to Read?		Content Useful?		Enough to Implement?	
Yes	17	(61%)	16	(57%)	15	(87%)	16	(94%)	16	(94%)
No	11	(39%)	12	(43%)	2	(13%)	1	(6%)	1	(6%)
Total	28	(100%)	28	(100%)	17	(100%)	17	(100%)	17	(100%)

Another interesting observation from the survey related to a markets desire to chose papers to review based on perceived similarities between markets. Three markets commented that when looking at the sales and marketing practices it was important to choose those papers from markets very similar to their own in terms of maturity, size and culture. These points are illustrated in the following comments: "How mature the market of the best practice is determines its relevance to us" (WE, # 26), "Because of our unique environment many of the practices are not so useful" (MEA, # 16), "I couldn't relate to the practices from Brazil and Argentina because their markets were too big" (MEA, # 9).

TECHNOLOGY

There were two data sources accessed for exploring the impact of technology on knowledge distribution at the study site: intranet usage statistics and feedback from the questionnaire. Two separate elements of the technology strategy were examined. Part two of the questionnaire specifically sought feedback on the effectiveness of the company's intranet. We covered areas including ease of access, effectiveness of intranet as a communication and distribution mechanism and frequency of access. This information was combined with and compared to information obtained directly from the statistical reports from the intranet. Most respondents (68%) thought that the intranet was an effective way to communicate sales and marketing practices, although the current technology did not make it easy to access with only 36% of respondents saying that it was easy to access. Three respondents commented that they were unable to access the site altogether. Some of the comments made by respondents about the intranet were as follows: "It is a logical tool" (MEA, # 22); "It is a most effective communication tool that helps streamline the information flow and provides benchmarking options and awareness to changes happening in different parts of the world. In times of globalization, this tool is what we need to have" (CESE, # 12); "Normally the intranet should be the perfect instrument. But I am always disappointed (speed/access)" (WE, # 2).

From the survey, 40% of respondents indicated that they accessed the intranet on a regular basis, i.e., weekly or monthly. A review of monthly intranet statistics from October 2001 until July 2003 revealed that regular access to the site was actually lower than that reported at 25%. This gap between facts and opinions could be attributed to an honest perception that they do access the site more frequently than they do, or from a desire to please the interviewer. The 20% of respondents who had not yet looked at the intranet provided vague reasons including: "I'm new, not done it yet" (MEA, # 9), "Too busy" (LA, # 5 and WE, # 26), "Don't read info on PC" (WE, # 3). The intranet statistics revealed that the top four markets accessing the site, by a long way, were: Finland (WE), Argentina (LA), Pakistan (MEA) and Malta (CESE). Clearly some markets have better speed of access and/or are more comfortable with this form of knowledge transfer than others.

The effectiveness of the monthly electronic newsletter as a communication tool was also monitored. 82% of all respondents received the monthly newsletter, 14% did not, and were subsequently added to the mailing list, and one respondent received it but never read it. Comments about the newsletter were generally positive as is reflected in the following remark: "Like the fact that we filter info though our newsletter" (MEA, # 22).

FACE-TO-FACE COMMUNITY

Face-to-face mechanisms are rated as the most effective communication channel with 62% of respondents identifying a face-to-face communication channel as the way by which they heard about sales and marketing practices from other markets. The most frequently cited face-to-face communication channel was the Marketing Knowledge Café. The Marketing Knowledge Café is a training session which lasts three hours and is organized by the Knowledge Management team in Nice every two months. The idea is to let an employee of one business unit (e.g., Argentina) present on a PowerPoint some insights on specific topics. This insight is compared with the one from an expert invited by the Knowledge Management team. One example was given by a session called "How to do a market research in your unit?" Its popularity is clearly evidenced in respondents' comments: "The most effective way of sharing best practices is through face-to-face mechanisms… The Café is a good way to brainstorm new ideas" (MEA, # 13); "Why are there not sales and marketing practices forums now? (…) There is too much talking now at NMC meetings and not enough sharing of experience" (CESE, # 25), "We want more meetings, more opportunities to share experiences with other units" (LA, # 19), "I learn a lot about other markets from the Marketing Knowledge Café. When the interviewees are talking, my brain is working/ticking, thinking what can I apply" (LA, # 8).

