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# Knowledge Transfer Within Multinationals and Their Foreign Subsidiaries

## A Culture-Context Approach

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The authors' research introduces a culture-sensitive approach to the analysis of knowledge transfer in multinational organizations. This article investigates the knowledge itself, how knowledge is represented, and its flow within social structures. The analysis considers forms of knowledge transfer as cultural products, and their interaction with the populations involved. Sociocultural structures as well as specific cultural characteristics of the populations are analyzed in reference to knowledge transfer as well as the interaction between the relevant contexts. Data were collected in two multinational Israeli software development companies and their affiliates in India. The analyses included various qualitative analyses of 96 interviews, informal discussions, documents, including instant messaging chats and observations. The authors show, for example, how the influences of contemporary professional work norms as well as customary behavior from the national context combine to influence who talks to whom, what kind of information is transferred, and the extent to which people of disparate status and background are willing to share.

**Keywords:** *knowledge transfer; culture; India; Israel; multinationals*

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Research has shown that knowledge is socially produced, that it is both tacit and explicit, and that its transfer is constrained by the social and cultural contexts in which it is embedded (Davenport & Prusak, 1998; Von Krogh, Ichijo, & Nonaka, 2000). Yet current research about knowledge transfer in multinational organizations has devoted little attention to the study of these characteristics of knowledge. Our research introduces a culture-sensitive approach to the analysis of knowledge transfer in multinational organizations. The proposed approach is based on anthropological research with its emphasis on knowledge as it is produced and delivered within specific contexts. This approach is unique in its ability to accept complex reality as it appears in the “field” rather than making an attempt to reduce or simplify it.

### Current Research on Knowledge Transfer

Knowledge is an essential organizational resource, crucial for gaining a competitive edge (Argote & Ingram, 2000). It ranks first in the hierarchy of strategically relevant resources (Grant, 1996; Hansen, 1999). The importance of knowledge as a resource is especially pronounced in multinationals (Mudambi, 2002; Phene & Almeida, 2008). However, knowledge flows in complex organizations are subject to several significant barriers (Szulanski, 1996, 2003; Yayavaram & Ahuja, 2008). Vital though knowledge is, it might not flow in the desired way, direction, and time frame especially in the spatially, culturally, hierarchically, and functionally diverse parts of contemporary multinational enterprises. Knowledge transfer is especially important in multinationals where geographical, organizational, and cultural distances often present barriers (Bresman, Birkinshaw, & Nobel, 1999).

Existing research regarding knowledge management in international business is still in its early stages (Gupta & Govindarajan, 2000), and such empirical work is especially rare. The field is still dominated by an emphasis on tools and techniques and can be described as a *technical perspective* (Swan, Newell, Scarbrough, & Hislop, 1999). Some of the major underlying assumptions of this perspective claim that knowledge can be extracted from individuals, captured, codified, stored, and transferred mainly through the use of IT systems (Hansen, 1999; Levinthal & March, 1993). The *social perspective* has emerged in opposition to the technical view. Its orientation is toward people rather than technology as the facility for knowledge transfer (Brown & Duguid, 1991).

One can arrange the research of the social perspective into four categories; each focuses on factors influencing knowledge transfer. The first category includes studies that discuss factors related to organizational

power and politics such as the value of a unit's knowledge stock (Gupta & Govindarajan, 2000) and the motivation to share knowledge (Foss & Pedersen 2002; Randel, 2007). The second category includes research that focuses on factors related to cognitive capacities and style such as the absorptive capacity of the target unit (Cohen & Levinthal, 1990; Szulanski, 1996, 2003), tolerance for ambiguity (Szulanski, 1996, 2003), holistic versus analytic thinking (Bhagat, Kedia, Harveston, & Triandis, 2002), and other cognitive barriers to knowledge transfer—such as bounded or limited rationality (Cohen & Levinthal, 1990; Nelson & Winter, 1982; Simon, 1955). The third category includes studies that take the organizational perspective such as research on knowledge transfer and community of practice (Brown & Duguid, 1991; Collins, 1990; Spender, 1996). The fourth category considers cultural factors influencing knowledge transfer. Research on this topic within business studies often adopts simplistic cultural dimensions such as individualism–collectivism (Hofstede, 1980) and vertical–horizontal (e.g., Bhagat et al., 2002). These usages have spurred ongoing debate concerning the merits of different measures of national culture (for recent examples, see Baskerville-Morley, 2005; Earley, 2006; Hofstede, 2003, 2006) that quantify and reduce “culture” into relatively static dimensions (Baskerville, 2003). This study, as we see later on, suggests an alternative approach.

Research has shown that knowledge is socially produced, that it is both tacit and explicit, and that its transfer is constrained by the social and cultural contexts in which it is embedded (Davenport & Prusak, 1998; Von Krogh et al., 2000). Yet current research about knowledge transfer in multinational organizations has devoted little attention to the study of these characteristics of knowledge. It is precisely these qualities that provide the incentive to study knowledge and knowledge transfer in multinational organization as a product of collective, tacit thought and within specific contexts. Our research introduces a cultural sensitive approach to the analysis of knowledge transfer in multinational organizations. The culture-context approach as applied to knowledge transfer in a multinational organization focuses on the norms and rules that govern knowledge transfer of each population within specific contexts. The proposed approach is based on anthropological research with its emphasis on knowledge as it produced and delivered within specific contexts. It is unique in its tendency to accept complex reality as it appears in the “field” rather than making an attempt to reduce or simplify it.

## **The Culture-Context Approach**

Several scholars have discussed knowledge and knowledge transfer as produced within specific social, cultural, geographical, and historical

contexts (Barth, 2002; Davis, 2005; Fraser & Lepofsky, 2004; Geertz, 1973; Gueorguieva, 2003; Scooners, 2003; Yanow, 2004). Barth (2002) argued that much of our knowledge we have accumulated by learning from others. Though it is experience based, most knowledge does not become private in any individual sense. This makes a great deal of every person's knowledge conventional, constructed within the traditions of knowledge of which each of us partakes. Individual personal skills and embodied knowledge are likewise largely constituted on the basis of activity into which one has been socialized (Barth, 2002).

Geertz's (1973) argument that all knowledge is local has been influential in academic research. The author viewed tacit elements in knowledge not as the product of individual thought (Polani, 1966) but as a product of the group. This perception of context based "local knowledge" has been applied in research about indigenous knowledge. Scholars make a distinction between "local knowledge" and "expert" knowledge. The "local" knowledge of residents is stabilized through articulation of place and identity. "Expert" knowledge on the other hand, appears to transcend these historical and geographic boundaries (Fraser & Lepofsky, 2004). In other studies, there is a similar distinction between "indigenous knowledge" of pastoralists in Morocco and "expert" knowledge of Moroccan range managers (Davis, 2005). Scooners (2003) discussed indigenous knowledge (i.e., the knowledge of farmers) and "scientific knowledge" (the knowledge of their managers) about soils.

The concept of "local knowledge" has been applied in organizational research as well. For example, Yanow (2004) argued that a collective knowing develops and is learned in action and interaction in very specific historical, social, and/or cultural contexts. Organizational knowledge that is developed within a community of practitioners makes it "local knowledge"—that is, specific to a context and to a group of people acting together in that context at that time. Local knowledge is developed out of experience with the situation in question, and much of it is tacitly known (see Yanow, 2004).

A key concept in this literature is "contexts." Contexts are sets of connections construed as relevant to a particular phenomenon. Dilley (1999, p. 3) quoted one definition of context: "that which environs the object of interest and helps by its relevance to explain it." According to Geertz (1973) context is a device by means of which anthropologists are able to reveal hidden meanings and deeper understandings or to forward certain kinds of interpretation and explanation (Dilley, 1999). Contexts can be cultural, social, political, ritual, and religious economic or ecological; they can be interactional, systemic, or historical. The term is sufficiently elastic to be stretched in numerous directions (Dilley, 1999).

Because of the limitation of space, we restrict our analysis to cultural contexts. Although other contextual frames such as power, politics, differences in cognition capacity, and style (Brown & Duguid, 1991; Cohen & Levinthal, 1990; Collins, 1990; Foss & Pedersen, 2002; Gupta & Govindarajan, 2000; Szulanski 1996, 2003) certainly are relevant and naturally appear in our data because contexts are interrelated, our data analysis does not explicitly take these other frames into consideration.

