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The dynamics of knowledge in international strategic alliances: a longitudinal study of service firms.

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Abstract

This thesis studies the notion of knowledge in business firms, and in particular the concept of knowledge mobilization, understood as the mechanisms used by organizations to apply, transfer and retain knowledge about cause and effect relationships. As a theoretical framework, we use here a derivative of the resource based view of the firm called the knowledge based view. This theory is used to understand and analyze how service organizations in international strategic alliances developed and refined their knowledge base.

Methodologically, this thesis utilizes a qualitative, longitudinal perspective, based on several cases of organizations in similar structural context but whose results after a few years of operation show large variances. The findings of this work show that the usefulness of knowledge for business firm (its value), is highly dependent on the life-cycle of the organization. Also, the types of knowledge mobilized varied also according to position in the life-cycle. Whereas younger, inexperienced organizations sought to transfer and develop knowledge, older organizations tried to prevent knowledge from dissipating. All these findings contribute to the creation of a contingent, evolutionary view of knowledge in business firms. In addition, the notion of knowledge consolidation (or effortful activities needed to maintain a piece of knowledge in the organization) is developed, and evidence is presented to support it.

Résumé

Dans cette thèse, nous étudions les notions de connaissance organisationelle et de mobilization des connaissances. Utilisant la théorie des connaissances comme grille de lecture théorique, nous étudions comment les organisations de services engagées dans des alliances stratégiques internationales développent leurs connaisances. Notre approche méthodologique se base sur l'étude longitudinale de plusieurs organisations aux characteristiques structurelles similaires. Les résultats de ce travail contribuent à la création d'une théorie de contingence des connaissances organisationelles. Finalement, la notion de consolidation des connaissances est presentée, et des données empiriques pour la soutenir sont évaluées.

Foreword: The bittersweet making of a (Philosophy) Doctor

> But let's not discuss facts. No one cares about facts any longer. They are mere starting points for invention and reasoning. At school we learn to doubt and the art of forgetting. Particularly forgetting what is personal and local.
>
> The printing press, that has now been abolished, has been one of the worst evils of mankind. who has tended to multiply vertiginously unnecessary texts
>
> **"Utopia of a tired man"**
> J.L. Borges,
> Complete Works, pp53.

This is the story of a man who knew he would be a doctor one day, but greatly underestimated the difficulties of the process. Looking back, I see myself with the quiet tranquility bestowed to those that do not know how to doubt: one day, I was going to be a doctor. Not being aware of the stunning range of alternatives available to the persevering mind , content did not matter at the time (although medicine had a clear advantage over the alternatives). Getting the degree was the only thing that counted.

My family helped shape my ambitions: one does not have a surgeon for a father, who transplanted kidneys when he was not fighting wars lost in advance; a psychiatrist for a mother, whose interest was how to find the right dosage of lithium for her bipolar patients, and a long lineage of lawyers and Juris Doctors one of whom was a hero for his role in saving Jews from the Nazis in Budapest, with impunity. I was sentenced to be a doctor as much as I chose to be one. A doctor, then, I was going to be.

Nonetheless, the process was longer and more arduous than I ever expected, and involved many convoluted tricks. I learned to write in yet another language, changed countries twice, citizenship once and almost lost my beloved spouse at least a couple of times. Retrospectively, I am glad I underestimated the effort needed, for I doubt I would have undertaken a life in Academe had I know how strenuous it was going to be (and how long it was going to take). I was, and still am to some extent, a lazy individual, and

whether it is genetic or cultural, the consequences are equally sad; I am still characterized by avoidance of pain, effort or any combination thereof, and the effort has been overwhelming.

Yet, all these years of paper, ink and electrons were made easier by the generosity, intelligence and kindness of many. Of all those who helped me along the way making this work possible, three people emerge as clear winners. (They were not competing, of course, but is there an alternative to ranking people by their efforts and their niceness?). HM, NW and ASF top my personal list of people I am grateful and indebted to, indebted and grateful to a point they will probably never imagine: how can I say what I feel? HM taught me to be insightful and thorough, NW to be sagacious, ASF to rediscover my universe of emotions. When I think of them, I rediscover the kind of admiration I once had for my father and mother, an admiration I thought forgotten forever, lost when my childhood left me and I stopped admiring people with the ingenuity and sincerity I once had. Thanks to HM and NW for their intellectual guidance: without their clever ideas and kind support, I would have never been able to think this through. Throughout the years, in fact throughout the long Montreal exposure that changed my life in a Québécois and Canadian way, they were walking with me, helping in every other way, the small and the stupendous, in the myriad of little details that make life so interesting and so anguishing at times. I didn't learn much from my years of fire in Argentina when life was nothing but a moving target, but I did learn to be grateful, as I learned the virtues of the persistence of memory. To HM, NW and ASF, I can only say what the Uruguayan poet Mario Benedetti once said: I don't know what I owe you, but I know that it is immense.

Other people contributed to this collective patchwork, and it would be most uncivil not to mention their names (although the ones that helped me the most remain unnamed as a sign of my overwhelming gratefulness to them). Vera K. and Steve M. were there all the time, Vera with her immense patience and her determination to succeed, Steve with his intelligence and his determination to succeed, both in spite of the obvious difficulties that life had cursed them with, and in spite of the choices they had made. (I had never been able to disentangle these two categories, so in their case I lump them together as if it did not matter. But it does, for everything personal is political). I am quite convinced they will

find it odd to have someone being grateful to them for being role models, but with their involuntary example they showed me the value of hard work in addition to intelligence, something I hadn't really discovered until I met them, and realized with horror that intelligence alone was not going to be enough.

Sweet Taieb was kind and patient, patient and courteous, courteous and suave, suave and kind, all that in a manner that remains a mystery to me, used as I still am to rudeness, arrogance and lack of respect, and often choosing screams over quiet whispers. He showed me the way early on, and he listened to my impetuous French from the day I landed in the land of the eternal winter until today, when I thrive in the rainforest. Thanks to Vera, Steve and Taieb for just being, and for being there. Vanessa Taler proofread this document, and turned many incomprehensible parts into standard English without robbing me blind and on a record time: thanks to Vanessa too.

Money is seldom a preoccupation for academics, but it is always useful to have a lot of it when one decides to conduct research on foreign land. Being located in a country that does not consider Cuba as one of its friends was not an obstacle for The John D. and Catherine T. MacArthur Foundation to provide generous funding for my visits, so generous in fact that it covered all my research needs and even more. Abiding by the rules of a baroque embargo, long, unfair and useless, the US Department of State authorized a Canadian citizen to spend private money in a third country, a surreal situation that would be almost hilarious if the consequences of violating the US law were not so dire, even for friendly Canadians. Alfred Jaeger was my own personal Midas, and managed the arcane process of getting visas and making reports for years, tirelessly and with contagious joy, something I would not have been able to do with my limited patience. Thanks, Al, thanks.

Finally, I am indebted to McGill, to Montreal, and to Canada, although I do not really know why. I do know, however, that my Canadian experience changed me and my life simultaneously in such a profound way that it is arduous to describe: how can one not be Canadian? The virtues of Canada are so ingrained in me now that I look back at the inconsistent man who I once was and I wonder how I could have been that way. Nowadays, *"mon pays ce n'est pas un pays, c'est l'hiver"*, and no one will be able to bribe me out of it, certainly not with rainforest or tango.

To all who helped me in this terrible, anguishing, bittersweet experience that is becoming a Ph.D., I can only assure them that today I am a better person than the tempestuous Argentine they once met. What better gift could they have given me? Although I will never be able to pay them back, I promise I will do the same for other people: I will multiply their gift of fishes and bread. That will be their powerful, lasting, stupendous legacy.

Escazú, Costa Rica.

The Dynamics of Knowledge in International Strategic Alliances: a Longitudinal Study.

Summary: This chapter provides an introduction to the thesis. Its objective is to present a road map to the reader, indicating how this work was structured and why it was structured that way. We start this introduction with a general discussion of knowledge in business firms, and we briefly indicate some of the contributions of this work. We then describe the different sections of this thesis, providing a summary of each section and chapter. We conclude with some general comments regarding this work.

Introduction[1]

Do firms know, and if so, how do they know? These questions are puzzling. Although firms, as social actors, are constructed and therefore lack the concrete existence of living entities and their consciousness, they do present some characteristics that reveal what could be interpreted as intelligence, at least with the sense proposed by Piaget, who claimed that the ability (of a human being) to find efficient solutions to novel problems. Firms do not have a physical embodiment, yet they seem to "know" things beyond the understanding of their members, and to fruitfully use that knowledge in their everyday activities.

In addition to "knowing", firms appear to be able to apply that knowledge in an effort to use it as a basis for their competitive maneuvering. Knowledge manipulation seems to be a capability of firms, an intrinsic attribute, and it is therefore not surprising that many recent theoretical pieces claim that knowledge, when adequately applied, could provide a strong basis for sustainable competitive advantage. Because knowledge is "sticky," and thus difficult to transfer even when there are good reasons to do so, firms that "know" can obtain advantageous positions in a world of organizations. Knowledge, it would seem, is better than ignorance; knowing pays.

Yet, we know relatively little about organizational knowledge (Hedlund, 1994; Nonaka, 1994; Kim, 1993; Huber, 1991, see also Elfring & Volberda, 1998; Mintzberg,

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1 This introduction is based upon Martin de Holan, (1997, 1998,1999) and Martin de Holan & Phillips (1999)

Ahlstrand, & Lampel, 1998:280). A serious discussion of firm knowledge –or, perhaps, of firms' knowing- must therefore include a definition of the notion of organizational knowledge, how it affects organizations and what are the processes that allow organizations to create it. However, the notion of knowledge is used with multiple definitions, in multiple senses, in several contexts, and, worst of all, is often assimilated to a verb that denotes familiarity with some aspect of reality (i.e., "knowing" something as being aware that something exists, or has a certain number of characteristics; being in the know) and to a noun to describe a parcel of that familiarity (i.e., a piece of knowledge).

In a very general sense, organizational knowledge appears to present itself in two forms: either as a series of understandings of states of nature (i.e., "knowing" something to be true in certain context) or as specific abilities that allow the organization to perform certain tasks non-randomly. (i.e., being able to successfully perform some purposeful activity). Under the right circumstances, the body of knowledge of an organization gives birth to organizational capabilities: knowing allows the firm to do specific things, and to do them repeatedly. These abilities are in turn applied to create products and services, and knowledge, as a consequence, is a prerequisite of doing. While it is not strictly necessary to know in order to be able to do, intuitively one would tend to believe that the increasing complexity of many organizations precludes any consideration that equates performance with lucky accidents: successful innovations, for example, are rarely the result of random walks, although the ideas that engendered them may be.

In spite of its attractiveness and immediate appeal, the concept of knowledge - within and around organizations- has not been well developed and many issues still remain obscure. Notwithstanding the importance of the notion of firm knowledge as a continuation of the resource-based view of the firm, a great deal of effort is still required to elaborate a well-rounded theory of firm knowledge. What are the differences, for instance, between individual knowledge and organizational knowledge? Individuals know things, and they apply their knowledge on a constant basis, yet it does not seem sensible to conclude that these two types of knowledge are essentially the same. In addition, acquiring new knowledge is an important activity for individuals and firms. Are the mechanisms used to acquire new knowledge intrinsically different for individuals and

organizations? Also, if learning is acquiring new knowledge, all aspects of knowledge need to be seen as dynamic processes. Knowledge does not "stay": knowing is transforming. So, how is knowledge stored, retrieved, mobilized, discarded? Why would knowledge provide a competitive advantage superior to more tangible resources?

While many fine efforts have been deployed lately to elaborate elements of a theory and to test some of its elements, there still remains some disagreement about what knowledge is, how firms use it, and how it is mobilized within and between firms. Knowledge circulation and mobilization, in spite of some encouraging research, remain quite mysterious. There seems to be a consensus that empirical studies are needed, to test theoretical hypotheses and to gain insights into phenomena not yet covered by current theories: that consensus served as inspiration for this work.

Objectives of this thesis.

The first (and main) objective of this research effort is to contribute to the growing scholarly conversation about organizational knowledge and its consequences. To do so, a series of case studies of organizations engaged in knowledge mobilization processes are developed, to reveal whether or not organizations created knowledge and developed abilities over time, if so, what mechanisms were used, and if not, what were the barriers impeding the appearance of a phenomenon that was both desired and actively encouraged by the organization. In particular, this thesis addresses the issues of knowledge creation and circulation between partners in international strategic alliances, in a service industry.

The starting point of this study is descriptive by necessity and choice, focusing heavily on the everyday work of the organization and its members. Knowledge, from our perspective, is knowledge in action. Thus, this thesis describes the efforts of managers and organizations to improve the results of their organizations, and attempts to understand why certain produced unexpected consequences. The many women and men who were the subjects of our study were simply trying to make their organizations perform better, spending a great deal of effort and time developing explanations about how work was to be carried out, and why. From their work, a textured picture of knowledge is developed. In

the presentation of our results we attempt to preserve the complexity and the nuances of knowledge within organizations, as well as the complexity of its dynamics.

The second general objective of this study is to provide insights that would help refine current theories with a deeper and more nuanced understanding of the phenomena of interest. This is achieved by providing an analytical framework to the practices carried out during the everyday work of the organization. However, our most interesting contributions are probably the unexpected insights captured while working in the field; the unpredicted events revealed by fieldwork. Among the most counterintuitive findings, and contrary to current thinking about knowledge, we show that knowledge is more fragile than previously thought, that it tends to degrade when managerial attention focuses on other problems, and that it is not as sticky as previously believed, especially in service organizations.

Overview of the thesis

This thesis is composed of three sections, as well as an introduction and a conclusion. Each part comprises a number of chapters focusing on a specific topic. In chapter one and two, we present the theoretical background of this thesis and a literature review, linking our work to current theories of sustainable competitive advantage and firm resources. Chapter one traces the lineage of the notions of organizational knowledge, and links it specifically to the resource-based view of the firm, highlighting the importance of the notion of knowledge for the discipline of strategic management, and showing how knowledge can lead to sustainable competitive advantage. Chapter two presents an extensive literature review. In this chapter, we have attempted to create a typology of knowledge that integrates several categories of knowledge found in the literature. Later in the chapter, these categories are integrated in a model of knowledge in organizations; the model includes the central activities that organizations engage into when they attempt to put knowledge to a productive use. This model includes three main activities of knowledge: creation, application, and transfer. We show how each one is an essential yet incomplete part of the management of knowledge within organizations.