Additionally, from 2000 until 2002, online sales and marketing practices face-to-face forums were run by region within the units of Western Europe and Latin America. This was done so that forums could be combined with twice yearly regional meetings, thus achieving objectives of convenience and cost effectiveness. It was recognised that these communities of markets often had similarities in terms of language, culture, competitive environment and level of market maturity. Several markets within Latin America specifically commented that they would feel uncomfortable sharing practices with other regions as is evidenced in the following comments: "I would not feel comfortable sharing with Africa and Europe" (LA, # 8), "Latin America is not as advanced as Europe" (LA, # 18). These responses reflect a higher level of group affiliation and cohesion within the Latin American region. We observed behaviours during the Marketing Knowledge Café that led us to make this assessment. These behaviours include higher levels of informal contact. While the current model for sharing practices by region is clearly popular, other models were also considered of value with sharing of practices with markets in a similar competitive position and with similar problems to solve, also rating highly at 89%

respectively. We asked units which markets they would like to share sales and marketing practices with (see **Table 5**).

The point made earlier about the high comfort level the Latin American markets feel sharing practices within their region is reinforced in these results with 80% surveyed saying they would like to share practices within their region. Within the MEA region, 60% of the units surveyed said they would like to share within the region, with an additional unit indicating that they would like to share not only within MEA, but also with LA. Morocco and Tunisia were very specific in terms of their preferences for knowledge sharing, with each indicating the other as their preferred market for sharing experiences. These two units are nearly identical in terms of market position, competitive environment, culture and language. The Egyptian market was also specific in terms of those markets they wishes to share with identifying other Arabic countries including Saudi Arabia, Qatar, Yemen and the UAE. The clear exception to the trend was South Africa who indicated that they would gain the most value by sharing with markets with the same business culture. These markets were outside of their region and included Australia and several Western European markets.

Within the CESE region, 70% of units surveyed identified their region or several markets within the region as those with whom they would get most value out of sharing sales and marketing practices with. Malta was an exception to the trend indicating that they would obtain more value sharing with countries in Western Europe. The Greek unit showed a willingness to consider practices from other markets but commented that lack of visibility on operations within these markets, made it difficult for them to assess which markets would be of most value.

Within the Western European region, 60% of units surveyed identified countries within their region to share with. Two interesting exceptions included the UK market, which indicated that they would like to share with the US (it is important to note at this juncture that the survey respondent from the UK was American). The other exception was Austria who indicated that the most value for them could be obtained from sharing with markets with the same problems.

This willingness to share with similar markets is an important aspect of our study. What clearly emerged was that while all channels of distri-

Table 5. Which units would like to share with which units

Region	These units like to share with…	… these units
Middle-East Africa (MEA)	Morocco, Pakistan, South Africa, Tunisia, Zimbabwe, Ghana, Egypt, Israel	Middle-East Africa (60%) Markets outside the region (30%) Any other unit (10%)
Central Europe and South Europe (CESE)	Greece, Russia, Malta, Poland, Turkey, Ukraine	Central Europe and South Europe (70%) Western Europe (30%)
Western Europe (WE)	Austria, Germany, Benelux, UK, Scandinavia, Italy, Finland	Western Europe (60%) Central Europe and South Europe (20%) USA (20%)
Latin America (LA)	Argentina, Paraguay, Ecuador, Peru, Brazil, Caribbean	Latin America (80%) USA (20%)

bution and communication were utilised and valued, face-to-face dis-
tribution mechanisms were valued the most highly and had the great-
est impact upon effective knowledge transfer.