The culture-context approach as applied to knowledge transfer in a multinational organization focuses on the norms and rules that govern knowledge transfer of each population within specific contexts. The contexts that we find as relevant to the analysis are the global competitive environment of software production house, the organizational culture of the firm we study, and the specific sociocultural characteristics of the populations involved. These contexts are embedded in the analysis of knowledge transfer.

Our analysis of knowledge transfer within these contexts is based on a general framework described by Barth (2002). We focus on three interrelated research questions: First, what knowledge needs to be transferred? In Barth's terminology, we investigate the "corpus of substantive assertions and ideas about aspects of the world" (p. 3). The second question is similar to that posed by Helbig (2006), namely, how is knowledge represented? Or, how is this knowledge "instantiated and communicated" in various media as sundry bits of language, symbols, movement, and gestures? The last question is, how does knowledge flow within social structures? This is a focus on the "instituted social relations" within which knowledge is distributed, transmitted, and used (Barth, 2002, p. 3).

These questions lead us to study knowledge transfer in a context where extensive populations partake in a broader flow of knowledge within diverse and multisided locations. Under such circumstances, we focus on the nature of subdivisions in the total body of what people know, that is, the separate branches of knowledge that coexist in the population, and on the way knowledge that is produced is shared within each branch and between them (Barth, 2002).

## Method

### Study Approach

We designed our study as a case study because it focuses on *what* and *how* questions (e.g., "What knowledge needs to be transferred?" "How is

knowledge communicated and represented?” and “How do contextual factors influence processes of knowledge transfer?”) and the data were collected in real-life situations (Yin, 1994). This methodology is particularly well suited to international business research where data are collected from cross-border and cross-cultural settings and the attempt is to deepen our understanding of the research phenomenon (Ghauri, 2004).

We adopted ethnography, an interpretive tradition common in anthropology as a general study design and data analysis (Prasad, 2005). Our intention is to describe and analyze “the native’s point of view” and to discuss the phenomenon under study (*viz.*, knowledge transfer) within specific contexts.

We used triangulation, a combination of several qualitative methods such as semistructured interviews, informal discussions, documents, and observations to analyze data from two high-technology firms (the headquarters [HQ] and one foreign affiliate from each). The main advantage of triangulation is that it can produce a more complete, holistic, and contextual portrait of the object under study (Ghauri, 2004). More specifically, our main sources of data were interviews and discussions with employees and managers as well as the texts that they produce in the processes of knowledge transfer such as instant messaging chats.<sup>1</sup> This triangulation of methods produced a complete picture of the phenomenon under study. On one hand we heard what people were saying about knowledge transfer, and on the other hand we were able to see and analyze the actual daily platform of these processes.

We call the two organizations at which we collected data Oragon and A-Tech (both assumed names). Both are multinational Israeli software development companies that work with affiliates in India. Although their actual daily work is similar, they are structurally different: Oragon has a branch in India, whereas A-Tech is outsourcing from an Indian partner. Other differences might be related to their specific organizational culture. Having data from two organizations enabled us to better understand the role of contextual factors such as organization culture on knowledge transfer.

## Accessibility

The Israeli management of both organizations expressed interest in understanding the topic under study. They provided full support to us and asked in return for our oral and written feedback. We received permission to interview Israeli employees and Indian employees.

Israeli employees were interviewed in their offices. While doing so we asked the participants for documents that demonstrate their daily work routine. Several employees were hesitant disclosing company data, whereas others provided several types of documents.

The interviews in both Indian affiliates took place mainly in the premises of the organization but not near the work area of the employees. We also had several informal opportunities to talk at length with our participants outside of their offices. We felt, however, that the responses of A-Tech employees were for the most part quite reserved. We think that it has to do with their relatively short experience and relationship with the company. This response pattern could also be related to the fact that A-Tech's Indian management was less involved in the study compared to either A-Tech's Israeli management or Oragon's (Israeli and Indian) management.

## Data Collection and Analysis at Oragon

In the following sections, we discuss the collection of the three main kinds of data, namely, interviews, documents, and observations.

### *Interviews*

We conducted 46 interviews with Oragon employees in both India and Israel, of which 31 were at Oragon's branch in India with employees from different departments and different levels of the organization (both male and female employees). Data were collected in India in October 2003. We also conducted 15 interviews with all the Israeli employees who have daily contact with Oragon India: representatives of different departments and different levels of the organization in the Israeli HQ.

*Procedure.* In-depth semistructured interviews were conducted individually with each participant (see Saunders, Lewis, & Thornhill, 2003). We asked four standard questions in each interview and then follow-up questions depending on the initial answers the respondents provided. All the interviews were conducted face to face. The Israelis were interviewed in Hebrew, whereas the Indian employees were interviewed in English. The interviewer is an Israeli who lived and studied several years in the United States and is thus fluent in both languages. Considering the importance of carefully documenting the participant's point of view (Spradley, 1979), we insisted on transcribing the interviews word by word. However, we did not electronically record the discussions because we predicted that a tape recorder would affect the interviewees' responses, as they were expected (although not asked directly) to reflect about their work, colleagues, and superiors.

*The interview approach.* The purpose of the interviews was to get in-depth understanding about difficulties in knowledge as they are perceived



by the participants. The interview questions appear in the appendix. We asked the participants to talk about knowledge and knowledge transfer without giving them a definition of the terms. We found that participants talked mainly about work related knowledge, that is, knowledge that is related to the performance of their daily tasks as professionals working in a software production house. They talked about information, knowledge, and wisdom (Ackoff, 1989).

We learned a lot about the Indian employees' perceptions of Oragon from an indirect question that we asked about the team integration workshop that took place in the Indian branch a few weeks prior to our visit. The question was, "From your point of view, does the training program have an effect on your work environment? If yes, please describe how." Participants created a dichotomy of the work environment in the branch before and after the training. Their responses to these questions were often clear and critical, and it seems that they were less affected by social desirability.

*Interviews analysis.* We used Atlas.ti computer software for text analysis. The initial stage was to go over each interview and code its content based on a list of given codes. The initial list contained several general codes based on previous studies about communication (e.g., Zaidman, 2001) and on our research interest. It included codes such as knowledge transfer, relationships India, relationships Israel, communication, and language. Eventually, several codes were more important than the others. For example, the code language was of little relevance to the understanding of knowledge transfer. During the coding processes, the coder added more codes that appeared to be important to the understanding of the paper topic. These codes (e.g., gender and hierarchy) emerged from the data and appeared as important to the understanding of knowledge transfer from the participants' point of view. The coder reviewed each interview and assigned a code or several codes to several sentences or a whole paragraph. The output came in a form of several lists of quotations that were analyzed with the intention to discover major themes or arguments. We used this processes to aggregate quotations under a general category (i.e., codes), but we did not set a structural relationships between the codes. Rather, we used the data in this form within Barth's framework of three basic questions. The analysis included also going back to the original interviews and reading them again as one unit. When this process was completed, a representative quotation was chosen to demonstrate the main argument of the participants about a specific topic.

### *Documents*

*Instant messaging chats.* Several employees at Oragon HQ use instant messaging as a means to transfer knowledge. We choose to analyze a sample of an exchange of knowledge between an Israeli (female) team leader who was making extensive use of the instant messaging system to transfer knowledge and an Indian (male) team leader. We asked the Israeli employee to provide a random sample of saved instant message chats from a given period. The data set includes 10 discussions that took place between April and May 2002 via the instant messaging system. The total number of pages that we analyzed was 30 (total number of words was 12,082). The goal of the analysis was to get a sense of the content and of the method and structure of knowledge transfer events between culturally distant colleagues. We also looked for contextual elements of knowledge transfer. We reviewed each sentence in the chats and characterized them by using emerging categories. The initial categories have been redefined along with the reading. The final categories that we used were opening and closing sentences, coordination of discussion, describe functioning, ask a question, provide explanations, set time table and work load priorities, consult with colleagues, and discuss personal topics.

*Document analysis.* We also analyzed the documents that describe the “training program” that has been delivered by an external consultant. The booklet was distributed to participants in the workshop and contains the basis for the workshop activities.

### *Observations*

Finally, observations were conducted during several visits at the organization’s offices both in Israel and in India. The observations took place during working hours in the Israeli and Indian offices, including lunch breaks.