The second part of this thesis, comprising chapters three, four, and five, presents several important dimensions of our empirical study. In chapter three we discuss the

research methodology used to gather data, and the theoretical and practical reasons behind each decision. Being essentially qualitative, our research sought to create "thick descriptions" of the organizations and their context. These not only facilitate the understanding of the mechanisms used by managers and organizations to create, apply and transfer knowledge, but also provide a way to include knowledge management activities within the normal functioning of the organization. While managing knowledge is an important activity, it is obviously not the only one that managers must pay attention to; thus, in spite of its importance, knowledge management often gets entangled in the myriad of everyday details that constitute the essence of the organization.

The quite unusual context of our research is described in chapter four. The organizations studied are heavily influenced by the history, culture, and mores of the country in which they operate; and being profit motivated in a socialist country only makes these influences more pronounced. The general context of the firms is described in the hopes of providing the reader with a detailed sense of the many peculiarities of management in a socialist economy while catering to an international clientele, who pays international prices, and reasonably expects international standards. We pay particular attention to the changes that occurred in Cuba after the fall of the Soviet Union and their consequences for the Cuban economy in general, and for the tourism industry in particular. These environmental changes, along with a series of political realignments, gave birth to the tourism industry in Cuba; the hotels we studied are clearly a product of their time.

In chapter five we present the industry and the organizations whose case studies serve as the empirical basis of this dissertation. The chapter begins with a detailed description of the Cuban tourism industry and its two dominant competitive segments. These are opposed in terms of the type of customer they target, and the type of service they seek to provide. Generic issues are presented for each of these segments, aiding us in our understanding of the constraints managers face in their endeavors. We then present a case study of each hotel. These organizations are independent business units with a great deal of managerial leeway, and consequently, each one is used as a basis for a separate case, even when they belong to the same corporation. Each case presents a detailed account of the hotel, its physical infrastructure, its human capital, and the specific problems

encountered at the time of the study. The same template is used for each case, but variations are introduced when the managerial issues of a particular hotel are meaningful and different from the others. In spite of their differences, all of the hotels studied share a common theme: the need to provide services that are comparable to the ones provided by their competitors. Given that being at par with competing organizations was in all cases an explicit objective of the hotel and an element used to evaluate the performance of the top management team, knowledge themes quickly became a crucial issue for managers of the hotel.

In the third and final part of this dissertation, we present our findings. Chapter six presents the first set of results from our study, starting with a categorization of organizational knowledge in four basic dimensions or clusters of knowledge. We then create a model of knowledge mobilization, which emphasizes two basic processes by which organizations mobilize knowledge: creation of knowledge, where the locus of creation is local, and knowledge transfer, where that locus is external. These two processes are complemented by a third dimension, consolidation of knowledge, which represents the efforts put in place to stabilize knowledge in the organization, that is, to avoid its deterioration.

Chapter seven presents an evolutionary view of knowledge mobilization, along with a detailed model describing its four stages (ground zero, functional capabilities, organizational capabilities and networks of capabilities). The model presented there tracks the evolution of the organizations in our sample from the early stages of operation, characterized by low levels of competence, to the moment when some of the organizations in our sample achieve above-average performance. This model integrates the trajectories of all of the organizations in the sample. We argue that it captures the transitions organizations in general engage in as they increase their knowledge base.

In the final chapter we discuss our results in light of the theories presented in chapters one and two, and the objectives of the thesis. After reviewing the limitations of the methods chosen for the empirical part of the thesis, we highlight the most salient findings of this thesis: the contributions we make towards a contingent, evolutionary view of knowledge, and the incorporation into current theories of the effortful activities needed

to maintain a piece of knowledge in the organization. We describe how these findings contribute to extant theories of knowledge management, and suggest avenues for researchers who wish to continue similar research efforts in different contexts.

Chapter 1: Knowledge mobilization within and around firms: a strategic management view.

Summary: This chapter, divided into three distinct but related parts, introduces the topic of the dissertation and outlines the research themes and questions that guide it. The first part presents and examines the concepts of knowledge and organizational capabilities, and links them to the Resource Based View of the firm. In the second part, the theoretical context of the research is presented. In the third part, the general research questions are examined. These general hypotheses serve as a basis for the empirical study presented later.

Knowledge, Capabilities and the Resource Based View of the Firm.

The quest for the organizational determinants of competitive advantage has traditionally been one of the central research streams of the field of strategic management (Grant, 1996). In recent years, a growing body of literature -called the resource based view of the firm or RBV for its acronym- has stressed the importance of certain attributes of the firm in securing a strong and sustained competitive position in market environments. The resource-based approach (Barney, 1986, 1991; Penrose, 1959; Peteraf, 1993; Prahalad and Hamel, 1990; Wernerfelt, 1984) considers the company as a bundle of resources, capabilities, and competencies. As a foundation for its analysis of competitive behavior, the RBV posits that firms are endowed with bundles of heterogeneous resources, some of which may help the firm gain and sustain advantage over rival firms. More specifically, the fact that some resources are limited in supply, heterogeneously distributed in the industry, valuable, and difficult to imitate help firms secure strong competitive positions (Barney, 1991; 1995; 1996; Peteraf, 1993).

Since the publication of Wernerfelt's (1984) seminal paper which resuscitated some long forgotten, yet incisively insightful ideas enounced by Penrose (1959), the resource based view has been seen as a powerful theoretical perspective that allows researchers to understand the organizational determinants of competitive advantage. Of particular interest are the types and kinds of resources that allow the firm to gain and sustain competitive advantage. Firm resources are seen as the main determinants of performance, because they constrain firm behavior by setting limits to their ability to engage in competitive maneuvering. In other words, what the firm has limits what the firm can do;

some firms have attributes that allow them to do better things than other firms, and therefore enjoy better results. As Penrose (1959:32) stated, the "productive opportunity" is the possibility available to a firm to deploy its resources in a better, i.e., more productive, way. Managerial attention, and specifically the ability to distinguish, select and act upon these opportunities, were considered among the most important limits to firm growth.

The notion of firm resources as a fundamental dimension of competitive advantage is often used to explain why certain firms enjoy some kind of superiority over rival firms. The task is to link our dependent variable –the competitive advantage of the firm, usually measured by one or several economic indicators- to one or several independent variables, typically some attribute of the firm.

The concept of competitive advantage situates the firm with respect to its rivals: advantages are intrinsically relative. To make meaningful comparisons between the firm and other organizations, it is customary to use the notion of industry. At the most general level, an industry is defined as the group of firms that compete with products that are substitutes for one another (Porter, 1980; 1985; 1986). That ensemble of competing firms is generally seen as the relevant, immediate "environment" of the firm.

Which organizational characteristics lead to success in which environments has been a significant concern for management researchers since the beginning of management studies. Early arguments regarding the general applicability of bureaucracy (Albrow, 1970; Crozier, 1964; Crozier & Friedberg, 1977) gave way to contingency arguments (e.g., Donaldson, 1996) which have now been largely replaced with some idea of equifinality: there are many different configurations that would produce the same degree of success in any given environment (Clegg, 1990).

However, this does not mean that all organizational types work equally well in all environments; there is therefore a general expectation that significant environmental change will require significant organizational change if effectiveness is to be maintained, particularly when the environment of the firm is not stable. The firm with competitive advantage and its followers, in fact, co-evolve in an environment where success is the result of one's actions and the actions of rival firms (Lawless & Anderson, 1995). The

sustainability of the competitive advantage of the firm is a function of its own resources and actions, and of the resources and actions of other firms co-evolving in the same environment. When this longitudinal, co-evolutionary dimension is incorporated into theoretical models, it can be claimed that over time any competitive advantage based on the resources of the firm has the potential of being copied away by rival firms. This highlights two important aspects of resources in competitive environments: the value of the resources can be eroded by competitive moves of rival firms (Lawless & Anderson, 1995), and, as a consequence, at least one dimension of a sustainable competitive advantage involves the creation of new resources, in a highly uncertain environment where the value of these new resources cannot be estimated with accuracy beforehand, and where the competitive moves of rivals are unknown or uncertain (Lawless & Anderson, 1995).

As several researchers have noted, using only the stock of resources at any point in time to explain the advantage the firm has is problematic because it can reduce essentially longitudinal phenomena to cross-sectional approximations. Prahalad & Hamel (1990), for example, note that present competitive advantage depends on the attributes (i.e., price and performance) of current products, while future competitive advantage depends on new products yet to be developed. Since there is a lag between the moment the resources of the firm are obtained and put to use and the day the results are seen, it can be claimed that the competitive advantage of the firm at a given point in time is a function of the previous set of resources and the attributes of these resources.

In sum, competitive advantage is some valued difference of the outputs of a firm relative to the outputs of other firms, selling some product or service that are substitutes for one another. Since the consequence (the competitive advantage) depends on the resources of the firm and their use, and other firms actively compete, the advantage a firm enjoys depends largely on its ability to create new resources. In the next section, the links between the resources of a firm and its competitive advantage are discussed in detail.

Resources and sustained competitive advantage.

Why do certain organizations systematically outperform others? This question is among the most fundamental in the field of strategic management, and a central question

for the resource-based view, which argues that the answer should be found within the organization. Concerned as this view is with performance, or, specifically, with superior performance, researchers often attempt to explain why, under which circumstances and in which contexts firms obtain better results than their rivals. The resource-based view of the firm is no different in this respect: if firms have an advantage, it is to be found in their resources.

Of all the assumptions of the resource-based view of the firm, resource heterogeneity and difficult mobility are among the most important, because they provide an elegant way to link results to resources. The notion of resource heterogeneity holds that firms are endowed with bundles of heterogeneous resources, which makes firms different from one another. Difficult mobility, on the other hand, assumes resources, or at least some resources, are difficult to copy, imitate and/or trade (Barney, 1991:101). These assumptions have clear implications for competitive advantage: if the differences in endowments have economic value, organizations will outperform rivals, and when these differences are difficult to imitate and there exist no substitutes for them, advantage will be sustained. Changes in the environment alter the strategic value of resources that sustain the firm's strategy, increasing or decreasing their capacity to provide a competitive advantage (Geroski and Vlassopoulos, 1991). Thus, the sustainability of competitive advantage is a function of the rate of resource obsolescence in the environment, the availability of substitutes for that resource, its imitability (Godfrey & Hill, 1995:522), and its value in a given environment.

As Barney (1996) states, it is the intrinsic qualities of the resources that lead to sustainable advantages. While the notion of resources can be used generically to refer to all relevant elements of the firm, only some of these elements may lead to competitive advantages. What is of interest here is the qualities of the resources (i.e., their characteristics) rather than the resources themselves: it is more constructive to ask under which circumstances a resource may yield an advantage for the firm than simply to ask whether a resource has an advantage or not. Drawing on the work of Wernerfelt, Barney focuses on four qualities: the value of the resources, their rarity in a market context, the difficulty that other firms must face in imitating these resources and finally, the use the

organization makes of that resource (Barney, 1991; Peteraf, 1993; Wernerfelt, 1984). The first quality, value, deals with the economic relevance of the organizational resources. Firms are bundles of resources, but obviously not all resources have equal value. For organizational characteristics to have any economic relevance, they must have value, which Barney defines as the ability to reduce the cost of outputs, to increase its revenues, or both simultaneously (Barney, 1996).

In competitive industries, however, the value of the resources in terms of competitive advantage is a function of the number of rival firms that have access to the same resource or to similar ones. If other firms competing in the same industry can obtain valuable resources, then these resources cease to be the source of superior profits. The availability of resources to several firms within an industry does not necessarily diminish their value (for example, a shared resource may still allow the firm to lower its costs), but it reduces the ability of the firm to profit from it. To be an advantage to the firm, a valuable resource, must be also rare, that is, not available to the majority of competitors in the industry.

Rareness, however, does not preclude other organizations from copying a clever solution. While the notion of rareness does indeed describe the scarcity of the resource in a specific market at any point in time, it says little about how long it will take other firms to replicate that resource, or whether or not it is possible to find alternative resources with the same qualities. If competing firms in an industry can replicate a resource, that resource ceases to be a way to distinguish the firm from rivals. Resources that are difficult to imitate are those that cannot be easily replicated or substituted by other resources that, without being identical, produce similar results.

Finally, the last attribute rests on the ability of the firm to recognize the existence of a resource and to apply it. It implies that the resource will be translated into products or services, which will be marketed, so the firm can reap the economic benefits of its resource. In other words, the existence of a resource does not guarantee that the firm will put it to use. The firm must be organized in such a way that the resources are used, that is, translated into products and services that are marketed (Barney, 1991). The last dimension, therefore, is organizational. In later work, (Barney, 1996) explicitly suggested

that firm resources should be tested for value, rareness, imitability and the organization tested for its ability to use these resources. Of the four attributes mentioned, value and rareness provide the firm with a basis for competitive advantage by stating which of the firm resources create value, and which ones are not readily available in an industry. The sustainability of the advantages arising from these two attributes is a function of the barriers to imitation that resource may have, and the lack of substitutes to it (Barney, 1996; Dierickx & Cool, 1990; Markides & Williamson, 1994).

It is noteworthy that, while value and use are to a large degree under the control of firms, rareness and imitability are not, at least not directly. Firms choose the resources they want to develop and what attributes they wish them to have: a firm may decide to expand capacity to obtain economies of scale, and reduce production costs, and engage in activities that could lead to the creation of a valuable resource. Similarly, that firm may decide to use the potential economies of scale that are endogenous to their production system by choosing production volumes that produce these results. Rareness and imitability are a function of the reactions of other, competing firms, and while firms may try to sustain their competitive advantage by protecting valuable resources (Liebeskind, 1996), whether they succeed or not is also a function of the behavior of other firms, behavior that is not under the direct influence of the firm.

Thinking about imitation, or lack thereof, many researchers have tried to understand barriers to imitation, defined as the factors that prevent firms from copying other solutions. In particular, Lippman & Rumelt (1982) and Reed & DeFillippi (1990) have hypothesized that barriers to imitation stem from the "causal ambiguity" of the resource, or the inability to correctly attribute a competitive success to a series of antecedents. While firms may understand what resource is of interest, the unpacking of it may be too complex to be understood, much less copied. A firm may indeed produce at the lower cost, or have the best customer service, but understanding what firm processes actually lead to that result may prove too difficult to be copied efficiently. Ambiguous resources give rise to barriers to imitation, which render a competitive advantage more durable.

Three main sources of causal ambiguity have been identified Reed & DeFillippi, (1990:91): tacitness, complexity and firm specificity. Tacitness involves the inability of skilled performers to "codify the decisions rules and protocols that underlie performance." Competencies are ambiguous when they cannot be codified, which renders their transmission within the organization and between organizations difficult and uncertain. In the example given below, the resource is known, but it is too tacit to be aptly described, and only the output is known. Complexity emphasizes the interrelationships among the resources and the skills needed to put them to use. Resources do not act in isolation; conversely, they are bundled together and work together. When it is impossible to determine which resource of the bundle is crucial and which one is accessory, the causes of competitive advantage of the firm can only be evaluated at a very general level, preventing any meaningful replication.