DISCUSSION

According to our observations, face-to-face relationship is the most
demanded mechanism. As this way of transferring knowledge is limit-
ed in terms of costs and availability of people, we explore now the con-
ditions under which the documentation mechanism can be an efficient
way to replicate knowledge. In this part, we spotlight on the need for
adaptation of mechanisms into the specific context of the need and the
factors that are impacting the knowledge transfer process.

ADAPTATION OF MECHANISMS
INTO THE ORGANISATIONAL CONTEXT
Our observations have helped us to assess the use of the three mech-
anisms for transferring knowledge within a global firm. We study now
the different organisational adaptations needed to implement such
mechanisms.
Face-to-face community. The importance of social relationships in
knowledge transfer emerged as being of paramount importance and
to a large extent, accounts for the popularity of face-to-face knowl-
edge sharing forums. This could be attributed to the fact that it is eas-
ier to develop a relationship with a person in a face-to-face setting
(O'Dell and Grayson, 1998). While people could get most of the infor-
mation about a practice via a document, it was clear that they need-
ed the reassurance of connecting with, and personally assessing the
qualities and credibility of, the person who created the practice. This
was an important first step before making the decision as to whether
they would adopt the practice. This point was underlined by one
respondent from a Western European market who said that they liked
the fact that the documents provided contact details. These findings
are consistent with those already reported in the literature by Fes-
tinger (1957), Davenport and Prusak (1998), Dixon (2000), and
Wenger et al. (2002).
The mechanisms need to be adapted to the specific context of the
organization to regulate the mobility of the practices around face-to-
face community. The knowledge manager decided to launch the Mar-
keting Knowledge Café to keep the social interactions that occur dur-
ing forums alive. Without such a place for knowledge exchange,
momentum is lost and the social network destroyed. The relationship
between units can vary along a key set of dimensions, including inten-
sity of connection, communication or contact frequency, and social
similarity (Argote et al., 2003: 573). We have spotlighted this similarity
between the units willing to exchange knowledge. This structural effect
is not limited to interpersonal connections but is modelled by the use
of regular social events. The Marketing Knowledge Café helps to
embed this relationship into the long-term. People from other units get

more and more familiar and they start developing a short-hand language that is difficult to document.

Documentation. Important learning from the study also emerged in terms of style, and language of documentation for a community whose first language is not English. It was evident that translation is important for some units if the communication and transfer process is to work well. In order to travel, ideas need in fact to be objectified as words or recipes, circulated through discourses and rhetorics, and re-materialised locally (Gherardi and Nicolini, 2000). A similar point was made with regard to the language of communication at sales and marketing practices forums. For the Latin American markets, it is clear that several markets would find the forum significantly more effective in Spanish. This is not surprising given that all markets except Brazil within Latin America communicate formally and informally in Spanish. For all other regions, the language of communication between countries would nearly always be English.

In order to reduce differences in terms of use of documentation, coordinators can be appointed (Dixon, 2000). They would help to increase the cultural similarity of units by acting as knowledge brokers. They can translate into the local language the practices that are best rated by the face-to-face community. Groups of units often fail to make full use of the documentation available because they do not surface information idiosyncratic to particular members. Arm's-length ties are better suited for transferring local and specific knowledge. As coordinators have a holistic view of the situations of the markets, they would help each unit to assess the pertinence of the codification of knowledge. By using a single template, they would package knowledge so that re-use is dramatically eased. Because knowledge coming from units perceived as weak or small has little chance to become adopted by another, the use of a third-party would reduce this barrier by objectifying the practice as neutral as possible.

Technology. Regarding technology, the findings from this study highlight some challenges in using this modern form of distribution and communication (Davenport and Prusak, 1998). Firstly, it is not a preferred communication mechanism for many people with only 25% of respondents looking at the intranet on a regular basis. Secondly, technology needs to be fast, with the users being able to quickly identify the information that meets their needs with a minimum number of key strokes, for it to be effective. Technology is clearly an enabler of communication and distribution as opposed to a driver of change, as is evidenced by the fact that most people implemented a practice after they had contact in person with the owner of the practice, and not from having read the document on the intranet. This finding is consistent with the work of Davenport and Prusak (1998), and of O'Dell and Grayson (1998). The web site is however an excellent first port of call for people interested in practices from other markets and plays an essential role in raising awareness of other practices in a geographically dispersed organisation.