## **Data Collection and Analysis in A-Tech**

The report is based on interviews with 14 A-Tech employees in Israel (Tel Aviv) and 36 employees at the outsourced affiliate operation in India (Bangalore) that were conducted during 2005. Five of the Israeli employees were interviewed twice within a period of several months. The sample from both India and Israel includes employees representing different managerial and seniority levels in their organizations.

The interview procedure and approach was similar to the one we applied at Oragon (see above). However, the interview analysis was different.

**Table 1**  
**Examples of Data Classified as “Hierarchy (Oragon)”**

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Hierarchy 1a	Theme: Oragon’s efforts to change norms of knowledge transfer Most of the team leaders have knowledge of the software. Before the norm was that a team member was expected to ask the team leader. Now team leaders go to team members and will not wait until they are asked. (Position: department head, India)
Hierarchy 1b	Theme: Oragon’s efforts to change norms of knowledge transfer Every month we have a meeting here with department heads and team leaders. I gave them a summary of this meeting and asked to transfer the information and get feedback about problems from team members. But it did not happen (excluding once or twice). They are not used to set meetings with team members. (Position: CEO, India)
Hierarchy 1c	Theme: Oragon’s efforts to change norms of knowledge transfer My Indian team members are highly professional. They all have many years of experience and they are well educated. They are people that it is fun to work with. At the beginning I have learned a lot from them . . . and I thank them. They used to call me the boss and I asked them to stop. They tried to create hierarchy, and I told them we are one team, I learn from you as much as you learn from me. I planned a work system that everyone is equal. They accepted it with happiness and appreciation. (Position: department head, Israel)
Hierarchy 2a	Theme: Comparing and reflecting on different systems With my previous Indian boss—anywhere I had to say “sir” there was not free communication with managers, only within the team. But here now we are free, we can get their opinion. In my previous job it was bad knowledge transfer because of lack of conversation. Sometimes I felt it was a silly inquiry so I did not go to the boss. Now, at anytime I will go to the manager. I might say this is the problem; please check it and definitely it speed up the working process. When I was in Israel I saw free relationships between employees and colleagues. They share technical and personal problems. (Position: team leader, India)
Hierarchy 2b	Theme: Comparing and reflecting on different systems In Indian organization there is hierarchy. . . . Suppose one of my team members has a problem with the software and I am busy. Instead of asking permission [to discuss the matter with another person in the organization], here, he will directly ask. In the Indian company, suppose I am on vacation, than they will wait for me. (Position: team leader, India)
Hierarchy 2c	Theme: Comparing and reflecting on different systems In Oragon, the boss will approach a few people, department heads and team leaders. In an Indian organization, it goes from the higher levels of management to the medium and then to the lower levels. In Oragon, everyone gets the same message. In an Indian organization the message go through several filters. (Position: team leader, India)
Hierarchy 2d	Theme: Comparing and reflecting on different systems They treat me as the boss. They stood when I entered the room. I told them not to do so. I asked them to call me in my first name. After one month I have made them very friendly, sharing personal problems with me. In India they are afraid to ask something. There is a fear in their mind. “What the boss would think of me?” He feels that it is a silly question. My boss will think that I don’t know that little. (Position: team member, Israel)

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**Table 2**  
**Examples of Data Classified as “Documentation”**

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Documentation 1a	<p>Theme: Israeli management set low priority to documentation</p> <p>They have an idea in their head, and they ask me to document what I have understood. . . . Not always there is a request for documentation. Specification is a type of a document. Before we start to work it is the request of the system what need to be done (input and output). Specification is not possible at all times because we have deadline for projects. In these cases he [Israeli Department Head] wants the work fast. (Position: team leader, India)</p>
Documentation 1b	<p>Theme: Israeli management set low priority to documentation</p> <p>Text: There is no documentation to what we do in the development system. Everything moves from the knowledge of one person to the knowledge of another person with no documentation. The difference between the team here and the Indian team is that we close to development and when we have questions we have someone who can explain it to us. They don't have this advantage. (Position: team leader, Israel)</p>
Documentation 1c	<p>Theme: Israeli management set low priority to documentation</p> <p>Text: Our main task is quality assurance. We need to write a test plan, a document that includes all the tests that need to be done. But we don't do it in an organized way. . . . When a system analyst gets a module for checking, he gets it with no documents and until today we gave up the test plan. The tests were only partially performed. It is very severe because it has a negative effect on the quality of the software and the quality of the work. It takes more time and it requires the Indian team to take responsibility and initiation, and they are not good at that since there is no document that instructs them what to check. . . . There are not enough procedures and that is disadvantages. It reflects tight time tables and problems in human resources and budgets. (Position: team leader, Israel)</p>
Documentation 2a	<p>Theme: Indian employees prefer and initiate documentation</p> <p>Better to put everything on a paper. It has to be formal. Once you are clear, you start to communicate. (Position: team leader, Israel)</p>
Documentation 2b	<p>Theme: Indian employees prefer and initiate documentation</p> <p>We document what we did to fix a problem, so if another person is involved, he will know how to work. Now there is no request to document, but I think we should do this. (Position: team leader, India)</p>
Documentation 2c	<p>Theme: Indian employees prefer and initiate documentation</p> <p>Not enough. I talked to my manager about this. Knowledge is transferred orally. (Position: team leader, Israel)</p>
Documentation 2d	<p>Theme: Indian employees prefer and initiate documentation</p> <p>There is a complicated module, which is hard to understand and nobody has a solid knowledge of it. . . . We do it [documentation] within the group. It does not come from above. (Position: team leader, India)</p>

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Although we got rich responses from most of A-Tech Israeli employees, the Indian employees were much more reserved. The interviews with most of them were short. As a result, there was no cause for the Atlas.ti computer software for text analysis. Instead, we applied the emerging trend content analysis method, which suited the relatively small number of interviews conducted with Israeli managers.

The first step was to group together similar responses to several topics or categories such as “knowledge transfer” and “hierarchy.” The next step was to group the responses to themes, identify dominant themes, and choose a representative quotation. In the third step, we read the interviews again and searched for contextual information. Tables 1 and 2 present a few examples of the data, and how they were grouped into topics or categories and themes (Steps 1 and 2). Table 1 shows data from the Oregon organization in the “hierarchy” category, and Table 2 contains data concerning “documentation.” The third step, which was the qualitative analysis, is presented in more detail after the following section introducing the case study context.

### **The Cases: Oregon and A-Tech, Software Production Organizations**

According to India’s National Association of Software and Service Companies,<sup>2</sup> the country’s IT sector grew from \$1.73 billion in 1994-1995 to an estimated \$13.5 billion in 2001-2002, reached \$17.2 billion during fiscal 2004-2005, and is expected to approach \$31 billion for the year ending March 31, 2007, and \$60 billion by 2010. Israeli and other foreign software companies have recognized the opportunities presented by this highly professional and relatively inexpensive work force. In response, they not only trade actively with this Indian sector but also establish subsidiaries and outsource operations. Oregon and A-Tech are two of the companies that have established Indian affiliates.

Oregon Software is a global information technology company primarily engaged, through its subsidiaries and affiliates, in providing software consulting services, developing proprietary software products, and providing computer-based business solutions. It is a global player in the software market, with representation in more than 50 countries. Oregon has 500 employees worldwide. Its HQ—which includes its primary software development office—is located in Israel. Fifteen of the employees in the HQ development office have daily contact with the branch in India. The Indian branch was established in 1998. It included 84 employees at the time of data collection. After 4 years of operation, it was considered by its managers to be a success story.

A-Tech is an Israeli multinational organization providing software and systems that enable multimedia network-based enhanced services such as messaging, content, and billing solutions. Like Oragon, it is a global player in the software market, with representation in many countries. The company was established in 1982 and has more than 1,000 employees worldwide. Its HQ is located in Israel. A-Tech receives services from its Indian Off-Shore Developing Center. The Indian company itself has centers within and outside of India. In all, 86 Indian employees are working with the specific division in A-Tech that we studied. Generally, team leaders have direct contact with the Israeli employees. Data were collected in A-Tech and its Indian affiliate 1.5 years after the contact has been established between the companies.

We now turn to our culture-context analysis. Our analysis begins with the first of three questions posed in Barth's (2002) general framework.