The last source of causal ambiguity is specificity. The notion of specificity refers to investments made with the objective of supporting specific transactions (Williamson, 1975). Specific investments create dependency between parties involved in a transaction. This is so for pure financial reasons (i.e., the second best use of a specific assets tends to be much lower than its best use), but there are other important reasons as well. Not only are the parties tied by asset specificity, but, parties involved in transactions in which there exists a large degree of specificity develop a common language, better understandings and, finally, higher trust and goodwill. These factors lead to interdependent relations, too ambiguous to be easily understood or copied by rivals. Central to the idea of specificity is the notion of symbiosis between a firm and its customers, a symbiosis that is heightened by investments made with the specific purpose of supporting these transactions. The commitment of resources to specific relations increases a positive form of dependence between the transacting partners (Reed & DeFilippi, 1990):91.

We have seen that three sources of causal ambiguity are at play: tacitness, complexity and firm specificity. But how do they create ambiguity, or more specifically, what is their relation with causal ambiguity? Reed and his associate (Reed & DeFillippi, 1990) hypothesize the relationships between tacitness & ambiguity is linear, whereas the relationship between complexity and ambiguity is curvilinear, and that between specificity

and ambiguity is multifunctional. Crucial to these distinctions is the idea that there are many degrees of resource ambiguity, tacitness, complexity and specificity, and that the magnitude of each variable can change differently and can be modeled using a different mathematical function. Tacitness, for example, moves from low levels to high levels in a linear manner, as individuals acquire skills through stages. Complexity is related to tacitness, but this time in a curvilinear way. As skills and resource deployments increase in number, ambiguity increases, but in a much faster manner. In fact, while the former increases arithmetically, the former does so geometrically: adding new skills increases their potential connectivity (Reed & DeFillippi, 1990:93). Finally, specificity has a multifaceted nature, which leads the authors to conclude that its relation with ambiguity is multifunctional, contingent to the nature of the resources (Reed & DeFillippi, 1990:94). The total level of ambiguity is heightened by the interaction between these three effects. Ambiguity is, along with competitive intensity in the industry, the main source of barriers to imitation. High levels of ambiguity prevent competitors from understanding the causes of an organization's competitive advantage. While the durability of competitive advantage is not merely a function of the height of barriers to imitation created by the ambiguity of organizational processes, a significant dimension of sustained competitive advantage resides in the organization's ability to regularly create ambiguous capabilities and skills.

We have thus far identified a framework to analyze the resources of a firm, and showed which combination of attributes increases the probability of sustained advantages. In the next section, we will explore the notion of resources and distinguish between different types.

The notion of firm resources

We now know that understanding resources is important in understanding performance. But what is a resource, and what kinds of resources are there in a firm? The question is not merely rhetorical, but practical: if resources make a difference and if not all resources are equal, distinguishing among those that help firms secure an advantage is not a matter of semantics but of competitive advantage. We have seen how the resource-based view sees resources as the basic building blocks of the uniqueness of the firm and, as a

consequence, an explanation for variance in profitability. Resources make firms different; when they are bundled together in a unique ensemble, they encapsulate all significant attributes of the firm. (Barney, 1991; Wernerfelt, 1984). But what are they?

In the RBV's founding article, Wernerfelt (1984:172) defined resources in very general terms, as "anything which could be thought of as a strength or weakness of a given firm ... any tangible or intangible asset semi-permanently tied to the firm." In a similar vein, Barney (1991), inspired by Daft (1983) refers to "...all assets, capabilities, organization processes, firm attributes, information, knowledge, etc controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness." Similar definitions are given by Amit & Shoemaker (1993) and Peteraf (1993), among others.

Following the work of Becker (1964), Tomer (1987) and Williamson (1975), Barney (1991:101) identifies three categories of resources: physical capital resources, human capital resources and organizational capital resources. The first category refers to the physical assets of the firm, such as machinery, plant and geographic location. The second refers to the skills of the individuals that work for the firm. The third refers to the systems and structures, both formal and informal, designed by the organization for its everyday operation. These categories are necessarily interrelated: individual knowledge and skills are evaluated with regard to the systems and structures put in place by the organization, which in turn are designed and modified by the individuals that compose it, taking into account the physical resources of the firm and their knowledge. Individuals use their skills in a collective framework, and produce outputs thanks to the assets the organization controls.

As far as competitive advantage is concerned, the impact of each of these varies according to the degree of difficulty the organization faces in creating or trading them. It is generally believed that physical resources are the easiest to imitate and substitute (Nelson & Winter, 1982; Williamson, 1975), mainly because there appears to be a rather fluid market for them. As a result, physical resources are the ones that deliver the smallest amount of competitive advantage. Conversely, resources whose nature is complex are likely to be difficult to imitate, which could make them more profitable for the

organization. This is the case for organizational capital, which reflects the interactions of the individuals in the organization, the structures put in place and the way in which the activities in the organization occur. Between these two, human capital appears as a resource that, while not completely fluid to trade, nevertheless has a market where individuals and companies intersect. In sum, each of these categories has an impact on competitive advantage, closely linked to their rareness in a market and the difficulty of imitation.

A simpler distinction divides the notion of firm resources into two categories: the 'assets' or 'factors' of the firm (Barney, 1996; Dierickx & Cool, 1990; Grant, 1996) and the firm's abilities, i.e. the organizational abilities which the firm possesses to put these assets or factors to use (Hamel & Prahalad, 1994; Prahalad & Hamel, 1990). These abilities develop from the interactions among individual skills, and grow into organizational abilities that transcend those of the individuals that compose the organization. (Hamel & Prahalad, 1994) note that the creation of these organizational abilities is a non-trivial issue for managers.

Following Black & Boal (1994), we will use the term assets to refer to items that are owned or controlled by the firm. Assets may include the physical technologies of the firm, its plant and equipment, its geographic location, its financial assets and any other element, tangible or intangible, that is semi-permanently tied to the firm (Barney, 1991; Williamson, 1975). Excluded from the definition are the abilities, organizational or individual, to make use of these resources, to which we turn now.

From the RBV to the KBV: a critical examination

One of the main problems of the RBV is the vagueness and difficulty involved in operationalizing the notion of resources. The tenets of the RBV have been criticized for the broadness used to define the notion of resources, as well as for their possible tautology in explaining competitive advantage (Black & Boal, 1994; Porter, 1991). Porter (1991:108), in particular, insists on the circularity of the argument put forward by the RBV: firms are successful because they have some valuable resources, and these valuable resources should be nurtured for the firm to be successful. While the criticism is valid, the

argument itself is no weaker than an argument which claims that organizations are successful because they have found a position in an environment. In both cases, success is the result of organizational activities: it is what the organization does (in the latter case) or where it is (in the former) that explains performance. Other researchers, however, have indicated that a more fruitful avenue to explain organizational performance lies not merely in its resources, but in the processes that allow these resources to be created and sustained (Collis, 1994). It is what the organization know, not what it has that can explain superior performance. This is captured by Quinn and associates, when they claim that "in the postindustrial era, the success of a corporation lies more in its intellectual and system capabilities than in its physical assets. The capacity to manage human intellect – and to convert it into useful products and services - is fast becoming the critical executive skill of the age" Quinn, Anderson, & Finkelstein, (1998:182), see also Quinn, Anderson, & Finkelstein (1996).

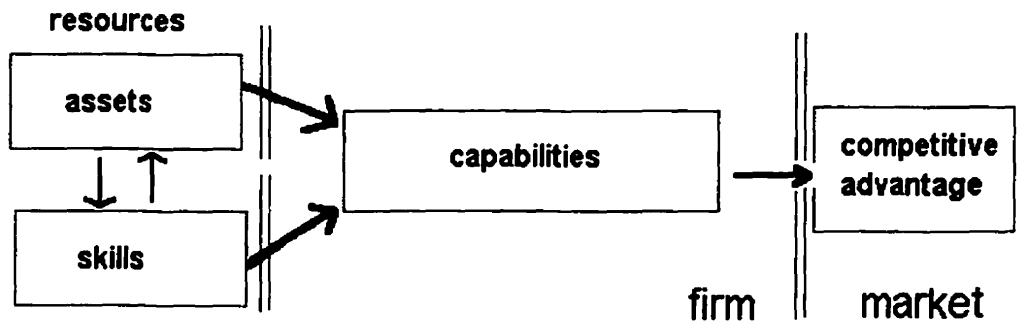
Emerging from some dissatisfaction with the RBV, the knowledge-based view (KBV) of the firm is essentially a continuation of the RBV. Its central element is the assumption that privately held knowledge is a basic source of advantage in competition (Conner & Prahalad, 1996). Among all the resources of the firm, it is knowledge that is more likely to provide a sustainable competitive advantage, mainly because knowledge tends to be more firm-specific than other kinds of resources. But what is organizational knowledge, and how does it influence action? This is the topic of our next section.

Summary

So far, we have examined the RVB of the firm, and have linked it to the notions of competitive advantage. Specifically, we have proposed that some attributes of the resources of the firms are more likely to lead to sustainable competitive advantage, since they are difficult to replicate by rival firms, thus extending the duration of the advantage. Then, we have divided the notion of resources into two categories: factors -tangible or intangible assets semi-permanently tied to the firm- and capabilities, the abilities to put these resources to good use. The relations between concepts are shown in

Figure 1.

Figure 1: Resources, Capabilities and Competitive advantage



The notion of knowledge in organizations

The notion of organizational knowledge has recently appeared as a useful explanation for the competitive advantage of firms, as well as a normative theory for managers. Consistent with the view that the firm is a repository of knowledge (Conner, 1991; Conner & Prahalad, 1996) and a social actor that creates value through the manipulation and transformation of knowledge (Miles, Miles, Perrone, & Edvinsson, 1998), the concept of knowledge has been applied to different domains: to international joint ventures, where gaining knowledge can be one of the motivations for the alliance (Hamel, 1991; Inkpen & Beamish, 1997); to acquisitions, where the presence of knowledge increases the economic performance of acquisitions when these are homogeneous (Singh & Zollo, 1998); and to innovative practices within the firm (Nonaka, 1991; 1994), among many others. The common thread in this work is the effort to find the presence of some enabling element ("knowledge") that allows the firm to distinguish itself from other firms by its actions. In short, it is what firms know, not what they have, that makes them vigorous, and it is knowledge they should create, nurture and market in an increasingly competitive economy. Elsewhere in this chapter, we discuss the links between the notion of knowledge and that of competitive advantage; here, we focus on the question of what knowledge is, and how it can be studied.

The concept of knowledge is vast, and its limits difficult to define, but this has not prevented considerable interest from philosophers and researchers alike. For example, Sir Francis Bacon created a taxonomy of knowledge composed of three constitutive elements:

memory, reasoning and intuition. He classified books into one category or another according to their content. Classifying knowledge seemed to be a worthy task, for it is difficult to imagine human endeavor without making explicit reference to the knowledge that these people possess. Human beings, individually and collectively, possess a great deal of knowledge, some of which is easily accessible and used according to need. When I buy an electronic device, a bread machine for example, the instructions that come with it allow me to make bread without having to learn by trial and error, or having to invent the bread machine anew: I am benefiting from previous knowledge, codified in an intelligible way (the manual) and embedded in an object (the machine). The tedious steps to be taken to produce a loaf of bread with my new machine are one type of knowledge possessed by the collectivity and acquired by me with my new apparatus. Another form of knowledge, different from the first, but still necessary for my loaf of bread, is the multiple combination of thoughts and objects that allowed the bread maker manufacturer to design, manufacture and market the machine I just bought.

Extrapolating from my bread machine, I can claim that organizations are able to produce items because they integrate knowledge, which is to say they can effectively coordinate pieces of knowledge that would remain separate otherwise. The idea of organizations integrating heterogeneous, unconnected activities is not new (Galbraith, 1973; 1974; 1977; Lawrence & Lorsch, 1967), but recent writings tend to focus their attention on the integration of dispersed pieces of knowledge, rather than on the integration of activities between "individuals, functional groups and organizations." (Lawrence & Lorsch, 1967). Integrating pieces in this way, organizations can be considered "systems of knowledge", a notion we will explore later in the chapter.

The two examples presented above show a kind of knowledge readily accessible to whomever needs to use it. It is relatively easy for me to buy the bread machine, and a little more difficult, though not very, for me to learn to use it. It was perhaps more difficult to make the machine, or the first bread machine, but the difficulty was still manageable, as

the machine itself proves.[2] But knowledge may not exist, or may not be readily accessible when it does exist, or may exist somewhere but be difficult to transfer. Several authors suggest that some knowledge, individual or collective, remains inaccessible most of the time, surfacing only under very specific circumstances and after a great deal of work from the individual and the organization wishing to use it (Nonaka, 1994; Polanyi, 1967). Freud, for example, strongly suggested that individuals had the ability to access the root of their troubles, but only if they succeeded in breaking through the resistance that prevented them from plunging into the depths of their subconscious, where the memories of these childhood traumas resided. The generic causes of the problems and the mechanics of healing were well understood by the analyst and probably by the patient also, but accessing the knowledge needed to heal was difficult. Similarly, but concentrating on an area closer to strategic management, Freeman (1999) shows that US car manufacturers had over a number of years engaged into subtle but deep denial mechanisms in order to ignore the penetration of capable competitors in their own market, even though they knew that these competitors were seriously eroding the advantage of the incumbent companies by selling products better adapted to the market and, furthermore, cheaper and of better quality. Their myopia was made possible by conscious and unconscious blocking of the useful knowledge that experts, media and their own employees had created, blocking that continued until it was virtually impossible to carry the denial any further. Then, once the barriers had been removed, the organizations were able to react adequately to the inroads made by their Japanese competitors. In both these cases, knowledge is latent, by which we mean that only laborious analysis (personal and organizational) could bring it back to a level where it could serve a useful purpose.

But however hidden or readily available knowledge may be, it has emerged as a central element in the current discourse on organizations, as we will see in the next section.

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2 Although here I am judging by the machine itself, which is a successful performance. It is obviously impossible to evaluate from the bread machine how many ideas (i.e. a doughnut machine, or a hot chocolate machine,...) did not get implemented because the technical or commercial problems they created were intractable.

Organizations as systems of organized knowledge

As has been implied by the previous examples, organizational knowledge and the knowledge of individuals in organizations are at the heart of their functioning. Knowledge surrounds us, and it would be extremely difficult for any of us to spend a single day without using some of our knowledge, or perhaps more precisely, some of the consequences of knowledge that are embodied in the things we use every day. The objects that furnish our lives are embodiments of knowledge; they represent successful attempts to transform ideas into useful devices.