The different adaptations mentioned above are summarized in **Table 6**.

FACTORS IMPACTING TRANSFER MECHANISMS

Based on the data, three important factors impacting the mechanisms are studied in this section according to our framework. The role of unit's general managers appears as the most important factor because they influence the absorptive capacity of the unit and its relationships with other units.

Properties of relationships: the role of general managers. Where boundaries are drawn affects the value placed on knowledge and its usefulness. The need for cultural similarity has emerged as important during our study. The key issue to consider here is whether or not this cultural factor or filter is a good or bad influencer. At the heart of the matter may be the issue of risk. From a positive perspective, General Managers or Sales Directors are employed to utilise their deep knowledge of the market to make decisions about the suitability of introducing new practices or initiatives to improve sales performance. With a higher degree of cultural fit, they may be confident that there is a lower risk, greater context specificity, less change required and a higher probability of success in introducing a new process or initiative. From a negative perspective, being highly ethnocentric may foster a caution or risk aversion that blinds individuals to new opportunities and ideas from other countries. Thus while culture is a clear factor impacting on knowledge transfer, it may not be a negative one. Survey respondents clearly indicated that for practices to transfer between two countries, there needs to be a high level of homogeneity between them in terms of market maturity, market size and competitive position. Simply put, the greater the similarities between two countries the higher the chance of a successful transfer of practices. Theses results are consistent with previous research conducted by Darr et al. (1995).

Properties of units: external and individual factors. Why were some units such prevalent adopters? Our study revealed interesting findings with regard to the interplay between external and individual factors. Two general managers within MEA and one within LA were all prevalent adopters of practices from other units. These three countries were in different parts of the world and were therefore operating in different cultural contexts. They also had different competitors and different positions of market share. Our observations are that all had tough mar-

Table 6. Needed adaptation of existing mechanisms

Contexts	Adaptation needed	Goal assigned
Properties of units	Appointment of a "best practices coordinator"	Increase cultural similarity of units by acting as a knowledge broker
Properties of relationships between units	Creation of a "best practices forum" on the intranet	Increase awareness of existing knowledge
	Launch of the "Marketing Knowledge Café", a face-to-face event	Help to develop personal ownership of best practices and maintain relationships between participants
Properties of best practices	Design of a single template by an external consultant to codify the best practices in sales and marketing	Help to package and market best practice to ease its understanding

ket conditions, in terms of either economic environment and/or strong competition. These external conditions had forced the manager to implement a range of new practices to survive. All had therefore significant experience of introducing change. At an individual level, each of the three general managers for these markets was rated by their internal colleagues as being very motivated. Another interesting factor related to the ethnic origin of the general managers and their personal experience in operating outside of their cultural framework. All three general managers had experience in working in a different country and cultural context. They therefore had personally been in a position where their cultural assumptions and framework may have been challenged.

Properties of knowledge: the need for practice ownership. If the managers from these three markets can implement practices coming from markets with a different cultural context, maturity, competitive position and strength, then it begs the question that perhaps some of the reasons offered for rejection of a practice relate more to another but unstated factor. It is proposed that resistance to other practices could be related to a need for creativity, personal ownership, and control. Knowledge that is not well-understood or is high in causal ambiguity is harder to transfer than less ambiguous knowledge (Szulanski, 1996). Comments made by some respondents revealed a level of general resistance to adopting practices from other markets. Allee (1997) suggests that knowledge workers obtain their sense of fulfilment from their work through the creation of new ideas, the opportunity to display initiative and from working autonomously. Clearly a practice adopted from another person does not involve the same level of creativity and ownership, and is therefore not valued as highly as an idea which they have developed themselves.