### **What "Knowledge" Needs to be Transferred?**

Our analysis opens with an attempt to clarify what knowledge is transferred among employees in the organizations we study. Paraphrasing Barth's words, we ask, what does this corpus of knowledge contain? We asked our participants to talk about knowledge that they exercise as part of their daily work. Rather than adopting external definitions of knowledge, our discussion is based on what the participants defined and explained as "knowledge" in the interviews and discussions with them.

We found that both Oragon and A-Tech employees discussed one type of knowledge, which can be defined as "professional knowledge." Yet only A-Tech employees talked about knowledge about norms of communication and knowledge sharing. This difference, as we argue later, reflects differences in the organization culture of the firms we study. "Professional knowledge" includes knowledge about the product (which was described as "very complicated" by A-Tech employees). In both organizations, parts of this knowledge exist in technical documents (i.e., these parts are manifested as "explicit knowledge"). The corpus of "professional knowledge" also includes specific software that is needed for daily work production as well as knowledge of processes of software development such as how to work with the bug system and how to write documents.

With regard to the "professional knowledge," in both organizations we did not find evidence of a distinction between local knowledge and scientific knowledge or between peripheral knowledge and central knowledge

(Scooners, 2003; Yanow, 2004). Employees in both organizations in the HQ and branches worked with the same corpus of knowledge. This uniformity across countries can be explained in light of processes of technological knowledge development affected by open and global systems of communication. Yet in both firms it was obvious that there is a knowledge gap. The accounts of both Israeli and Indian employees in both organizations indicate that in several departments (e.g., R&D), Israeli employees have much more work experience than do Indian employees. Knowledge transfer among employees from these departments takes much more time. The situation was described from the point of view of an Indian Department manager at Oragon:

We have one person with 4 years of experience, the rest have less experience, and then we feel lack of maturity. They think more correctly. When it comes to transferring experience to here, we expect from them to give more explanations.

Similar to the case described by Lave and Wenger (1991), workers at Oragon who are situated in the periphery were learning to master the practice and in the process were getting more complicated tasks to perform. The concept of “periphery” applied to the Indian offices that their employees were recruited to help in providing services for products developed in Israel, which is thus defined in our case as the “center.”

The second type of knowledge that appeared as relevant to the participants in our discussions about knowledge transfer is knowledge about norms of communication and knowledge sharing. Accounts on this topic were raised by A-Tech Israeli employees only, all of them situated in HQ and holding key positions in the networks of knowledge transfer between the Indian subsidiary and the Israeli HQ. From their point of view, it appears that the organization invests efforts in teaching the Indian employees the technical and professional knowledge but that knowledge about norms of communication and knowledge transfer stay tacit. This argument was expressed by Ruth, who was in charge of the training of the Indian employees. This teaching program is tailored for Indian employees who come to the HQ offices in Israel for a period of 7 to 14 days. They come in small groups (of two to five people) and spend much of their studying time in the teaching premises of the organization.

We first teach them the technology, but what makes the problems later on is the process. This is impossible to teach. It is the way we work, what one does and when, when one reports and to whom, with whom one should communicate along the way, and specifically when facing difficulties, what are the

rules of reporting and clarification. This “how” is specific to the organization and it is not written anywhere. (Ruth, A-Tech, training)

Two major tacit elements of knowledge transfer appeared in our discussion with Ruth and other A-Tech managers. The first tacit element of knowledge was information regarding whom one should approach to get “professional knowledge.” The second is the way one should ask for information.

We learned from our discussions with A-Tech employees that much of the knowledge in HQ is not documented and is not bounded within specific project teams but rather is spread among them. The respondents argued that the way to get knowledge was via personal contacts. One manager said about his efforts to get professional knowledge, “People here know me and they feel uncomfortable refusing my request.”

Thus, it seems that it is not a high priority within A-Tech’s organizational culture to create explicit bases of professional knowledge. Moreover, knowledge sharing among A-Tech employees is not a first priority. Rather, knowledge transfer is based on rules of exchange that include, among others, the condition that the seeker should be acquainted with the provider.

When discussing what one needs to know to be able to seek professional knowledge, it appears that one should get information regarding who is an expert on a particular topic. The seeker also needs to know if the knowledgeable person is cooperative so that the initiator will not suffer from the embarrassment of a refusal. An A-Tech employee described this situation:

The system is very complicated and not all is documented. I know all the people in the Development and I know whom to approach and I can ask them, “Can you do me a favor.” A new employee in A-Tech cannot get this information, even more so an employee from there [India].

The information about “experts” and their personal character is tacit knowledge for outsiders.

The second tacit element of norms of knowledge transfer in A-Tech is related to the *way* knowledge should be transferred. Accounts of A-Tech employees show that there is misunderstanding regarding the way Indian employees are expected to approach Israeli employees when seeking for knowledge. Is the Indian employee expected to ask focused or encompassing questions? How many questions? Both Indian and Israeli employees expressed difficulties regarding the norms of asking questions.

The account of an Indian manager reflects the importance they attribute to the processes of proper asking: “They try to help by providing knowledge. We need to ask correctly. We should be very specific then we get the



knowledge.” Israelis, on the other hand, argued that they were overloaded with questions: “They sent an e-mail with 20 questions. I told them I will answer 2 and the rest is yours” (A-Tech employee).

Our conclusion is that A-Tech focuses on teaching technical knowledge but ignores the tacit contextual elements of knowledge. This might actually be the practice in other multinational organizations. Yanow (2004), for example, argued that organizational–managerial attitudes toward knowledge, like those of planners and policy makers, appear to be in keeping with the rational–technical–“scientific” approach. That is, knowledge is made up of detached, universal, generalizable facts that can be known objectively, absent the context of their origin.

## **How Is Knowledge Communicated and Represented?**

Knowledge can be transferred by different representations (e.g., symbols, media forms). Our purpose in this section is to discuss the forms of knowledge representation in the context of software houses that span cultures and contexts, with a focus on the response of diverse populations. Oragon operates within the wider environment of global business—a competitive business context that creates demands and expectation. This global business environment, especially the environment of a software house, creates its own professional culture in which specific forms of knowledge representations and communication are in its center.

Professional culture develops through the socialization that individuals receive during their occupational education and training. Common professional experience and interactions create a broad understanding of how the occupation should be conducted (Brown & Duguid, 1991; Van Maanen & Barley, 1984). The contemporary culture of the software industry is characterized by long work hours and awareness that time is money, that the marketplace demands increasingly innovative tools, and that competition for the production of the best and most cost-effective products is crucial for the company’s survival (Kunda, 1992). The professional culture of high-tech organizations emphasizes technical excellence and good employee relations (Hodson & Parker, 1988; Mar, Newell, & Saxberg, 1985). Knowledge, constant learning, and frank, open communication are the primary prerequisites for the creation and making of new complex and sophisticated products (Drucker, 1993; Hodson & Parker, 1988).

This professional culture created its own forms of communication and knowledge transfer. In the following sections, we discuss two aspects of

these, namely ICT (information and communication technology) tools and a specific professional discourse, the utilitarian discourse.

## ICT Tools

ICT tools such as computer-based processes (e.g., the bug system), an e-mail system, and instant messaging are common in both organizations. They are used to frame and communicate knowledge. These tools can be looked at as “technological frames,” that is, as frames indicating the subset of assumptions, expectations, and knowledge that the members of an organization have regarding technology in their shared context, including technology itself and effects of technology in a specific situation, place, time, or project (Orlikowski & Gash, 1994). From this perspective, technologies are considered as social artifacts that have material form and function that are embodied by the values, priorities, and understandings of technology of sponsors and developers (Orlikowski & Gash, 1994).

When looking at ICT tools as “technological frames,” one can argue that these tools and technology in general are in the center of the organizational cultures of A-Tech and Oragon, which are high-tech organizations. Moreover, ICT tools represent the importance attributed in the organizations we study to knowledge transfer. Our discussion focuses mainly on data we collected at Oragon.