A cursory look around us reveals how knowledge moves from the abstraction of the idea an individual may have to the concreteness of the object realized by a sophisticated network of organizations. A tape recorder, a magazine, a telephone, and all the other objects we use on a daily basis are consequences of knowledge, in the sense that they would have not been possible without the long trail of ideas that lead to them. To a large degree, they embody the knowledge that was needed to create them. From the early stages of the idea, when some individual decides that it might be possible or even desirable to create something that does not yet exist (as in the example cited by Mintzberg, 1979b, where a person decided that it would be ideal to have a photo that would develop itself in a short period of time), to the end result (in Mintzberg's example, a Polaroid camera), a multitude of transformations must occur before enough knowledge will be available to create the object, and until an organization will be able to integrate it into a product that consumers can purchase.

Knowledge creation can be broadly defined as the activity that allows organizations to produce a form of knowledge that did not exist at a previous point in time, and to embody this knowledge in material objects. This concept is at the center of all evolutionary views in the social sciences. Evolutionary views posit that individuals and organizations slide along a more or less predetermined path, following its multiple stages and transforming themselves as they jump from one stage to the next. (Miller, 1987; Miller & Friesen, 1980; Mintzberg, 1979b; 1989; Tushman & Anderson, 1986). Thus, as the social actor evolves from one stage to the next, its characteristics change as well:

organizations are not the same when they are young and entrepreneurial than when they have become large, diversified and bureaucratic (Mintzberg, 1979). Although different internal and external explanations can be used to trigger the need for change, it is uncontroversial to claim that change requires new knowledge, as the organization prepares to do things it never did previously. Thus, creation of knowledge is what enables the evolutionary process to emerge and to continue.

Increasing or refining one's knowledge base is a laborious, effortful activity, involving many uncertain steps until the right results are obtained, and solutions are found. As previously hinted, the processes of knowledge creation are made more difficult by the fact that a significant amount of the knowledge needed to make, say, a telephone, is not individual but collective. Although it is an individual who first had the idea to create a telephone, it was the collective effort of a large group of people that led to the telecommunication networks we use today. That an apparently individual activity or skill can only emerge in a social, collective context is an belief long held by sociologists, who have traditionally considered that most of the results of individual activity are in fact social in nature. Individuals have ideas, but it is society that makes them happen. (Lyles & Salk, 1996; Nonaka & Takeuchi, 1995)

Becker (1982), for example, believes that the successful work of art of a single artist is in fact the result of the interaction of so many individuals contributing to the final result – as well as the public who acclaims it or dooms the artist to oblivion - that the attribution to a particular individual could be considered a "historical chance". Naturally, more collective endeavors such as scientific discoveries can also be attributed to "the practice of cooperative and team work" (Fleck 1979:78, cited in Douglas, 1986:17), which in fact consists of the multiple interactions in a scientific domain that multiply the capabilities of individuals. Fleck, for example, specifically stated that cognition was not an individual process but a collective endeavor. "Cognition is (...) the result of a social activity, since the existing stock of knowledge exceeds the range available to any one individual" (Fleck, 1979:38). Both Becker and Fleck were referring to activities that were unique in nature and not destined to be repeated – a particular painting or the discovery of a disease. However, their thinking can be extended to incorporate collaborative actions

that are patterned in nature, as we will see when we discuss the notion of organizational capabilities. For now, we can wonder what the consequences of that perspective are. First, it is possible to say that the effort needed to mobilize the knowledge that is required to obtain a desired result should be interpreted in the social context from which it emerged, since it was possible only within that context. The context of an individual activity is what enables a particular combination of knowledge to emerge, since it combines existing knowledge with efforts to create new knowledge and resources to do so. In other words, the context creates problems, and organizations then mobilize knowledge to solve them. The essence of the argument is the following: objects, as well as activities and procedures, are solutions to specific problems, and contain within themselves the many layers of knowledge that made them possible: knowledge is developed and mobilized in social situations (Berger & Luckmann, 1966). Knowledge is contextual and cumulative, but the pace of accumulation and the social value attached to it are severely constrained by the social forces that enabled its creation. Knowledge is thus essentially a social product, a daughter of its time, constructed by the multiple interactions among individuals and the objects they use in their everyday life.[3]

However interesting a study of the broader social context from which knowledge emerges, and the reasons why certain knowledge appears in certain contexts and not in others (the "archeology of knowledge"; see Foucault, 1969), the objective of this thesis is narrower and more manageable. Of particular interest here is knowledge in its organizational context and the relation the organization has to its body of knowledge, the objects (or services) it produces, and the procedures and other mechanisms used to produce them. To study these processes we shall use insights from the actor-network theory (Law, 1992), and claim that the emergence and functioning of an organization can be seen as the creation of a system of knowledge, in which individual thoughts and activities are combined with objects to produce the desired results that are the purpose of the organization. These processes can best be understood as the result of a successful collective effort, a concept that is akin to that of collective action (Olson, 1965). In Laudon and Starbucks' (1996) words

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3 For a detailed argument on the social nature of knowledge, see (Latour & Woolgar, 1979).

one should not, however, assume that knowledge resides only in people. Besides the knowledge held by individual people, one can find knowledge in (a) capital such as plant, equipment or financial instruments; (b) firms' routines and cultures; and (c) professional cultures.

This quotation captures the crux of the argument: although individuals hold knowledge, a considerable amount of knowledge is embedded in the objects they use in their everyday life, and in the procedures they follow. But these are not the only types of knowledge: the capacity to link these elements together to achieve a common goal is also a form of knowledge, different from the knowledge of individuals and the embedded knowledge but equally necessary to the objective of the organization. We will later claim that we can assimilate the results of that capacity to a collective action whose genesis requires explanation, as much as the creation of any other public good. Collective actions and collective goods are never self-evident; on the contrary, they are processes that require considerable attention and effort from the social group that tries to create them.

Knowledge and the firm

Do firms know? The question is puzzling: how can a non-living entity, created by legal fiction, think or know, activities usually reserved for entities that possess self-consciousness? Does a dishwasher know how to wash dishes? Does a social class know what its interests are? While organizations are composed of people, they obviously do not have minds that are capable of thinking, at least not in an anthropomorphic sense. They do not think; they do not feel; they are not even "theys": just "its".[4] Yet organizations, and particularly institutions, are more than mere tools designed to accomplish specific tasks: they go well "beyond the technical requirements of the task", they may be "infused with value" (see in particular Selznick, 1957), which is to say that they have, collectively, attributes that cannot be assigned to the individuals who are their members. Furthermore, organizations as social actors are capable of achieving tasks that individuals alone cannot, and, given the right circumstances, they do so more efficiently than markets (Ghoshal & Moran, 1996; Nahapiet & Ghoshal, 1998).

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4 However obvious it may seem, this statement has generated a great deal of controversy. Some authors believe that "organizations are mental entities capable of thought" Sandelands & Stablein (1987:136), cited in Walsh & Ungson (1991).

Organizations exist, but do they "know" something that their members do not? Diverse and contradictory positions have been taken to analyze the "knowledge" of social actors. One extreme argument is put forward by those who, like Simon, believe that organizations as social actors are incapable of knowledge by themselves; the knowledge of the organization is in their view essentially the knowledge of the individuals that compose it (Simon 1991; see also Grant, 1996). Consequently, all learning or acquisition of new knowledge can only be achieved by individuals in acts of creativity, or by the organization, when it incorporates new members:

> "all (organizational) learning takes place in only two ways: a) by the learning of its members, or b) by ingesting new members who have knowledge the organization didn't previously have." (Simon, 1991):176.

Organizational knowledge, according to Simon, depends upon the knowledge of its members and their ability to acquire new knowledge: a learning organization is nothing but a collection of individuals capable of learning and a fluid labor market, where new individuals are incorporated when the need arises. They learn as much - or as little - as their members do, but nothing else.

An opposing view, however, posits that knowledge is a distinct attribute of the organization as a social actor, distinguishable from the knowledge of the individuals (Ghoshal and Moran 1996; Nahaphiet and Ghoshal 1998; Nelson and Winter, 1982; Selznick, 1957). Authors who take this perspective claim that social actors do indeed know, and that their knowledge can be a source of inspiration for their rational actions. Marx, for example, believed there was such thing as a "class conscience" which enabled workers to understand the roots of their oppression and, as a consequence, to help revolutionary parties create the circumstances that would put an end to regimes contrary to their class interest. Noteworthy is the notion that the social actor is not only capable of knowledge, but also of quite sophisticated calculations that could inspire its acts, a revolution for example. Social actors, in this case an underprivileged class, had knowledge and the ability to understand their inalienable interest and make rational choices. Of course, one does not have to espouse radical action to claim that a group of individuals has the ability to understand certain phenomena collectively. Closer to organization theory than to political philosophy, Nelson and Winter (1982) claim that

> "the possession of technical 'knowledge' is an attribute of the firm as a whole, as an organized entity, and is not reducible to what any single individual knows, or even to any simple aggregation of the various competencies and capabilities of all the various individuals, equipment and installations of the firm."(Nelson and Winter 1982:63, cited in Nahapiet & Ghoshal, 1998:246).

The debate between these two theoretical positions is well captured by Nahapiet and Ghoshal (1998), who discuss how a social phenomenon can be distinguished from the aggregation of individual phenomena. This traditional problem in sociology begs an explanation of what the determinants of a social fact are; one of the basic *règles de la methode sociologique* is that this explanation should be based on other social facts (Durkheim, 1897). We are thus trying to explain the attributes of the organization that cannot be reduced to its basic components, or, more precisely, that cannot be understood using the approaches and methodologies that are adequate for that level of analysis: social phenomena can only be understood with methods adequate to their level of analysis.

On one hand, according to Simon's (1991) view, we have learning and knowledge as an attribute of individuals. If, according to Nahaphiet & Ghoshal's (1998) position, we wish to study the attributes of the social actor that are different from the aggregation of the individual elements that compose it, we are left with a difficult choice: either we must assume that it is possible to explain a system by the sum of its parts, an indefensible choice according to the tenets of the general systems theory, or we must conclude that the social actor has no characteristic of its own that justifies a detailed analysis, a position which violates the foundations of the sociology of organizations and much of contemporary organizational theory. We are left with the choice between an atomized view which focuses on the parts, and another which claims that organizations have distinctive attributes that can be analyzed on their own merits. Simon (1991:176) warns us: "we must be careful about reifying the organization and talking about it as 'knowing' something or 'learning' something", but what would happen if we considered the organization itself as the integration at a higher level of dispersed knowledge, the positive differential between organizational states as learning, and the negative differential as forgetting? Simon (1991:177) provides the answer: "we need an organizational theory because some phenomena are more conveniently described in terms of organizations and parts of organizations than in terms of the individual human beings who inhabit those parts." Accordingly, despite his previous claim, we need an organizational theory of knowledge,

distinct from the individual theories and able to explain and predict the emergence of a system of knowledge.

Although reconciling these contradictory, ontologically opposed views is probably impossible, it is possible to adopt a third approach that allows for the existence of knowledge at the firm level, distinct from that of the individuals that compose it, without anthropomorphizing the firm or presuming that it is capable of thinking. We explore this approach in the following sections, asking ourselves what is meant by knowledge when we refer to a social actor.

To answer the question of knowledge in organizations, we will reverse the order of the terms. Instead of wondering whether a social actor can know, we will begin by examining what a social actor can do that none of its members could accomplish in isolation, or, more specifically, without integration of their activities. We wonder: how does a car company manufacture a car while few if any of its employees knows exactly all the steps needed to manufacture one? The intuitive answer is simple: even if individuals do not know something, the organization may. Division of labor, a characteristic of modern organizations, divides a complex task into several parts, each of which is the responsibility of a group of individuals. If someone masters a task that has been assigned to him, this does not imply that he will understand the whole series of tasks performed in the organization; however, this does not prevent the organization from achieving its complex task by integrating all the activities done by individuals like him. If the organization does, then it must know.

Knowledge in organizations can be considered a collective phenomenon, as organizations are purposive social actors, created to obtain what individuals in isolation cannot achieve (see, for example, Barnard, 1938; Miles, Miles, Perrone, & Edvinsson, 1998). Barnard's work, in particular, indicates the foundation of any activity in an organizational setting: some results can only be obtained when people work together, collaborating to achieve a common goal. Although it is possible to focus on the incentives the organization must provide so that its members participate in its collective activities, we can also note that it is precisely the integration of their activities that leads to concrete results (Lawrence & Lorsch, 1967). Integration, the mechanism linking disjointed tasks, is

an activity as important as the individual skills, for it is integration that makes a collective action possible. As Grant argues, "the primary role of the firm, and the essence of organizational capability is the *integration of knowledge*" (Grant 1996:375, emphasis in original). Organizational results are achieved through cooperation and coordination of activities within the organization.[5] Noteworthy here is the fact that coordination and cooperation are attributes of the social actor and not of the individuals; thus, the attributes of organizations are distinct from those possessed by their members, and consequently, they achieve results that are qualitatively different. But if activities are integrated with one another, can they be considered a system? If the organization is a system of activities, and we have seen that each activity is the consequence of the accumulation of parcels of knowledge, can we see the organization as a system of knowledge? This perspective is well captured by Von Krogh and Roos (1994):54, who suggest that organizations can be seen as knowledge systems, composed of streams of knowledge that are organized thanks to coordination and cooperation mechanisms. Organizations achieve what individuals cannot because they are able to integrate dispersed knowledge thanks to the coordination and cooperation mechanisms they have created. In short, firms exist because they can integrate and coordinate specialized knowledge held by individuals in a more efficient way than markets, and can transform that individual knowledge into collective, organizational knowledge (Grant, 1996:112). If this view is adequate, can we wonder how and under which circumstances a system of knowledge emerges, and what collective efforts are needed to create it?

Organizational knowledge as collective action

We have argued so far that in an organizational context knowledge, and more particularly mobilization of knowledge, is essentially a process of collective action in which individuals contribute to the creation of a collective good (Douglas, 1986). The literature on collective action is copious, but it generally focuses on the reasons that people collaborate in the creation of a public good, the reasons they may have not to contribute,

5 Although one can easily include all the relationships that the organization has, including those with customers, suppliers, partners and competitors.

and the mechanisms and incentives available to whomever desires to organize a latent group so it produces a collective good, rather than remaining latent (Olson, 1965; for an excellent summary, see Reynaud, 1989). As Boudon and Bourricaud (1982) claim: "two questions summarize the interest of the theory of collective action: under what circumstances a latent group initiates an action that promotes the collective interest of the group? By which processes and under what conditions a latent group can turn itself into a semi-organized group, or into an organized group?"