RESEARCH IMPLICATIONS AND LIMITATIONS

As was reported previously, it was evident from the study's findings that the most prevalent adopters of practices from other units had tough market conditions, were very motivated, had significant experience of introducing change and had life experiences in a different cultural context. A tool for assessing the probability that a manager will be open to adopt a practice from another market and to provide advice to re-use the practice would be a good solution. The appointment of a best practice coordinator can also be considered as a valuable way to facilitate knowledge transfer. The not-invented-here syndrome can be reduced by using incentives or a neutral third-party.

That is why we advocate for a triadic relationship and not a dyadic one. As mentioned earlier, research in the area of knowledge transfer focuses on the qualities of a given relationship, or dyad. It has been primarily directed at understanding how the closeness or strength of a relationship between two parties is related to the effectiveness of knowledge transfer (Argote et al., 2003: 576). With the emergence of communities, this model is questioned by the multiplication of social ties

and the use of a coordinator. Beyond tie strength, dyadic research should include the influence of a third-party actor, a peer reviewer or a coordinator, that are parts of a social system.

As researchers, we recognise the impact that our socialisation and all the biases inherent within it may have on the way in which we interpret the findings from the study, particularly with regard to the impact of culture on knowledge transfer. The impact of the researchers' insider role within the study site on the respondents' answers needs to be recognised at this stage. For example, there was potential evidence of this in the gap that was observed between how often respondents said they accessed the intranet and how often the usage statistics indicated that they did. While the data triangulation method used helps to alleviate this situation, it is recognised that this potential bias should be taken into consideration in the review of the study's findings.

Finally, the representative nature of the survey group, together with the broad data collection methods employed, were key strengths of our study approach. However, we perceived a key limitation of the survey group to be the lack of participation by two of the largest and most mature markets. These markets were Spain and France. Staff from these organisations has had a limited involvement in the practices transfer program, and appears not to be positively disposed towards the adoption of practices from other markets. Investigating the reasons would have been of significant interest. Another area of concern is common method bias. Because many of the units were very small, only single informants were used to collect data. This can introduce a common method bias and can inflate relationships artificially (Brewer and Hunter, 1989).

CONCLUDING REMARKS

This study has strongly affirmed existing findings within the literature with regard to the critical importance of face-to-face interaction in knowledge transfer. It is clear that while other distribution channels such as technology and written material play a role in making knowledge available, it is the social interaction that provides the catalyst for transferring knowledge, i.e., moving knowledge from a passive state to action. This is because face-to-face communication provides so much more than words or information alone. Through voice, gestures and body language, the receiver is able to assess the source's credibility and to develop an innate sense of its reliability and credibility. This is an important first step in knowledge transfer process.

It is also eminently clear that the decision to take a practice from another unit is not made in an emotionally neutral state and that this factor must be taken into consideration in the design of organisational knowledge management systems and processes. The efficiency of the new knowledge integration is related to the existence of a common sense between the company's different entities. This common sense is path-dependent and emerges as a result of interaction around the organization's members. It preserves the specificity of knowledge transferred

and, at the same time, allows the different entities to exploit this new knowledge independently.

From a general perspective, the study demonstrated that, in order to be efficient, the mechanism has to be 1/business oriented –it has to help participants to answer business issues or problems, 2/coordinated, 3/monitored by a knowledge management team, 4/aligned with the evolving needs of the practitioners, and 5/easy to use and trendy –the emergence of the "webinars" and knowledge café inside the company being a real success.

Our study has also observed limitations in existing literature in terms of the language used for discussing barriers or resistance to knowledge transfer. It is suggested that the language currently used in literature is influenced by an attitude that sees factors limiting knowledge transfer from a negative perspective. This attitude implies a resistance to knowledge transfer, as something to be overcome or defeated. Such an attitude is likely to impact negatively on the words and actions of people trying to drive change processes, and may also have the effect of creating further resistance. A clear alternative is to respect the personal filtering and decision making processes that all managers possess –and to encourage them to take the seeds of ideas within practice and to tailor it to reflect their unique market circumstances.

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