The focus on technology is part of the organization’s creed and culture. Hoecklin (1995) describes several strategies employed by Western multinationals to manage cultural differences among them developing a common technical or professional culture worldwide or relying on strong financial or planning systems. We found that this strategy was explicitly adopted by Oragon managers who made efforts to build a common technical culture. Oragon top management developed a common technical and professional culture worldwide. They transplanted their computer-mediated system to the Indian branch. These systems were described by one of the HQ managers:

All the documents are on the Web. The access to the Web is transparent. They approach our Web as if it is their local Web. It is as if they sit here. This communication infrastructure is crucial in the working relationships between India and us. The bug system—it is a system into which we feed all the bugs in the product. It contains knowledge pool, and it also defines the work flow. The system assists in connecting between the checkups, development, and management of the product and customer support.

The quotation above demonstrates the basic assumption of Oragon management that the building blocks of the organization are highly advanced

and transparent technological systems and that these systems create the base for common work among employees at HQ and the branch.

When viewing ICT tools as social artifacts, one can focus on the values with which they are associated. The meanings that employees attribute to these tools derive from the high-tech professional culture, from the specific organization culture, and from their national culture. Not always was there consistency among these three sources of meaning attribution regarding the perception and use of ICT tools.

As we saw in the quotation above, the values that are declared to be associated with ICT tools at Oragon are that knowledge is explicit, transparent, and common. The “bug” system, for example, is used by employees from several departments to coordinate the work. It is an open system, making it is possible to trace how different individuals use it. It is expected that changes that are made in the system are performed after a careful consideration. The bug system is an example of a formal mechanism that dictates that knowledge belongs to the organization and that certain kinds of knowledge remain open and available to everyone rather than only specific individuals or subunits (De Long & Fahey 2000). However, not all the information is transparent, as we discuss later on.

Another set of values that are associated with ICT tools are those associated with efficiency. ICT has traditionally been designed to provide information that is useful to both sender and receiver by designing efficient pipelines in the sense that the information is easily and correctly transmitted and extracted (Boland et al., 1994). Efficiency is associated with one of the basic assumptions of high-tech software firms, that knowledge needs to be delivered effectively. Yet national culture might have an effect on the way this value is practiced, as is the case at Oragon, where the Israelis ignore the need for documentation, which hinders processes of knowledge transfer.

Our findings from Oragon support earlier research that the Israelis are less confined to the formal bureaucratic structure of the organization and tend to improvise (Hickson & Pugh, 1995; Meshulam, 1994; Shamir & Melnik, 2002). It was found that Israelis in a high-tech organization in the United States, instead of documenting a decision and its process, just called everyone concerned on the phone and told them that they discovered a bug, assuming this was a better way to pass on the information (Shamir & Melnik, 2002).

This attitude creates several problems in cross-border knowledge transfer. The first problem has to do with insufficient documentation. Israeli employees meet each other on a daily basis on the work premises. They talk about work-related issues with the intention to share information and ideas and to

solve problems, but they do not document these discussions or solutions. As a result, Indian employees have no access to the output of these processes that are crystallized as knowledge. The situation is expressed in the following words of an Israeli team leader:

There are many informal situations of knowledge transfer, and it has an effect on the way we work. Let's say that two people spend hours and put a lot of effort and solve a problem but they don't document the solution. That is the problem. They need to document, to transfer the knowledge into a document. People don't have the energy to do it. The system counts mainly on interaction in corridors, and the Indians are disconnected from it.

See more quotations that demonstrate that Israeli management sets a low priority on documentation and that Indian employees prefer and initiate documentation in Table 2.

While visiting Oragon, we observed quite a few corridor knowledge transfer incidents. So although the relatively informal Israeli culture seems to work well within the confines of its offices, it has disadvantages when one considers knowledge transfer as a process performed within a global firm.

## Discourse

The second form by which knowledge is represented and communicated in the Western business environment is via the "utilitarian discourse." A discourse system can be defined as "a way of signifying experience from a particular perspective" (Fairclough, 1995, 135), that is, a way in which a particular group of people uses language to promote their conception of truth or reality according to their ideology. Members of a discourse system hold a common ideological position and recognize a set of extradiscourse features that define them as a group. In an organization, employees are simultaneously members of multiple discourse systems, such as a professional group and gender and age groups (Van Dijk, 1997). In multinationals, as in our case, employees also often differ culturally and are members of different cultural discourse systems.

In general, the utilitarian discourse is dominant at Oragon, appearing along with the *dugri* code, with very scarce evidence of Indian English usage (Zaidman, 2001). The utilitarian discourse is characterized by clarity, brevity, and sincerity as well as antirhetorical, positivist-empirical, deductive, individualistic, egalitarian, and public approaches (Scollon & Scollon, 1995; Varner, 1988). The Israeli *dugri* speech means talk that manifests truthfulness, informativeness, clarity, and directness (Blum-Kulka, Danet, &

Gherson, 1985; Katriel, 1986; Shamir & Melnik, 2002). The third discourse system is Indian English, a language spoken by the educated class in India. Indian English is formal and poetic. It consists of long sentences with complicated structures. Within Indian English, politeness depends on a lack of directness in speech (Mehrotra, 1982, 1995). The differences between the Israeli dugri code and Indian English as well as differences in exposure to the utilitarian discourse explain communication problems between Israeli and Indian businesspeople. For example, Zaidman (2001) found that Israeli business people describe the Indian communication style as vague, evasive, and fluid and that negative feelings among their Indian counterparts resulted from the Israeli task-oriented and direct way of speech.

In the following paragraphs, we present an analysis of instant messaging chats, followed by a few quotations from interviews with Oragon employees to illustrate the interplay among the three discourse systems on communication and knowledge transfer. The participants in the chats are Galit (a female, Israel based, Israeli team leader) and Rakesh (a male, India based, Indian team leader). Similarities among several chats allowed us to come up with a pattern.

The chats open with “hello,” and immediately afterward the participants turn to coordinate the chat in terms of identifying the topics, the time that they can devote, and the files. This opening reflects the assumption that knowledge transfer should be fast and effective to suit Oragon values: emphasis on time tables and results orientation. The main body of the chat often opened with a description of performance by Rakesh and his team, followed by a question (or concerns) that he directed to Galit. For example, “We have started making the component structure for ‘scrip module’ and we have a small doubt.” Galit explained the problem and provided instructions on how to solve it. She often responded to the solutions suggested by Rakesh. However, there were several occasions when Galit provided not only answers but also general guidance. The following is an example:

Galit: I will ask you a question that will give you the answer, and this is the way you have to think; please ask yourself that if you make a script and want to download it so someone else will be able to upload it in a new project, will he need the data in the files you asked me about, or not. Now what is your answer?

The main body of the discussion also included updates that Galit provided about new customers and problems with other and related parts of the software. She also sets time table and work load priorities for Rakesh and his team in India. The explanations of Galit often ended with a question that verified that Rakesh understood: “Galit: are you with me on these?”

The chats contained sporadic personal references, which can be interpreted as reflecting the dugri code, such as, “Galit: I did not sleep well because my daughter called me at night and now I am tired and it affects my work.” They ended with a few closing words.

The chats between Galit and Rakesh and the interviews show that the utilitarian discourse is dominated at Oragon and based on knowledge transfer among Indian and Israel employees. Yet the dugri code appears in quite a few communication exchanges between them. Galit, for example, said to Rakesh in a direct language that takes little consideration of the listener, “This is the way you have to think.” Another expression of this style appears in her response to Rakesh’s solution: “I have to agree with you, even though I am not happy with this solution. But I can’t think of any other better one.”

As far as written communication is concerned, we found limited evidence that Indian employees follow the Indian English style of writing. Indeed, although they write long e-mails, the Israeli employees do not seem to be bothered by the vagueness. Thus, there is some evidence of communication gaps between the Israelis and the Indians that result from the use of different discourses, yet, unlike in previous studies (e.g., Shamir & Melnik, 2002; Zaidman, 2001), these gaps are not pervasive. Israelis do not perceive the Indian communication style as essentially vague, evasive, and fluid, and the Indians do not perceive the Israeli communication style as overly direct, rude, or aggressive (Shamir & Melnik, 2002). These differences can be explained in light of the dominance of the utilitarian discourse at Oragon that adheres to task-oriented direct communication but at the same time follows norms of politeness and avoids rudeness or aggressiveness.

## **How Is Knowledge Transmitted Within Instituted Social Relationships?**

Our data, mainly from Oragon, show that hierarchy and gender segregation are very important in our understanding of knowledge transfer.