Here, parting from that tradition, we consider that in most organizations the individuals who are their members have accepted the collective objective as theirs, if not totally, at least enough to make collaboration among them possible, within the system of rewards (material and moral) that the organization has to offer. Identity of the members with the collective goal may be partial, but it is in most cases sufficient to allow the organization to take the steps needed to achieve the common objective. Our question is fundamentally different from Olson's: rather than asking why individuals collaborate when it may make more sense to free-ride, we ask why the expected - and desired - results of collective action are difficult to achieve, even when there is enough agreement among individuals to contribute to the collective task and pool their efforts in their attempt to obtain a common objective. But we will take this reasoning a step further, as we look for the antecedents of collective action: why is it that certain organizational forms and/or certain organizing mechanisms are better able to mobilize knowledge, while others fail? Since we claim that collective results are only possible when diverse parcels of knowledge are integrated in a system, we will study the processes by which individuals and organizations come to a satisfactory collective performance.

Towards a working definition of knowledge.

What is organizational knowledge? Our definition of knowledge must take into account the elements presented above: first, the idea of a shared purpose that can only be achieved through collective action; second, the creation of common goods, and finally, the notion of system that integrates dispersed knowledge through coordination and cooperation. Within these boundaries, here we will define organizational knowledge as the mechanism that enables a social actor to integrate activities and thoughts into a

purposeful collective action. That collective action can take the form of an organizational performance, such as the final product or service the organization markets, but lower-level activities are also included in the definition used in this thesis. Conceptualizing knowledge in such a way allows us to capture the collective nature of knowledge in organizations and the elements that compose it; furthermore, we are equipped to study the mechanisms that allow the organization to make the transition from the individual and his idea to the final integration into a product or service. We can trace these evolutionary processes, and study the barriers that block these transitions. More specifically, it is now possible to study the process by which organizations embed knowledge in objects and procedures, beyond the brains of individuals, and the processes used to increase the complexity the organization is able to handle, from the early stages when the organization is only capable of handling relatively simple tasks to a later stage when it is capable of sophisticated performances involving unscripted collective actions.

According to our understanding of knowledge, we will study it by its consequences, as it materializes in practices that are the results of collective action. In addition, we will explore the narratives used by individuals and by the organization to describe the collective actions and the knowledge that enabled them, and analyze the mechanisms that made them possible and those that, despite a common objective, did not achieve the stated objectives. In sum, our study of knowledge in organizations comprises a study of the mechanisms that foster or hinder the appearance of a collective action, and the consequences of that collective action, the capabilities of the organization.

Systems of knowledge and collective action: antecedents

Studying knowledge mobilization as a collective action is infrequent, but defining knowledge by its consequences is implicit in many recent pieces dealing with knowledge and with learning. Kim (1993:43), for example, defines organizational learning as "increasing an organization's capacity to take action," and states that various theories of organizational learning have been based on theories of individual learning. Similarly, Liebeskind (1996:94) states that knowledge establishes a relationship between inputs or circumstances and outputs: "what we know we can use repeatedly without further experimentation of proof." On a similar note, Maturana & Varela (1987:174), posit that

"we admit knowledge whenever we observe an adequate behavior in a given context, i.e., in a (...) domain we define by a question" (cited in von Krogh, Roos & Slocum 1994:62). While we do not wish to use the notion of adequateness to define knowledge, as being ignorant of something and knowing something that is inadequate are not necessarily the same thing, we can still emphasize the practical consequences of knowing and its intrinsic link to doing. Firms do when they know, and they learn as they try to do new things. This definition will enable us to operationalize the concept of knowledge without looking for an organizational mind: organizations have, at the very least, knowledge about what they do, and whenever these performances are repetitive, we can assume that they form part of its knowledge base.

Capabilities as purposeful performances.

Organizations, as purposeful entities, are social actors that have been created to realize some specific goal with the help of a collectivity of individuals that work together to obtain it; and we have attributed the results of organizational activities to collective efforts that go beyond what individuals could have accomplished in isolation. The results of organizational activities are always social: products or services are the result of collective activities, reducible to their basic components but meaningless without aggregation. But what are these basic components, and how do they impact on the performance of the organization? Why do Hayes et al. claim that organizations should be considered as "bundles of capabilities" rather than "bundles of products and services"? (Hayes, Pisano, & Upton, 1996, see also Wernerfelt, 1984). Here we introduce the notion of organizational capability.

The abilities of firms to do specific things repeatedly – provide a product, perform a service - have generated a great deal of interest, probably because these abilities have been shown to be far-reaching in the sense that they have multiple uses and myriad applications. Prahalad, for example, claims that firms can "stretch" these capabilities to obtain increases in quality and productivity that allow them to outperform rivals that seem to have more resources (Anonymous, 1993; Prahalad, 1993; Prahalad & Hamel, 1990). These remarkable results, however, do not come without effort: applying these abilities is not a trivial matter (Adler, 1989; Nelson & Winter, 1982; Prahalad, 1993).

At the most general level, the abilities of the firm have been labeled capabilities and competencies. Both concepts have been used interchangeably in the literature, often with overlapping but somehow dissimilar definitions. Organizational capabilities are generally understood as a bundle of skills and knowledge developed by the firm, bundles that allow it to take advantage of whatever resources are available at any given moment. Capabilities are "tangible or intangible assets that are firm-specific and are created over time through complex interactions among the firm's resources. (...) Capabilities are based on developing, carrying and exchanging information through the firm's human capital" (Amit & Shoemaker, 1993). Collis gives a similar definition: firm capabilities are the "socially complex routines that determine the efficiency with which firms physically transform inputs into outputs" (Collis 1994:145). It is worth noting that in both cases what is of interest is the efficiency of the routines –which assumes the organization has the ability to perform the activity in question. How and whether the organization was able to produce that particular result is not the focal point of that stream of research.

On a similar note, competencies are considered to be complex interactions and processes at the firm level, but only when these processes provide some direct strategic advantage to the firm. Competencies are the "strategically relevant behavioral and social phenomena inside a firm," (Barney & Zajac, 1994) -such as the resource-specific skills and know-how developed by the organization (Henderson & Cockburn, 1995), provided that these present some kind of strategic importance for the firm. Others focus on the distinctiveness that capabilities bring to the firm, in particular when that difference brings an advantage in a competitive context. Leonard-Barton define capabilities as "the knowledge set that distinguishes [the firm] and provides [it] with competitive advantage" Leonard-Barton (1992:113). More precisely, a core competence is "a set of differentiated skills, complementary assets and routines that provide the basis for the firm's competitive capacities and sustainable advantage in a particular business." (Teece, Pisano, & Shuen, 1990:28).

The crux of the divergence between the notions of capabilities and competencies lies in the relation between these notions and that of organizational competitive advantage. While the nature of capabilities makes them rare and difficult to imitate but not necessarily

valuable, competencies are in general perceived as valuable by definition. The disagreement, however, is more the result of a difference of perspectives than the result of theoretical inconsistency: both are thought to be the result of organizational activities that combine the three types of capital mentioned above: organizational, human, and physical (Barney, 1996; Becker, 1964; Williamson, 1975). In fact, organizational capabilities are perceived to be the application of knowledge to solve some specific problem; this is done by using the assets of the organization and the skills of the individual, and by organizing work in some non-random manner, all within the context of cooperation provided by the organization. This view is gaining acceptance in the literature, as exemplified by Singh and Zollo, who in their study of performance of corporate acquisitions, define capability as "the outcome of a process of tacit accumulation and explicit articulation and codification of knowledge derived from past (sic) experience" (Singh & Zollo, 1998:16). More specifically, we will define organizational capabilities as the mechanisms that allow firms to perform tasks repeatedly, and we will consider them as specific manifestations of organizational knowledge; they are manifested through the collective action needed to create them. Thus, we can define the notion of organization capabilities as the integration of tacit and explicit knowledge enabling organizations to perform complex tasks regularly. Capabilities can thus be considered the application of the knowledge of the firm. It is with this meaning that we use this term in our work.

Organizational capabilities are collective abilities to achieve specific tasks repeatedly. This definition explicitly focuses on the actions of the firm, and does not address the reasons that firms are able to perform these tasks, a problem we will address in a later part of this work. Firms may be able to perform certain activities for a variety of reasons, but a useful starting point is to analyze applied knowledge of the firm, assuming firms do only what they know how to do. This reasoning implies that any latent knowledge the firm may have (i.e., knowledge the firm may possess but does not apply to any specific task) is vacuous at best, since it is precisely by the laborious integration of dispersed knowledge that a collective action arises, and yet-to-be-applied knowledge, as it remains in the realm of possibilities, cannot count as a collective performance. In his anecdotal account of the creation of the computer mouse and the graphic user interface, of which the well-known Windows program is an example, Barney tells us that Xerox had

developed in its Palo Alto research center prototypes of both technologies (Barney, 1996). Although we can certainly consider that prototype as an example of a lower-level, functional collective action, and particularly the result of actions of the R&D department of that company, it fails to pass the test of the total collective action: Xerox was never able to produce and market these technologies. We can use this anecdote as an illustration of the evolution of an idea from its early stages to the prototype; however, the organization fails the test of integrating that piece of functional knowledge within the objective of the total organization, a very common event according to recent research on product innovation (Dougherty, 1992, 1993; Dougherty & Heller, 1994). That integration, however, is at the center of a theory of organizational knowledge, for it is the result of the functioning of the whole organization, not just a function that contributes to the health of the organization in a competitive environment. In other words, it is the mechanisms that allow knowledge to be mobilized and integrated in a system of knowledge that we must explain, not the origin of ideas in individual minds, nor even the abilities of a part of the organization in isolation. Following this line of thought, our perspective emphasizes the generative nature of organizational knowledge (e.g., the evolutionary mechanisms of differentiation, integration and coordination that are needed to achieve certain tasks) at the expense of a psychological perspective which would emphasize the reasons that individuals are able to have novel ideas and be innovative.

Conclusions

This chapter presents the theoretical framework that helped inspire this thesis. The notion of resources is explored, and the concept of knowledge is distinguished from traditional views of resources, which tend to emphasize assets over the abilities to put these assets to use. We then explore the relation between knowledge and sustainable competitive advantage, concluding that knowledge is ambiguous enough to provide sustainable advantage, provided that that it points to something desired by the market. The layered nature of the concept of knowledge is emphasized, and the notion of capabilities is explored. The organizational, functional and individual dimensions of capabilities are presented. We conclude by presenting our conceptual definitions, and the premises that inspired our work.

Having defined organizational knowledge, we now turn to our literature review. In the next chapter, we present the results of that search. The central questions were: what types or categories of organizational knowledge can be identified? How can they be categorized? In what manner does knowledge circulate within an organization and between organizations?

Chapter 2: Categories of knowledge: an integrative typology

Summary: In this chapter, we create a taxonomy of knowledge from an extensive literature review. Three categories (creation of knowledge, application and transfer) are developed and presented in detail, and each one is then linked to its referent in the literature. This categorization serves as a basis for the empirical section of the thesis.

Dimensions of Organizational Knowledge.

Despite its importance to the RBV, the dynamic aspect of organizational knowledge remains theoretically underdeveloped (Hedlund, 1994; Nonaka, 1994), particularly the mechanisms used by firms to acquire it, in spite of some recent theoretical and empirical efforts. As Kim (1993) puts it, "the theory of organizational learning is still in its embryonic stage" (for a similar comment see also Huber, 1991). Little is known about how organizations create new knowledge and how the processes that allow new knowledge to appear can be managed (Nonaka 1994), nor about the way in which collaborative settings can exacerbate these processes. Mintzberg et al, quoting early work of Elfring and Volberda, claim that four questions remain unanswered regarding firm-specific resources: firstly, how do organizations develop firm-specific capabilities; secondly, how organizations can develop new capabilities which are complementary or substitutional to existing ones; thirdly, what the determinants of successful development routes are; and, finally, and how one can determine or measure the collective capabilities of the firm. (Elfring & Volberda, 1998; Mintzberg, Ahlstrand, & Lampel, 1998: 280)

Nevertheless, we know that organizations can and do learn from their own experience, and from the experience of other organizations with which they associate (Huber, 1991; Lane & Lubatkin, 1998; Levitt & March, 1988), that this knowledge is kept in memory using diverse storage mechanisms (Olivera 1999), and that organizational knowledge can be purposefully transferred from one organization to another, given certain conditions (Darr et al 1995), even if this is not always straightforward. (Szulanski, 1996, 1995)

The attention given in the literature to organizational learning has obscured the fact that organizations "know" how to do things (Kogut & Zander 1992). Recently, however, a

body of literature has been developed on organizational knowledge, and on the mechanisms used by organizations to create, mobilize and take advantage of it. A first step towards understanding knowledge in organizations is to explore the consequences of having such knowledge (i.e., the products and services sold by the organization), and the basic mechanisms used to apply that knowledge to such products and services. This is the objective of this chapter, which is divided in three sections.

In our first section we observe that a quite remarkable feature of most organizational behavior is its patterned nature: organizations strongly seek regularity over improvisation, although the innovation the latter breeds is sometimes welcome. Accordingly, we develop the notion of organizational knowledge as (a) pattern(s) of action, and use these patterns as the basis for a categorization of knowledge, which we later transform into a taxonomy. Then, we proceed to explore each category of knowledge manipulation in detail. Finally, in our conclusion, we integrate these categories within a model of knowledge manipulation.

Knowledge applied: patterns of action in organizations.

It has been observed repeatedly that organizations are designed to perform regular activities on a non-random basis. In so doing, organizations tend to stabilize within desired ranges the outputs they produce, reducing undesired variety, one of the most important causes of inefficiency. Using a contingency argument, Mintzberg (1979) convincingly suggests that an effective organization is one whose structural and strategic elements fit with the fundamental task assigned to the organization, a task that clearly shapes its domain of activity and the methods it will use to attain its objectives. That task, however, is not independent of the environment: organizations are "designed" to perform specific ways, and the goodness of fit with the environment largely determines their success. Internally, that fit requires that all the activities performed by the organization be adjusted amongst themselves to produce the results.

The visible face of the fit between the organization and the environment appears on two distinct levels. On one hand, the products and services marketed act as a nexus between the organization and its environment: whenever customers prefer a product to its

alternatives, and the price they pay for that product is superior to its cost, organizations thrive. Organizations are successful when their customers buy their products. Internally, however, it is what the organization does that matters: the sum of behaviors in the organization will (or will not) fit with the requisites of the environment, materialized in the form of customer preference. A first step to observe that fit or the lack thereof deals with the behaviors in the organization. Thus, one can assess the organization by its numerous activities (the "standard operating procedures" March & Simon, 1958; the "routines" Nelson and Winter, 1982, or "activities" Porter, 1991:102) the organization must perform to produce the outputs required by its customers, and evaluate whether or not they are adequate to produce what the environment prefers.