### **Hierarchy**

Both Indian and Israeli employees acknowledge hierarchy as a barrier to knowledge transfer at Oragon. Organizational hierarchy, according to Indian employees who experienced working in Indian organizations, has two major impacts on knowledge transfer. The first is that there is a tendency to monopolize and control knowledge mainly by seniors. This

argument supports earlier research that Indian managers, particularly middle-level managers, dealing with other departments or along the vertical chain, prefer to retain information because they consider information as a source of power (Balsmeier & Nagar, 2002).

The second impact is expressed as a hesitation to ask about knowledge or to share knowledge between junior employees and senior employees. There was only scarce evidence of the monopoly and control of knowledge by senior managers in the Indian branch that was presented by the Israeli participants. Yet both Israeli and Indian employees argued that juniors in the Indian branch hesitated to approach seniors. A selection of examples appears in Table 1.

A common argument by Indian employees was that there are norms of communication in Indian organizations that define who is expected to communicate and with whom. According to these norms, junior employees simply do not approach senior employees. One employee explained it:

Questions come from top management. Middle-level managers will talk with middle-level managers. The programmer would get the specification of the model from his team leader, and he is bothered about his work. He will not ask more than that.

Several Indian interviewees explained that junior employees in Indian organizations would be hesitant to approach their managers because of their reluctance to be exposed to a negative response. An example is the following quotation:

In Israel if a person does not know something, he will look for help, he would approach someone. Here, in India, if a person would ask, the Indian manager might say, "You don't know what you are doing."

Another person explained that junior employees will not approach middle-level managers to avoid the impression that they have more knowledge than their superiors.

Although relationships are perceived as less hierarchical at Oragon compared to other Indian organizations, the problem of junior employees' communication with their superiors was expressed by several of Oragon's employees. Both Indian and Israeli team leaders and managers said that Indian team members at Oragon are reluctant and afraid to approach their boss (Indian or Israeli) with questions. Israeli team leaders were quite critical about it:

They have a barrier in asking questions. They will try to understand alone. And only when everything fails, after 2 weeks, they will ask. And when they

get an answer, they will try 2 weeks to understand it before saying that it is not clear. This happens less today. It happened mainly at the beginning.

An A-Tech teacher reported a similar experience:

For 4 days they did not open the bug and when I came to ask them: "Guys what is going on? Why didn't you open the bug?" They would answer: "Well, we don't have the software." They are unable to tell me that there is a problem. . . . Another thing is that if I try to get an answer from them via questions they are afraid to answer because they are afraid to make a mistake. It does not matter how many times I told them: you came here to learn, it is OK to make mistakes, bear with me, the worst case you will make a mistake what will happened? I need to stand against them, and there are very, very embarrassing moments of silence.

The hesitation to approach team leaders with questions characterized the young recruits who were placed at the bottom of the organizational hierarchy. After some time at Oragon, they learn to overcome this barrier. This "learning" is taking place within the organization while interacting with its employees.

Indian employees that we interviewed argue that although people in Indian organizations are generally reluctant to share knowledge, Oragon employees are willing to do so. This argument was expressed by several people, both junior and senior employees. Thus, Oragon culture dictates the expectation that knowledge must be shared. Knowledge that the individual acquires is perceived by Oragon managers as the company's asset (De Long & Fahey, 2000). The value of knowledge sharing (rather than control of knowledge) has been implemented at the Indian branch of Oragon in spite of the norm in its surroundings. It is an area where organizational intervention created a change in norms of knowledge transfer.

The CEO of the Indian branch, a relatively young Indian man who was trained at the Israeli HQ for 2 years, described his job, among others, as cultural mediator. He knows what the Israeli managers expect and tries to accommodate these expectations. He delivers the HQ culture by setting an example and using secondary mechanisms (Schein, 1997). He said,

From the first day I promoted flat structure. My door was open. I worked in their cubicles also because I am a technical person. It gives me an opportunity to help them. To a great degree the structure here is like the one in Israel. With regard to other managers, there are a few exceptions, but the majority follow a flat structure.



Thus, the Indian CEO promoted “a flat structure,” as is common at the HQ. He interacts with his employees and encourages them to discuss work-related issues. In other words, he delivers the values associated with open communication (see more examples in Table 1).

An attempt to promote social change in line with the culture of HQ and to improve knowledge transfer was initiated 4 years after the establishment of the Indian branch. The Indian HR manager acknowledged the distance between groups at the Indian branch and initiated a team integration workshop. The workshop was delivered by an external consultant. It enhanced the creation of personal contacts between employees that are preconditions for knowledge transfer in Indian organizations. It was perceived as successful by most employees. The following is one example of the positive evaluations of the workshop:

Everyone said that the training was nice. Now I am more comfortable asking people questions even though I don't know them. Otherwise we used to ask Chandra [senior manager]. Now I will ask someone directly because I know him.

Personal acquaintance between two employees enables not only the flow of knowledge between them but also the creation of a network that includes the friends and friends of friends of the two employees. (This is a similar idea to Buckley, Carter, Clegg, and Tan's [2005] recommendation to use expatriates to increase social knowledge and thus knowledge transfer within newfound networks of acquaintances.) It is demonstrated in the following words: “Now I got to know 20 people very well, and each of them is a friend of 5 more people.”

## Transparency and Hierarchy

Although transparency in knowledge transfer is associated with the declared professional culture of high-tech Western organizations and with the basic assumptions of both ICT tools and the utilitarian discourse, there have been problems implementing transparency at Oragon. In spite of using ICT tools at Oragon, the Israeli employees mentioned a lack of transparency within the more hierarchical Indian branch. An Israeli manager said,

Knowledge transfer via a hierarchical system can be problematic because knowledge transfers through several levels and it goes through several filters, there is lack of directness. It is not always clear if what I had transferred to one person has arrived and in what form. In Israel I can approach a person

directly and transfer knowledge to him or to gather the whole group and transfer knowledge in a direct way.

It seems not only that knowledge is less likely to flow within and across the relatively stratified Indian organization but also that the organizational need to know where and whether information flows is hindered by these transparency issues.

Transparency at Oragon HQ is associated with open criticism, directness, and knowledge flow bound for the relevant professional group and with no filters. This style of knowledge transfer can be explained to some extent in the light of lower power distance and a high level of directness in Israeli society, which are manifested at Oragon's Israel-based organization (Blum-Kulka et al., 1985; Shamir & Melnik, 2002).

However, according to Indian employees, transparency in knowledge transfer from the HQ is restricted to task-oriented knowledge. Oragon IT systems do not include knowledge about strategic decisions regarding products and customers. The information about non-task-related issues is not provided systematically by the HQ. Several Indian employees found that they thus did not understand the context of some of their operational decisions. The following is an example:

The Israelis do not provide a full picture. They just tell us "do this." They do not tell us what the market situation is, what the whole product is, what were the reactions. They stick to what needs to be done. . . . It is better that you don't ask too many questions. We get news about products quite late. They can be more transparent.

From the HQ point of view, certain kinds of knowledge belong to a specific unit, namely the HQ (De Long & Fahey, 2000). But this view is not shared by the branch that expects transparency in all types of knowledge. At the same time, HQ people expect transparency in task-oriented knowledge among individuals across the organization and are disappointed from vagueness regarding knowledge transfer at the Indian branch.

## Gender

Thus far we have discussed knowledge transfer in the various hierarchical (Indian) and flat (Israeli) social systems at Oragon. However, knowledge also needs to flow horizontally—between employees who are in a similar position in the organizational hierarchy. There are mainly two types of networks of knowledge transfer that are associated with each employee in the Indian

branch: knowledge flows within the (relatively small) professional group and knowledge flows between friends who can be scattered all over the organization and outside of it.

Our data show that Indian women are excluded from the networks of the professional groups and even the small teams to which they belong. Employees reported to us that an Indian woman does not approach a group of men talking even if they are members of her own team. We observed this segregation during lunch breaks at Oragon. One team member told us that she asked her team leader to call her when men in her team or in her department discuss a work-related topic with relevance to her, but he never did. Another man said that “the girls feel insecure to mix with the boys.” He further explained that they hesitate to interact and that it has a negative impact on knowledge flow. Another man said that he, as a man, is more aggressive than the ladies and he can “get through” when he wants.