From this perspective, it is the consequence of firm behavior that is rewarded or punished by the market, although what is meaningful for managers is the causes and not the consequences, at least not directly. In the words of Porter (1991:102), "A firm is a collection of discrete, but interrelated economic activities (...) The basic unit of competitive advantage is the discrete activity." Following this conversation, some have claimed that patterned organizational activities represent the basic components of organizational behavior. Discrete routinized activities, in isolation or integrated into indivisible ensembles, are the components of organizational effectiveness and the basic elements that constitute the essence of the organization. These "patterns of interactions that represent successful solutions to particular problems" (Teece et al 1990:20) are in fact a "crystallization" of knowledge, or, in other words, knowledge translated into action. (Nelson & Winter, 1982). Repetition of activities, and in particular repetition of behaviors that constitute adequate solutions to specific problems, seems to be at the heart of the organization. When a car maker builds yet another car or when a Business School graduates an MBA, they produce an output which is only possible thanks to the repetition, in a concerted manner, of a large number of diverse activities, such as registering the students or painting the doors of each car.

What are these routines, and more importantly, how have they been created? The answer is crucial to a theory of knowledge, since the creation of new resources and the adaptation of these resources to the requirements of the environment are fundamental

managerial tasks in competitive environments. While many approaches have been taken to analyze the resources of the organization, it is common to describe these routines, standard operating procedures or activities as "crystallizations" of knowledge (Nelson & Winter 1982), or, put differently, prior knowledge that has been translated into action.[6] Although insufficient for a comprehensive theory of knowledge mobilization, the "visible face of knowledge" provides a useful starting point to examine what the organization does, and how that knowledge was created. Routines, thus, act as applications of knowledge, and as such we shall study them.

Routines and the grammar of knowledge.

The notion of routines is commonly associated with stable activities with a low level of complexity and integration. In a vivid example cited by Ritzer (1993), an employee of a fast-food chain is instructed in great detail how to flip thirty-six hamburgers placed on a hot surface, six by six, until the grill is full with six rows of six patties each. The steps to be taken to obtain the desired result – thirty-six hamburgers cooked exactly the same way - represent the details of a routine needed to provide the service the fast food chain markets to its clients. That routine - flipping burgers - is one dimension of all the processes needed to cook and serve the burger, along with the other products sold at the same time.

Do routines need to be that elementary? Parting with the tradition of considering routines as simple activities, we claim is quite possible to expand this theoretical avenue to incorporate complex activities, as long as they are decomposable into basic components, reproducible and performed recurrently in the organization. We use the notion of organizational capabilities (Prahalad & Hamel, 1990) as a tool to observe what the organization is capable of doing at given point in time. We claimed previously that capabilities can be understood as applications of knowledge to solve specific problems.

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6 Crystallization of knowledge need not imply conscious thinking. The fact that an organization has transformed a piece of knowledge into a routine does not necessarily mean that someone has at some point in time designed that activity to match the knowledge available to him/her; rather, as we will see later, the idea of crystallization allows for learning, experimenting and accumulation of knowledge in an emergent (unplanned) manner.

Having reviewed the literature on routines, we can add to that definition the elements that had been omitted: capabilities are applications of knowledge to discrete routines to solve specific problems repeatedly; they are created by collective effort and are as a consequence the results of the successful collective action that was needed to create them. Capabilities are complex applications of knowledge; it is with that meaning that we will use the term here.

Studying routines and capabilities, however, presents an incomplete picture of organizations in action, as only their integration in a harmonious way can provide a satisfactory result: it is not only the quality of the activity itself, or the sum of all the activities, that determines performance, but the integration of these activities into a cohesive system that is at the heart of the effective organization. A fast-food experience is more than the mere integration of uncoordinated activities. On the contrary, these activities need to be scripted in a very precise manner: burgers and fries must be cooked in specific ways, and someone has to serve them when they are hot or discard them if unsold. Someone else must remove the dirty plates, and empty the garbage bins, and yet another person will have to remove them from the restaurant. The linkages among these activities are an integral part of what the organization can achieve: without integration only poor, unconnected results can be expected. Thus, when referring to the organization, effective or otherwise, we are implicitly discussing its routines and the connection between them, and describing the emergence of a system of routines that represent to a large extent what the organization is capable of at a given point in time. It is then possible to map all of the organization's routines independently of one another, and later integrate them into coherent wholes; in the end the organization will be defined as a system of routines that are deployed in different situations. The next section will be devoted to the exploration of the links between routines, and the knowledge needed to make them emerge when they do not exist.

Although the literature on systems of routines is not abundant, some authors have paid considerable attention to the mechanisms used to integrate routines, to create adequate routines in a certain context, and to create meta-rules that allow the person performing the routine to evaluate its correctness in a given context. Pentland and Rueter (1992), for

example, argue that routines can be integrated into elaborate sets of rules that can be assimilated to grammars. Whereas routines are the activities themselves, grammars are integrated sets of rules that allow a knowledgeable user to determine the correctness of a routine. A grammar of action, just like a grammar in a natural language, creates the possibility to evaluate which actions (or sentences) are correct or incorrect, by providing a standard that is common to all members of the community. Grammars differ from standard rules by not indicating exactly what type of activities are to be performed and how (e.g., "a customer must be served in less than 3 minutes from the moment s/he arrives at his/her table", a highly codified routine that accepts no alternative and circumscribes behavior narrowly), but by defining boundaries that allow the actor performing the activity to evaluate its correctness. Just as a native speaker of any natural language can evaluate the appropriateness of an utterance using adequate criteria (e.g., "Am I being understood?" "Is this proper English?"), a grammar of action allows the actor to evaluate whether the action performed is adequate or not (e.g., "Is the customer being treated with courtesy?" "Is the service fast enough?").

Of particular relevance here is the possibility of evaluating an action using a grammar. Although grammars are not coercive devices (incorrect sentences are uttered regularly), they provide us with a tool to evaluate the performance of an individual in a given situation. This evaluation is not based on the person's memory or even on his or her experience, but on the existence of rules that have been incorporated to a large degree during the period in which the individual learned the grammar (Ducrot & Todorov, 1972). For a natural language, the learning period is the first few years of life, where the child learns to speak his or her mother tongue after months of experimentation; it is not clear when the grammar of action is incorporated in the case of organizations (but one can hypothesize that the process of learning begins when the individual joins the organization and not before), nor is it clear how grammars are created in organizations.

We do know, however, that grammars open up myriad possibilities for the individuals who possess them. As Chomsky (1968) puts it, "once we have dominated language, we are able to understand an indefinite number of sentences we have never heard before. These sentences do not look like and are not exactly analogous to the ones that

constitute our linguistic experience; in addition, we are able to produce, with different degrees of ease, new sentences in the appropriate occasions in spite of their novelty, and those who share that mysterious capacity are able to understand us (...) We must understand that the creation of sentences that are new and adequate constitute the normal way one uses language."

So far, we have explored the notion of routines as the basic application of knowledge into action. These routines can be studied in isolation (as is the case in the example of the individual flipping hamburgers in a fast-food restaurant), or in sets within a context (when we study not just all the routines within the fast food restaurant, but the result of the integration of these abilities into a collective performance, in this case the capability of the restaurant to serve a certain kind of food in a relatively short time, at a reasonable cost). The notion of organizational capabilities is a useful conceptual device that allows us to explore the way in which routines are fused together in a coherent ensemble that is the solution to a particular problem.

Having defined the knowledge of an organization as the mechanisms that enable that organization to integrate activities and thoughts into a purposeful collective action, we now need to study what these mechanisms are, and how they create the routines, the capabilities and the grammars of action that enable the organization to move from total ignorance to full competence in its domain. In addition, defining routines and capabilities as patterns of actions can help us to understand what the organization has learned and what it has discarded. To the cross-sectional inventory of routines and capabilities we can add the observation of their evolution over a period of time. Repeated observations of the same organization can indicate what kinds of practices have been added, which ones have been removed, and allow us to retrace the origin of each one, to end up with a longitudinal account of knowledge creation around the organization.

Categories of knowledge in the literature.

After having situated the general theoretical background for this dissertation, we turn to the specific aspects of knowledge contained within and around organizations. In the remainder of this chapter, we develop a taxonomy of knowledge manipulation based on

an extensive literature review. The taxonomy was developed by selecting all articles published in the leading North American journals of the field[7] since 1990, containing the keywords "knowledge", "learning", "skills", "capabilities" or "innovation," or any articles which discuss aspects of knowledge mobilization. Other articles that seemed relevant were included in the analysis, but no article meeting the above criteria was excluded. In total, close to 50 articles were read and classified. The ideas found in these articles were then synthesized and associated into categories. Finally, these categories were aggregated into comprehensive meta-categories that were simultaneously encompassing and exclusive. These categories are presented below, along with a discussion of their relevance for the study of knowledge.

Overview.

The typology of knowledge manipulation we present here emerges from our literature review. By knowledge manipulation we mean the procedures and mechanisms utilized by organizations to employ knowledge as one of their competitive resources. This definition is inspired by the RBV (as previously discussed), and as such is much more specific than traditional definitions of knowledge. However, it allows us to focus on the managerial and organizational activities deployed to obtain and use knowledge (e.g. creating a new service, entering a new market in a foreign country), as opposed to simply creating stocks of knowledge (e.g., basic research and development). It is the use of knowledge, and the barriers to that use, that are of interest here.

The three parsimonious meta-categories we present below (creation, application, and circulation) allow us to draw an accurate picture of the recent study of knowledge in the strategic management/organization theory literature. As mentioned above, the common link among all of these categories is the manipulation of knowledge by the firm; knowledge is described as a valuable resource, and the need for its preservation and development systematically emphasized. A graphical representation of the three categories of knowledge and their sub-categories is presented below on

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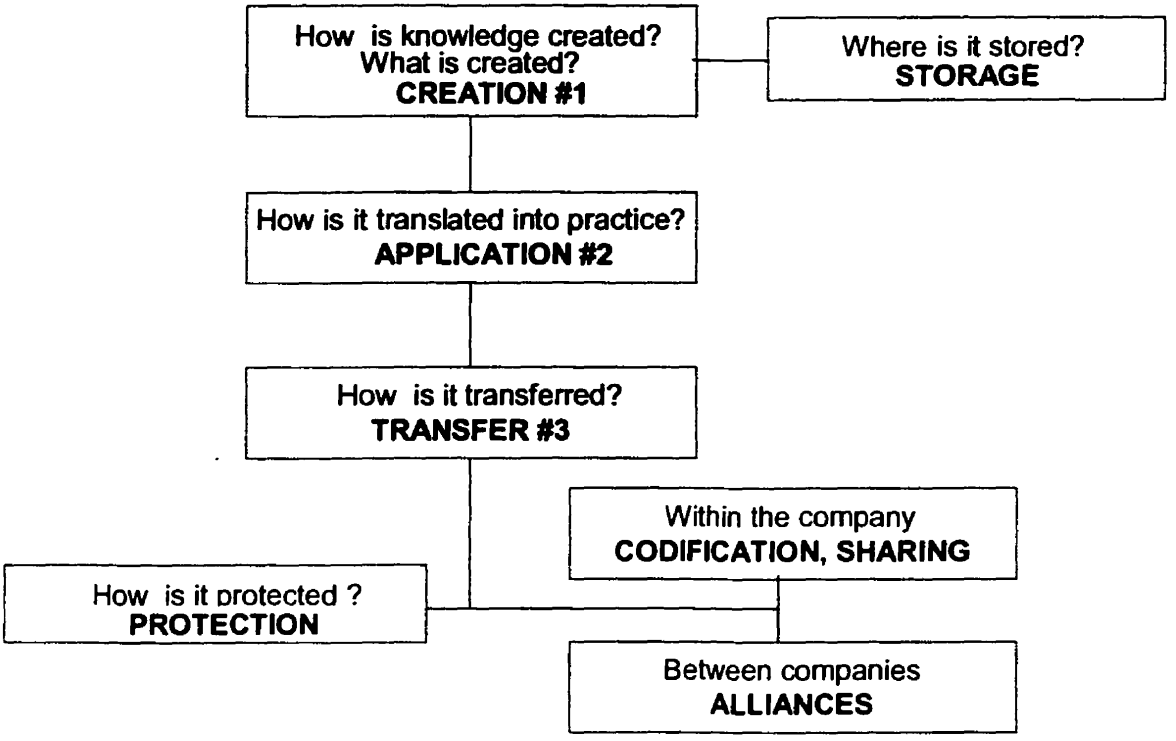
7 Academy of Management Journal, Academy of Management Review, Administrative Sciences Quarterly, Harvard Business Review, Management Science, Organization Science and Strategic Management Journal.

Figure 2.

The first category, creation, involves all the firm activities related to the creation of new knowledge, including the mechanisms used by firms to store and retrieve it. The second category deals with knowledge mobilization; specifically, with the transfer of knowledge to social actors other than the one that created the knowledge. But transfer of knowledge may not always be desired: firms also engage in activities whose objective is to protect knowledge from "leakage." Thus we can see that there are two possible situations, those where circulation of knowledge between companies or within the companies is a desired result (transfer), and those where the firm engages in activities that prevent the leakage of knowledge (protection). Transfer of knowledge is explored in two ways: by showing what mechanisms are used to codify knowledge and to share it, and by showing what structural mechanisms are put in place to facilitate the circulation of knowledge between social actors. The structural arrangements between firms are explicitly discussed below.

Finally, the third category, called application of knowledge, deals with the activities in which the firm engages in order to translate knowledge into practice. This involves specific mechanisms that will apply the knowledge to routines and tasks, as we will see below.

Figure 2: Categories of Knowledge Manipulation



Category one: creation of knowledge.

The first category deals with the creation of firm knowledge. Typically, knowledge is said to have been created when there are meaningful differences at two periods. An organization is said to have created knowledge when it is able to do something at a given time that it was unable to do previously. While it is not strictly necessary to "do" something to reveal the acquisition of knowledge (a declaration could suffice), it is customary to study creation of knowledge by examining the differences in what the organization is capable of doing; learning is shown by positive differences (the organization does something desirable that it was unable to do before) and unlearning by negative differences. Comparatively, studies of unlearning are much rarer than learning studies.

Often, however, knowledge and learning are conceptualized as endogenous elements of organizational processes (Dorroh, Gulledge & Womer, 1994), in which both are revealed by their consequences but need not be explained; learning simply takes place

as a function of repetition of a task. This idea is exemplified by the learning curve concept: as firms increase cumulative output, they reduce their unit cost. Whatever the origins of that reduction may be, organizations are said to have learned. Since these differences can only occur over time, learning between two periods is studied by the consequences of organizational actions. (a good example of such a study is presented by Argote and Epple, 1990, see also Darr & Epple 1995) Typically, although not necessarily, that difference is studied in terms of what the organization is capable of doing: this is the essence of Kogut and Zander's statement:

> it is not transaction costs, but the social knowledge embedded in the competence of individuals and the organizing principles of work that explains what firms are on the basis on what they know how to do. (Kogut & Zander 1996:502).