The networks that are available for women are those consisting of their friends. Because the number of Indian women at Oragon is significantly smaller than the number of Indian men, and because women tend not to make friends with men, they have much less access to informal networks of knowledge transfer compared to men. The gender discourse has very little explicit expression at Oragon because women, who suffer from a lower position than men, prefer not to raise the issue. A senior manager told us,

When the team leader is a male, women employees have a difficulty. They come to complain to me or to the HR manager, and they are afraid. They just want us to know [about the problem], but they don't want us to take any action.

Oragon female Indian employees were recruited as professional programmers yet are excluded from the daily routine of informal knowledge transfer (on team heterogeneity, see Tyran & Gibson, 2008). Yanow's (2004) discussion about the rejection of knowledge of “peripheral workers” is of relevance here. The author explained that when peripheral workers cross over organizational borders, they are disturbing the “natural” organizational-structural order of things. Clear, definable borders maintain a sense of order in the organization and keep chaos at bay (Yanow, 2004).

Gender differentiation is part of the Indian society and is expressed in the Indian branch at Oragon. There was no evidence of problems in knowledge transfer related to gender differences between the HQ and the Indian branch (e.g., male Indian team leaders accept female Israeli team leaders as equal or even as superior because of the differences in power between the branch and the HQ).

## Conclusions

Our intention in this study has been to introduce a culture-context approach to the analysis of knowledge transfer in multinational organizations. Our findings show not only that knowledge transfer in multinational organizations is affected by the contemporary global business context but also that local and profession-wide contextual factors are having a significant impact on these processes. More specifically, global norms, corporate governance, and IT professional culture create a specific competitive work environment. They also enable the creation of a shared corpus of professional data, knowledge, and wisdom that is at least partially open to employees and possibly other associates (e.g., outsourcing partners) across the globe. Similarly, common scientific knowledge has enabled implementation of ICT tools that are part of the professional culture of both multinational companies. This trend is also enabled by the utilitarian discourse, which is a widespread form of knowledge representation in the professional world.

Yet not all aspects of this professional global culture and its forms of knowledge transfer—such as ICT tools and the utilitarian discourse—are fully adopted by all employees, especially if they are culturally diverse. Our analyses showed how these forms of communication and knowledge transfer are firmly embedded in a cultural context and that their values and assumptions (e.g., efficiency) are not necessarily fully shared by the diverse populations of employees in multinational organizations. The professional culture of the high-tech global industry assumes open communication and knowledge transfer processes. Yet the results of this study also show that processes of knowledge transfer, regardless of the nature of culture and technology in a specific place (Israel, India; see also Barth, 2002) as well as the nature of the knowledge itself (whether religious or technical in nature; see Barth, 2002), are highly embedded in sociocultural structures. These structures produce different forms of knowledge transfer. For example, knowledge in hierarchical societies tends to transfer via hierarchical chains, moving in a top-down direction. Knowledge in egalitarian societies tends to fan out in all directions, flowing top-down as well as bottom-up.

Another aspect of these cultural structures that has an impact on knowledge transfer is the attribution of specific meaning (as well as power) to certain categories of people. For example, women are often segregated from men in Indian organizations, and there are norms of knowledge transfer related to women that are different from those related to the category of men. Age might be of importance in other cultures. Beyond the existence of specific sociocultural structures, specific characteristics of the population involved might clash with the norms of the global high-tech culture, as

is the case of Israeli employees who avoid systematic documentation of their work (see Table 2). Other characteristics might appear when analyzing other populations.

Our data show that managers are aware of some of these gaps and that they try to reeducate their employees in accordance with the specific organization culture. But in our case, managers' awareness and efforts were only partially effective. Oragon's managers tried to establish a flat structure to promote open communication, but they ignored gender segregation. Similarly, no systematic procedures were established to increase documentation from the Israeli side. Thus, the organizational context, that is, the specific corporate culture as practiced by managers and employees, can mitigate or ignore cultural gaps created by the global high-tech culture and the characteristics of the populations. Furthermore, the specific organizational context can support or hold back processes of knowledge transfer in multinationals. The results of this study show that organizations tend to produce local knowledge such as information about norms of knowledge transfer. In our case, this local knowledge tended to be a barrier to communication, thus creating further difficulties in knowledge transfer.

We believe that the culture-context approach allows a better understanding of the complex and culturally diverse reality of knowledge transfer in multinational organizations. A culturally sensitive approach to knowledge transfer in multinational organization should consider the forms of knowledge transfer as cultural products, and as such it should analyze the interaction with the populations involved. Sociocultural structures as well as specific cultural characteristics of the populations (including managers as agents of change) should be analyzed. The interaction between the relevant contexts (e.g., the global culture of the sector, the organization culture, and the culture of the populations) should be explored.

This conclusion leads us to the necessary limitations of the article. We have been able to take several steps toward understanding the topic, but we realize that our two cases across a few culture-context dimensions are just some small steps toward an understanding of this complex phenomenon. Furthermore, our analysis in this article lacks a discussion on agency. We do not focus on the knowers—the people who hold, learn, produce, and apply knowledge in their various activities—and how they behave. Finally, we do not provide much information on the individual actor or on his or her actions. Future research should focus on a micro analysis of knowledge transfer in global teams considering the interaction between other contexts as well. And this work would be enhanced by following Carmeli's (2008) lead of using organizational performance as a dependent variable.

## Appendix

### Interview Questions (India)

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1. What are your work responsibilities (or tasks)?
  2. What are the different types of knowledge that you work with (accept, transfer, or create) on your job?
  3. Do you have a lot of requirements or procedure to document what you do? What some of them are? What are the important ones (any standard operating procedures)?
  4. What do you do when you have new ideas or solution relevant to the job that you are doing? (Is there a formal procedure for doing it?)
  5. What kinds of knowledge do you share with (or transfer) other people in your organization—for instance, with people in your work group, with people in your department, with people with other departments and with people abroad?
  6. What difficulties do you face in the process of knowledge transfer in your organization?
  7. Can you please describe what kind of informal interactions are taking place in this plant?
  8. To which kind of people do you find it easier, more natural, to share or transfer knowledge?
  9. From your point of view, does the training program effect your work situation and your environment?
  10. Difference between Indian and Israeli employees/managers regarding to knowledge and knowledge transfer.
  11. Attitudes toward knowledge and knowledge sharing.
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### Notes

1. Interviewees colloquially refer to these as “ICQ chats,” “ICQ,” and “chats”
2. See <http://www.nasscom.in>. Thanks to a reviewer for this information.

### References

- Ackoff, R. L. (1989). From data to wisdom. *Journal of Applied Systems Analysis*, 16, 3-9.
- Argote, L., & Ingram, P. (2000). Knowledge transfer: A basis for competitive advantage in firms. *Organizational Behavior and Human Decision Processes*, 82(1), 150-169.
- Balsmeier, P., & Nagar, S. (2002). Implementing ERP in India—Issues and problems. *Journal of Transnational Management Development*, 7, 3-12.
- Barth, F. (2002). An anthropology of knowledge. *Current Anthropology*, 43(1), 1-11.
- Baskerville, R. F. (2003). Hofstede never studied culture. *Accounting, Organizations and Society*, 28, 1-14.