Creation of knowledge can be seen as the creation of new organizational capabilities. Learning, from this perspective, is simply acquisition of new knowledge, either created within the organization or obtained from external sources. This definition, however, helps us limit the positive connotations usually attributed to learning: while learning is generally perceived as being a useful and positive experience[8], a desirable experience indeed. Our definition, however, limits the positive connotation usually attached to the acquisition of new knowledge: whereas organizations can develop valuable capabilities (those duly remunerated in a market), they can also learn to do the wrong thing, thus acquiring and developing capabilities that dissipate value rather than generating it. The virtues of knowledge (mainly its economic value) are not natural by-products of the learning process; rather, they are external to it. "Good" knowledge, just like "good" learning, is context-dependent.

It is accepted that learning is essential to a firm, particularly in competitive environments. However, the antecedents of learning (that is, the processes that enable organizational knowledge to be acquired) are unclear. A first approach proposes that knowledge is created from qualities the social actor already possesses. Cohen and Levinthal (1990) claim that the ability to detect new ideas, apply them and translate them

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[8] A remarkable exception can be found in Levinthal & March (1993). For a discussion of "learning through failure", see the work of Sitkin, (1992).

into products and services is partly a function of prior knowledge, without which it is difficult to even detect what is to be created. From this point of view, organizational learning consists of developing and refining the existing knowledge base: new ideas will be built upon it. A rather similar view was shared by Louis Pasteur, who is credited with the famous quotation "luck favors the prepared mind." Pasteur believed that a lucky discovery, in his case the some of the most fundamental scientific findings of the XIXth century, were only possible because he understood the biological processes he was studying. Alexander Fleming, for example, noticed that mold had grown on an unwashed culture plate while he was on holiday. But it was his deep knowledge about staphylococci that allowed him to understand the importance of his discovery; without that base, fungus on a dish is a green inconvenience and nothing else. Kuhn (1970) follows that avenue as well. In his famous study of scientific revolutions, he claims that knowledge creation is a process of posing and solving puzzles, thereby elaborating and refining the vocabulary, instruments and theories that embody the perspective taken to solve the problem. (Kuhn, 1970)

> The individual does not think in isolation and is not an autonomous origin of knowledge. A community of knowing is a language game where neither the language nor the language within comes from the actor alone...

The social constructionists share a similar view. Berger and Luckmann (1967) claim that new social knowledge is created within the context of a shared pool of knowledge, a set of previously constructed understandings. This pool of knowledge is so powerful that individuals within a society are constrained by it, to the extent that the knowledge they share will constitute the basis for their view of the world and will be used to understand what is "normal" and what is not. Historians sympathetic to this view claim that the Incas, for example, a quite remarkable society in many respects, was decimated by the Spaniards not by lack of courage or sheer military superiority, but simply because an apocalypse was expected by them; what happened (the arrival of the Conquistadors, the war, the destruction and submission) was meant to be, and was, as such, a predictable and hence acceptable event.

This perspective, however, can easily fall into an infinite regress: how is a social actor to learn for the first time? If all new knowledge is just expansion of preexisting

knowledge, creation ***ex nihilo*** (from nothing) is virtually impossible. Open systems, however, can initiate processes of knowledge creation not only from within, but also by hiring new members who possess certain knowledge of interest to the firm. New members can bring new knowledge. The antecedents of new organizational knowledge, and organizational capabilities in particular, can be linked to the abilities and experiences of the individuals that compose the community of knowledge within the organization. Communities of knowledge integrate the perspectives of a group of individuals interested in solving a common problem. Their common perspective (their view of the world) influences what they can collectively achieve: lack of common language leads to incomprehension and paralysis; new ideas fail to be understood and are consequently discarded as absurd or extravagant.

In his study of knowledge creation in business firms, Nonaka (1994) argues that creation of new knowledge is intrinsically linked to ideas generated by individuals. However, successful translation of these ideas from the individual to the organization (the "community of knowledge," that provides the context for its creation and dissemination) is crucial if organizations are to renew their knowledge base. This renewal is essentially a circulation of ideas, from individuals to other individuals, from individuals to the collectivity and vice-versa, and from the organization to its members. This "spiral of knowledge" serves as a basis for knowledge creation and, simultaneously, to the self-renewal of the organization (Nonaka, 1991; 1994). According to his view, the process of organizational knowledge creation depends chiefly upon the experience and background of the individual, and on his/her "knowledge of experience." Individuals are the only ones who can generate new knowledge, but the "communities of interaction" found within the firm amplify that knowledge and make it collective. When that knowledge reaches the organization (that is, when it escapes the individual and becomes collective), a new ability has been created, and the organization itself is said to "know" something (Nonaka, 1994). Defining knowledge as "justified true belief," a definition quite similar to Liebeskind's (1996) "knowledge is information whose validity has been established through tests of proof", Nonaka claims that knowledge is created when ideas that reside within the individual are shared within a community. Tacit knowledge, the realm of the individual, gives birth to explicit knowledge, which in turn allows the firm to create new tacit

knowledge in each of its members, a cycle that helps organizations and individuals alike expand their knowledge.

The connections between individual and organizational knowledge are crucial, in the same way as linkages between individual creativity and organizational responsiveness are essential for organizational performance. The importance of this link is highlighted by (Glynn, 1996), when she focuses on intelligence, individual and organizational, as an important drive of organizational innovation. After reviewing several theoretical streams that situate intelligence alternatively in abstracto or contextually, the author defines individual intelligence as

> a person's capability to process, interpret, encode, manipulate, and access information so as to acquire, retain and apply knowledge quickly and successfully to meet external challenges or solve problems in a particular domain or context. It involves both task-relevant domain intelligence (i.e. declarative knowledge) as well as flexible rules (i.e. procedural knowledge) for acquiring information and combining existing declarative knowledge to develop new knowledge".(Glynn, 1996):1087.

Similarly, organizational intelligence is defined as

> an organization's capability to process, interpret, encode, manipulate, and access information in a purposeful, goal-directed manner, so it can increase its adaptive potential in the environment in which it operates" (Glynn, 1996):1088.

These two levels of intelligence must be connected if the organization is to use the ideas of its constituents. Three mechanisms relate these two kinds of intelligence: aggregation effects, whereby individual members' intelligence accumulates to become organizational intelligence; cross-level effects, whereby individuals' intelligence is transformed and codified as organizational intelligence; and distributed effects, whereby organizational intelligence is embedded in the structured patterns of thought and action in which organizational members interact and engage. (Glynn, 1996: 1089).

Similarly, but much more specifically, Grant (1996) explores the " coordination mechanisms through which firms integrate the specialist knowledge of their members." The integration to which he refers closely resembles the notions of capabilities, which were defined generically as abilities to achieve desired results. Using the distinction proposed by Nonaka (1994), Grant (1996) argues that "knowing how" is equivalent to tacit knowledge, a kind of knowledge that can only be revealed through application.

Conversely, knowing about facts and the consequences of these facts can be considered explicit knowledge.[9]

These forms of knowledge (knowing-how and knowing-that) need not be intrinsically related to abilities to perform specific tasks; firms may develop second-degree abilities. Grant argues that organizations and individuals develop a capacity for aggregation, which can be understood as the ability to add new knowledge to a pool of knowledge already existing in the firm. Knowledge absorption (both at the individual and at the organizational level) depends upon the recipient's ability to add new knowledge to existing knowledge, which is facilitated by a specialization of labor. Given the limits to knowledge acquisition, storage, and processing of knowledge, specialization facilitates the dynamics of knowledge for the organization. The author, in agreement with Nonaka (1994), states that knowledge creation is an individual activity. In that context, the role of firms is to apply existing knowledge to the production of goods and services, which requires two kinds of activities specific to firms: coordination and cooperation. These activities are needed because of the difficulty of transferring tacit knowledge and the inefficiency of knowledge transfer as a mechanism to integrate knowledge at the firm level. (Grant, 1996)

Translating knowledge from the individual to the social actor is an important task for the organization. Kim, for example, argues that the "crucial issue (for organizational learning) is how individual learning is transferred to the organization" (Kim, 1993:37). Similarly, Inkpen and associate convincingly suggests that the notion of individual learning has to be embedded within the notion of group learning, and this embedded within organizational learning (Inkpen & Crossan, 1995). According to these authors, failure to integrate these distinct but complementary perspectives into a multilevel approach has been one of the major weaknesses of current theories of organizational learning. (Inkpen & Crossan, 1995:597). Some empirical studies, however, do explore the embedded nature of learning. Liang (1992) addresses that issue by studying how expert systems are created

[9] This is a standard distinction in cognitive psychology, which studies the differences between procedural and declarative memory, also implicit versus explicit. See e.g. (Cohen & Squire, 1980)

from the knowledge base of individuals. Expert systems are designed to support, and sometimes replace, human experts in various business applications. The process of creating a sound knowledge base for the expert system encounters the difficulty of converting knowledge from tacit to explicit. This is so because "human experts have difficulty in articulating their knowledge accurately" (Liang, 1992; similar arguments are made by Nonaka, 1991, 1994).

To overcome this problem, Liang (1992) proposes a mechanism to translate tacit knowledge into explicit knowledge. The process involves the collection of data, with the objective of identifying key decision attributes in decisions previously taken by the individual. This activity, performed with the help of the human experts, serves to build a knowledge base, which will be then used as an introduction program to construct a set of rules for decision-making.

As we have seen, individual knowledge and its translation to the organizational level is an important dimension of knowledge creation. However, once knowledge has become organizational, other mechanisms must be used to store that knowledge and to put it into practice. Are organizations capable of knowledge; if so, what are the important dimensions of knowledge, and how does the organization manage its knowledge? A sociological perspective, complementary to the ones presented above, is taken by Kogut and Zander (1996). These authors are interested in the firm as a social actor that represents a collectivity capable of "social knowledge of coordination and learning". The boundaries of the firm permit us to situate physically a set of rules of coordination and learning processes, and to create a collective sense of identity that facilitates the creation of collective knowledge. The authors argue that a firm should be understood as a social community specializing in the speed and efficiency in the creation and transfer of knowledge; this process is intrinsically more efficient than other forms of coordination such as market transactions (Kogut & Zander, 1996). In essence, "firms are normative communities that embody shared identities" (Kogut & Zander, 1996). Firms can and do create knowledge; they excel at coordinating dispersed bits of knowledge, integrating them at a higher level (the organization rather than the individual), and mobilizing it.

Describing what knowledge is, and how it is created in a firm, does not address the issue of observing it. Knowledge is often studied by examining its consequences, which are simply what the organization is able to do. Organizational intelligence (Glynn, 1996), for example, is studied by its concrete applications, be they products, services, processes or any other organizational activity with a concrete result. The idea behind this reasoning is simply that, while an organization may not be able to apply some of the knowledge it possesses, everything it does is the result of the application of knowledge. For purposeful social actors (see Barnard 1938), knowing may or may not be followed by doing, but doing is necessarily preceded by knowing. Following that logic, Woodman et al propose to understand organizational creativity as "the creation of valuable, useful new products, services, ideas, procedures or processes by individuals working together in a complex social system" (Woodman, Sawyer, & Griffin, 1993:293). The authors develop an interactionist model of organizational creativity, whose components are individual, group and organizational creativity. Each of these components is, in turn, a function of different elements specific to each level of analysis and the degree of creativity of the previous level of analysis. Individual creativity is a function of antecedent conditions, cognitive style, personality, knowledge, intrinsic motivation, social influences, and context influences. Group creativity is a function of individual creativity, contextual influences, and group composition, characteristics and processes. Finally, organizational creativity is a function of group creativity and contextual influences, including those that are environments. (Woodman, Sawyer, & Griffin, 1993). In short, creative outcomes are related to the creativity of the organization, which in turn depends upon group creativity and individual creativity within these groups (Woodman, Sawyer, & Griffin, 1993).

Creativity, innovation, and their consequences, new organizational capabilities, are seen as indicators of the presence of intellectual capital. This sort of capital (the organizational equivalent of human capital) is defined by Nahapiet and associates (!998:245) as the knowledge and knowing capability of a social actor, such as an organization, an intellectual community or a professional practice. Intellectual capital "thus represents a valuable resource and a capability for action based in knowledge and knowing." In their article on the advantage of organizations over markets, Nahapiet and Ghoshal (1998:242) address three issues.

(1) Social capital facilitates the creation of new intellectual capital; (2) organizations are conducive to the development of high levels of social capital; and (3) within certain limits, firms have an advantage over markets in creating and sharing intellectual capital, because of their more dense social capital.

Together, these arguments serve as a basis for a theory of knowledge in a social context and within social relations. Social capital, it is argued, is "the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit" (Nahapiet & Ghoshal, 1998:243), and has three different dimensions or "clusters": structural, relational, and cognitive. The creation of intellectual capital depends on two processes, combination and exchange (Nahapiet & Ghoshal, 1998:248). These processes are related with the three dimensions of social capital. The creation of new intellectual capital through combination and exchange depends on four factors: access to parties for combining and exchanging intellectual capital, anticipation of value through this combination and exchange, the motivation to participate in this combination and exchange, and the capacity to combine that intellectual capital. These factors are in turn dependent on the structural, cognitive and relational dimensions of the social capital of the firm. Knowledge, thus, is dependent to a large degree on the relational properties of the firm and of its members, and is conditioned by the nature of its network of relations and the quality of the ties.

In a similar vein, Dougherty (1992) develops a model for organizational renewal through product innovation. Product innovation is considered a central organizational activity in competitive markets, principally when it allows organizations to satisfy consumers' demands more precisely, hence increasing the probability of obtaining competitive advantage. The practice of developing commercially viable new products comprises the creative linkage of market and technological possibilities into a comprehensive package of attributes, which is proposed to customers in a market. Customers' desires and needs trigger search processes within the organization, forcing it to modify its current arrangements and find new ways to satisfy these desires, requests and demands. In that sense, Dougherty observes new knowledge from the perspective of the new product and the innovations necessary to create them.

Thus, Dougherty (1992) sees knowledge as the configuration of product attributes that can provide value to customers, while simultaneously providing value to the firm. In

this context, firms develop knowledge about markets (what customers need and are ready to buy) and about technology, which relates to the abilities of the firm to satisfy that need. The content and process of market-technology knowledge creation involves four steps. The first is visceralization, which is the "gut feeling" that members of the organization have about one particular market-technology combination, even if it is not fully developed. The second is feasibility, which involves the ability to move the concept from the realm of the abstract to the concreteness of a product. The third is fit with the firm, which requires embedding the product within the firm. Finally, the fourth is the emergence of trends within the firm. Creating new knowledge, in Dougherty's view, is an internal process triggered by an external demand that unleashes a search for a solution. But novel solutions are seldom found ready-made. Instead, organizations pass through a process where the abstract idea, supported only by "gut feeling" of its members (an individual activity) is translated into organizational activities, and finally, into a product or service that will be presented to the customers. Thus, developing new knowledge is a process that can be started by individuals or small groups within the organization, after someone in the organization sensed a need. While Dougherty does not address the issue specifically, her examples and her account of "product innovators" and small "multifunctional teams" as the ones that "gather visceral knowledge" allow us to understand how an outside need is detected by the organization. The sequence of need, followed by sensing, followed by "visceralization," followed by solution, describes how organizations create knowledge, understood as the ability to produce what their customers want

Storage of knowledge.