- Baskerville-Morley, R. (2005). A research note: The unfinished business of culture. *Accounting, Organizations and Society*, 30, 389-391.
- Bhagat, R. S., Kedia, B., Harveston, P. A., & Triandis, H. (2002). Cultural variations in the cross-border transfer of organizational knowledge: An integrative framework. *Academy of Management Review*, 27, 204-221.
- Blum-Kulka, S., Danet, D., & Gherson, R. (1985). The language of requesting in Israeli society. In J. Forgas (Ed.), *Language and social situations* (pp. 113-139). New York: Springer-Verlag.
- Boland, R. J., Jr, Tenkasi, R.V., & Te'eni, D. (1994). Designing information technology to support distributed cognition. *Organization Science*, 5, 456-477.
- Bresman, H., Birkinshaw, J., & Nobel, R. (1999). Knowledge transfer in international acquisitions. *Journal of International Business Studies*, 30(3), 439-462.
- Brown, J. S., & Duguid, P. (1991). Organizational learning and communities of practice: Toward a unified view of working, learning, and innovation. *Organization Science*, 2, 40-57.
- Buckley, P., Carter, M., Clegg, J., & Tan, H. (2005). Language and social knowledge in foreign-knowledge transfer to China. *International Studies of Management and Organization*, 35(1), 47-65.
- Carmeli, A. (2008). Top management team behavioral integration and the performance of service organizations. *Group & Organization Management*, 33, 712-735.
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administration Science Quarterly*, 35, 128-152.
- Collins, H. M. (1990). *Artificial experts: Social knowledge and intelligent machines*. London: MIT Press.
- Davenport, T., & Prusak, L. (1998). *Working knowledge*. Cambridge, MA: Harvard Business School Press.
- Davis, D. K. (2005). Indigenous knowledge and the desertification debate: Problematising expert knowledge in North Africa. *Geoforum*, 36, 509-524.
- De Long, D. W., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. *Academy of Management Executive*, 14, 113-127.
- Dilley, R. (1999). Introduction: The problem of context. In R. Dilley (Ed.), *The problem of context* (pp. 1-46). New York: Berghan Books.
- Drucker, P. F. (1993). *Post-capitalist society*. New York: HarperCollins.
- Earley, C. P. (2006). Leading cultural research in the future: A matter of paradigms and taste. *Journal of International Business Studies*, 37, 922-931.
- Fairclough, N. (1995). *Critical discourse analysis*. London: Longman.
- Foss, N., & Pedersen, T. (2002). Transferring knowledge in MNCs: The role of sources of subsidiary knowledge and organizational context. *Journal of International Management*, 8, 49-67.
- Fraser, J., & Lepofsky, J. (2004). The use of knowledge in neighborhood revitalization. *Community Development Journal*, 39, 4-12.
- Geertz, C. (1973). *The interpretation of cultures. Selected essays*. New York: Basic Books.
- Ghauri, P. (2004). Designing and conducting case studies in international business research. In R. Marschan-Piekkari & C. Welch (Eds.), *Handbook of qualitative research methods for international business* (pp. 109-124). Cheltenham, UK: Edward Elgar.
- Grant, R. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17, 109-122.
- Gueorguieva, V. (2003). Les deux faces du sens commun [The two faces of common sense]. *Canadian Review of Sociology and Anthropology*, 40, 3.

- Gupta, A. K., & Govindarajan, V. (2000). Knowledge flows within multinational corporations. *Strategic Management Journal*, 21, 473-496.
- Hansen, M. T. (1999, March-April). The search transfer problem: The role of weak ties in sharing knowledge across organisational sub-units. *Administrative Science Quarterly*, 44(1), 82-111.
- Helbig, H. (2006). *Knowledge representation and the semantics of natural language*. Berlin: Springer.
- Hickson, D. J., & Pugh, D. S. (1995). *Management worldwide: The impact of societal culture on organizations around the Globe*. London: Penguin.
- Hodson, R., & Parker, R. E. (1988). Work in high-technology settings: A review of the empirical literature. In R. Simpson & I. Simpson (Eds.), *Research in the sociology of work* (Vol. 4, pp. 1-29). London: JAI.
- Hoecklin, L. (1995). *Managing cultural differences: Strategies for competitive advantage*. New York: Addison-Wesley.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.
- Hofstede, G. (2003). What is culture? A reply to Baskerville. *Accounting, Organizations and Society*, 28, 811-813.
- Hofstede, G. (2006). What did GLOBE really measure? Researchers' minds versus respondents' minds. *Journal of International Business Studies*, 37, 882-896.
- Katriel, T. (1986). Talking straight: "Dugri" speech in Israeli Sabra culture. Cambridge, UK: Cambridge University Press.
- Kunda, G. (1992). *Engineering culture, control and commitment in a high-tech corporation*. Philadelphia: Temple University.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic Management Journal*, 14, 95-112.
- Mar, B. W., Newell, W. T., & Saxberg, B. O. (1985). The nature of high technology: Editorial perspective. In B. W. Mar, W. T. Newell, & B. O. Saxberg (Eds.), *Managing high technology: An interdisciplinary perspective* (pp. 3-16). Amsterdam: Elsevier.
- Mehrotra, R. R. (1982). Indian English: A sociolinguistic profile. In J. Pride (Ed.), *New Englishes* (pp. 151-173). Rowley, MA: Newbury House.
- Mehrotra, R. R. (1995). How to be polite in Indian English. *International Journal of the Sociology of Language*, 116, 99-110.
- Meshulam, I. (1994). The impact of American management culture on Israeli firms. In A. Shenhar & A. Yarkoni (Eds.), *Israeli management culture* (pp. 213-24). Tel Aviv, Israel: Gome.
- Mudambi, R. (2002). Knowledge management in multinational firms. *Journal of International Management*, 8, 1-9.
- Nelson, R., & Winter, S. (1982). *An evolutionary theory of economic change*. Cambridge, MA: Belknap.
- Orlikowski, W. J., & Gash, D. C. (1994). Technological frames: Making sense of information technology in organizations. *ACM Transactions on Information Systems*, 12, 174-204.
- Phene, A., & Almeida, P. (2008). Innovation in multinational subsidiaries: The role of knowledge assimilation and subsidiary capabilities. *Journal of International Business Studies*, 39, 901-919.



- Polani, M. (1966). *The tacit dimension*. London: Routledge Kegan Paul.
- Prasad P. (2005). *Crafting qualitative research: Working in the postpositivist traditions*. New York: Sharpe.
- Randel, A. E. (2007). Motivations to maintain social ties with coworkers: The moderating role of turnover intentions on information exchange. *Group & Organization Management*, 32, 208-232.
- Saunders, M., Lewis, P., & Thornhill, A. (2003). *Research methods for business students*. London: Prentice Hall.
- Schein, E. H. (1997). *Organizational culture and leadership*. San Francisco: Jossey-Bass.
- Scollon, R., & Scollon, S. W. (1995). *Intercultural communication: A discourse approach*. Oxford, UK: Basil Blackwell.
- Scooners, D. (2003). Network of knowledge: How farmers and scientists understand soils and their fertility. A case study from Ethiopia. *Oxford Development Studies*, 31, 461-478.
- Shamir, B., & Melnik, Y. (2002). Boundary permeability as a cultural dimension, a study of cross cultural working relations between American and Israeli in high-tech organizations. *International Journal of Cross Cultural Management*, 2, 219-238.
- Simon, H. A. (1955). A behavioral model of rational choice. *Quarterly Journal of Economics*, 69, 99-118.
- Spender, J. C. (1996). Organizational knowledge, learning and memory: Three concepts in search of theory. *Journal of Organizational Change Management*, 9(1), 34-39.
- Spradley, J. P. (1979). *The ethnographic interview*. New York: Holt, Rinehart & Winston.
- Swan, J., Newell, S., Scarbrough, H., & Hislop, D. (1999). Knowledge management and innovation: Networks and networking. *Journal of Knowledge Management*, 3, 262-275.
- Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firms. *Strategic Management Journal*, 17, 27-43.
- Szulanski, G. (2003). *Sticky knowledge: Barriers to knowing in the firm*. London: Sage.
- Tyran, K. L., & Gibson, C. B. (2008). Is what you see, what you get? The relationship among surface and deep level heterogeneity characteristics, group efficacy, and team reputation. *Group & Organization Management*, 33, 77-106.
- Van Dijk, T. A. (1997). The study of discourse. In Van Dijk T. (Ed.), *Discourse as Structure and Process* (pp 1-34). London: Sage, London.
- Van Maanen, J., & Barley, S. R. (1984). Occupational communities: Culture and control in organizations. *Research in Organizational Behavior*, 6, 287-365.
- Varner, I. I. (1988). A comparison of American and French business correspondence. *Journal of Business Communication*, 25, 55-65.
- Von Krogh, G., Ichijo, K., & Nonaka, I. (2000). *Enabling knowledge creation*. Oxford, UK: Oxford University Press.
- Yanow, D. (2004). Translating local knowledge at organizational peripheries. *British Journal of Management*, 15, 1-19.
- Yayavaram, S., & Ahuja, G. (2008). Decomposability in knowledge structures and its impact on the usefulness of inventions and knowledge-base malleability. *Administrative Science Quarterly*, 53(2), 333-362.
- Yin, R. K. (1994). *Case study research: Design and methods*. Thousand Oaks, CA: Sage.
- Zaidman, N. (2001). Cultural codes and language strategies in business communication interactions between Israeli and Indian businesspeople. *Management Communication Quarterly*, 14, 408-441.

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