As soon as we accept that organizations are able to know something, one can ask about the storage of that knowledge. Where do organizations keep their knowledge? How do they access it? Organizations are believed to be able to store knowledge in their memory systems (Olivera 1999), and to be able to retrieve that knowledge when needed and apply it to new business situations: their ability to do so is believed to have a significant and positive impact on performance. (Kogut & Zander, 1992; Yates, 1990). In addition, storing new knowledge and accessing existing knowledge are key components of organizational learning. (Duncan & Weiss 1979; Huber 1991; Levitt & March 1988;

Simon 1991). Similarly, multiunit organizations can benefit from collecting, storing and making accessible knowledge that is dispersed across their units (Goodman & Darr, 1996), as knowledge that has been acquired at one unit can potentially be useful to other units (Szulanzki, 1996). However, taking advantage of knowledge that is dispersed is problematic for several reasons. First, organizations need to somehow collect information about the existence and location of this knowledge. Second, they need to create mechanisms for storing and making knowledge accessible to their members. Finally, individuals in the organization need to be willing and able to locate and use this knowledge. (for a more detailed discussion, see Olivera 1999)

Building on the work of Cyert and March (1963) and their behavioral theory of the firm, Nelson and Winter (1982) claimed in their now-famous book that organizational routines were the crystallization of knowledge, and that knowledge could be observed through them. The notion of routines is derived from the traditional concept of standard operating procedures, but routines have less normative standing and are not as explicit (and probably not as intentional) as SOPs. (see Allison 1971; Cyert and March 1993; March and Simon 1958, among others). SOPs are normal ways to achieve results and to deal with situations, but the reality of the organization may or may not correspond to them. A more refined (but not intrinsically different) definition of routine is given by Cohen and Bacdayan (1994): "patterned sequences of learned behavior involving multiple actors who are linked by relations of communication and or/of authority."

From the SOPs / routines view of knowledge, storage of knowledge cannot be dissociated from the basic activities of the firm. Knowledge is embodied either in procedures clearly spelled out by the organization (this work is supposed to be done in this manner), or patterned ways of performing a given task which may or may not be explicit, but which nevertheless have a clear existence. In either case, organizations probably do not possess mechanisms to store knowledge, other than the very elementary ones (manuals, description of routines, procedural memory, etc). This view is extended by Cohen and Bacdayan (1994:554), when they claim that organizational routines are stored as procedural memory, which is "memory for how things are done that is relatively automatic and inarticulate, ... encompassing cognitive as well as motor activities". While this

definition applies to the procedural memory of the individual, they argue that organizational memory behaves in a similar way. The memory of the organization is what it does, or what can be done effortlessly, even if the meaning of the action is lost. Storage is not difficult, and retrieval trivial. Walsh & Ungson (1991:61) provide a similar definition: "memory refers to stored information about a decision stimulus and response that, when retrieved, comes to bear on present decisions". However, when they focus on the degree of effort required to retrieve the piece of information stored by the organization, they conclude that it can vary from automatic (effortless) to controlled (effortful).

Other authors, however, claim that knowledge storage and retrieval are effortful activities that must be separated from everyday organizational tasks. Their argument revolves around the hypothesis that storage of knowledge comprises understanding of higher level activities, rather than merely repetition of what has been done before. In her empirical study of how dynamic capabilities enable firms to create new products and processes to respond to changing market conditions, (Helfat, 1997) links the accumulation of knowledge (stock) via R&D to preexisting know-how within the firm. Preexisting know-how derived from technologically related R&D and operations acts as a resource for the accumulation of new knowledge. In the context of her empirical research, the author explains how the memory (previous accumulation of knowledge) of each firm led the companies in the study to produce synthetic fuels after a series of increases in oil prices. This was possible because the firms had invested in R&D, "accumulation of assets" and "accumulation of technical expertise," and because they had systems that allowed them to store that knowledge and to retrieve it in a situation of environmental change. The firm's previously accumulated pool of knowledge not only acts as a platform for the creation of new knowledge, it also serves as a storage mechanism from which elements can be retrieved, recombined and amplified with new pieces of knowledge to achieve that which has not previously been achieved.

The idea that previous intensity in R&D influences the speed and the ability of firms to generate new knowledge can be traced back to Cohen and Levinthal's (1990) influential paper. In their work, the authors claim that the ability (capability) of a firm to recognize the value of new, external information, assimilate it, and apply it to commercial

ends is critical to its innovative capabilities. That ability, however, exists if, and only if, the firm has built knowledge on that area of expertise previously. That build-up of knowledge enables the firm to recognize the value of new external information and to apply it within the firm. This "absorptive capacity" of the firm is a function of previous knowledge in that area of expertise: the more knowledge a firm has accumulated in a particular area, the more quickly it will be able to acquire new information in that specific area. Conversely, firms that lack previous knowledge are less likely to recognize the need for new knowledge, as well as less likely to develop it in the event that they do recognize it. Thus, the absorptive capacity of the firm reveals the existence of a mechanism by which firms can retrieve previous knowledge and apply it to new situations.

Summary

In sum, knowledge creation appears to be an activity that takes root in the existing pool of knowledge of the firm. Firms create new knowledge based on what they know already. In addition, firms have mechanisms to acquire knowledge from their members. Not only can they hire individuals with specific competencies; they can also benefit from the insights of its members. A second view of knowledge creation emphasizes the role of the individual in the process. Individuals are said to be the only ones capable of developing new ideas; the true originators of new knowledge. But that knowledge is by definition individual, and remains so until it is translated to the organization. Linking the individual ideas to the organization is a key activity, and is quite difficult. Organizations are designed to do just that: they coordinate knowledge better and more efficiently than markets, and thus achieve better results. They do so because they have a certain amount of intellectual and social capital, which allows them to coordinate dispersed pieces of knowledge, integrate them at a higher level (the organization rather than the individual), and mobilize it. This is done through combination and exchange of both previous and new knowledge. Thus, knowledge is dependent to a large degree on the relational properties of the firm and of its members, and is conditioned by the nature of its network of relations and the quality of the ties. Finally, organizational knowledge is often created when the correct mechanisms are put into place. These mechanisms are triggered by external

demands, which are used as starting points for a cycle that starts with the perception of a need and ends with a new product or service that satisfies that need.

Once knowledge is created, it must be stored. One dimension of storage involves the creation of patterned sequences of activities, either explicitly stated (SOPs) or more emergent (routines), and the conservation of these routines or SOPs as official procedures or procedural memory. Another dimension involves higher order knowledge, which enables firms not just to repeat what has been done previously , but to appreciate (or disregard) the value of a external datum or piece of information, and to incorporate that information in its activities.

Knowledge, however, is not created for its own sake, but in the hopes of applying it purposefully. In the next section we will examine how organizations apply knowledge.

Category two: Application of knowledge

The second category deals with the application of the pool of knowledge of the firm to specific tasks and activities, either in isolation or as parts of organizational systems. As previously mentioned, organizations are purposeful social actors evolving within a world of "economic imperatives." Simply stated, organizations must satisfy their stakeholders, at least minimally. Of these, customers are crucial for business firms: they are the ones who choose which product or service will satisfy their wants and needs. Consequently, firm knowledge needs to be applied to enable the creation, production and marketing of specific products and services.[10]

At a very general level, application of knowledge involves the creation of mechanisms to allow the firm to provide certain products. Spender, for example, highlights the role of firms in knowledge generation and application (Spender, 1996; Spender & Grant, 1996). Others, like Grant (1996), emphasize the role of firms as institutions for knowledge application. The argument, in its simplest formulation, claims

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10 This fact is emphasized by Prahalad & Hamel (1990), Nonaka (1994) among many others. The consequences of not applying knowledge to products are clearly discussed by Barney (1996, 1990), who presents many convincing examples of the consequences that can arise when one does not do so.

that firms are capable coordinators of individual, specialized knowledge, which is in turn transformed into organizational capabilities that give rise to products and services, perceived as consequences. This view is shared by Dorroh and associates, who treat knowledge not as an endogenous by-product of the production process, but as input to that production process. Knowledge is not something that happens in the black box of the learning curve; rather, knowledge is managed by the organization and can be considered as a valid input to a production process. This perspective highlights the intrinsic trade-off between investing scarce resources in the production of knowledge (an useful activity early on in the production program but not when production has evolved), and concentrating these resources on learning by doing, which leads to the learning curve (Dorroh, Gulledge, & Wormer, 1994:949).

However, knowledge is not limited to the production process and to the inputs that are related to it. Instead, some authors consider the firm itself as the result of multiple interactions among purposeful actors. Accordingly, a first dimension of knowledge within the firm is the firm itself, seen as a system of interactions among individuals and groups. Tsoukas (1996) considers firms as de-centered and distributed knowledge systems. These systems exist to integrate four types of organizational knowledge: conscious, objectified, automatic and collective. In this context, he argues that the knowledge resources a firm uses are neither given, nor discovered, but created. As such, the problem that organizations, as collective actors, face is the utilization of knowledge, which is not, and cannot be, known in its totality by a single mind. This impossibility gives rise to the conceptualization of the firm as a distributed knowledge system, where social actors within the firm hold partial aspects of knowledge needed by the organization to achieve a collective task. The firm's knowledge is also distributed in the sense that it is partly derived from the industrial and societal context within which the firm is embedded. However, the focal point remains the same: if firms are able to produce things, it is because they are structured to do so. That structure includes formal arrangements and patterns of interactions among members, which act as channels for knowledge circulation. This first dimension implies that knowledge application has an organizational component: creation of new knowledge implies recombination of the structure of interactions in novel ways.

While Tsoukas and others focus on the interactions among individuals as the nodes that enable knowledge to exist and to circulate, others have focused on the micro performances within the organization (Henderson & Cockburn, 1995; Matusik & Hill, 1999). Of interest here are not the interactions, but the results of individual and collective activities. These results are considered the basic components of the abilities of the organization: they are the building blocks of organizational results. This organizational nature of knowledge is captured by the notion of architectural knowledge (Henderson & Clark 1990). Architectural knowledge, and its converse concept, component knowledge, refer to the core design concepts of the technologies used by a firm to manufacture a specific product. While component knowledge refers to knowledge of the elements that compose that product (for example, blades, motor and casing for a fan), architectural knowledge deals with the integration of the components in a coherent whole (the fan itself). Knowledge is architectural when it allows the firm to combine (and recombine) the different components of the organization (for example, another fan whose design does not require casing). This type of knowledge is based on routines and schemas that integrate and coordinate the fragments of knowledge that exist in the organization. This knowledge is collective, tacit, private and refers to organization-wide activities, such as integration of lower level activities (Matusik & Hill, 1999).

Kogut & Zander (1996) suggest that collective knowledge building is a key strategic task for firms (see also Drucker, 1994), especially if, as Nonaka (1994) claims, new ideas are locked in the human mind and can be withheld if the individual so desires. Consequently, it is important that individuals cooperate voluntarily to create and share knowledge when working in interorganizational teams. But why would they do so? Concepts like procedural justice (Thibaut and Walker, 1975; Lind and Tyler, 1988) are used by Kim & Mauborgne (1998) to explain why an individual may choose to "go the extra mile even at the expense of their own personal interest." According to Lind and Tyler (1988), procedural justice is the extent to which the dynamics of the decision process are judged as being fair. Issues like self-interest concerns, group value concerns and proper human conduct concerns affect the individual's intellectual and motivational recognition. Kim and associates claim that when people feel their decision-making processes are fair, they display a high level of voluntary cooperation based on their

attitudes of trust and commitment (Kim & Mauborgne, 1998). Conversely, when people feel the processes are unfair, they refuse to cooperate (Kim & Mauborgne, 1998:324). That fairness may in turn facilitate the translation between individual ideas and collective abilities, thus rendering more fluid the dynamics of knowledge. Thus, knowledge creation involves active participation from individuals. This happens, for example, when organizational members contribute to the process with their own ideas, and when they participate in collective efforts.

In addition to the individual motivation needed to participate in the knowledge creation process, another important dimension of knowledge creation is the context in which knowledge is embedded. Creation of knowledge and its application are neither simple nor automatic; instead, they are mediated by systems built to facilitate these processes. These systems create a framework within which knowledge is created, mobilized and applied to specific organizational activities. Borland and Tenkasi (1995), for example, explore how electronic communication systems support knowledge work in knowledge intensive firms. According to the authors, knowledge work creates new understandings of nature, and the creation of new knowledge brings new ways of observing the world, or, in other words, "new understandings of nature, organizations or markets." Organizations are characterized as processes of distributed cognition, in which individuals with a specific expertise deal with one part of an overall problem, whose solution is, at least partially, the objective of the efforts of the collective (Borland and Tenkasi 1995). The expertise of the individuals overlaps only partially, giving rise to a system of distributed cognition with a common objective. Whenever that system develops and shares a unique social and cognitive repertoire, a community of knowledge is created. By providing the interpretive tools to share thought worlds, a community of knowledge enables a conversation among individuals, a precondition for solving problems too complex for single individuals to solve (Borland and Tenkasi 1995). They state

> it is through the dynamic interactions between such communities (of knowledge) that new configurations of the knowledge net emerge by creating new meanings, new linguistic routines, and new knowledge. (Borland and Tenkasi 1995):352.

These dynamic interactions serve as a basis for the construction of new perspectives, and for the acceptance of these new perspectives by organization members.

Perspective making and perspective taking are crucial activities for the community of knowledge, for they allow the integration of dispersed individual knowledge and the creation of new knowledge. This objective can be facilitated by the creation of electronic communication systems capable of affecting perspective making and perspective taking in communities of knowledge (Borland and Tenkasi 1995).

Summary

Simply put, application of knowledge can be described as a translation between a latent ability and an actual performance. These performances appear at different levels within the organization (individuals, groups, the organization itself), and are not automatic consequences of simple processes, but rather require active intervention from managers. At the collective level, application of knowledge can emerge from the interactions among individuals (which produce the context that leads to knowledge circulation) or from the integration of routines and other everyday activities of the organization. In both cases, however, integration is essential. Without it, the network of interactions within the organization cannot exist, and results cannot be obtained. Thus, integration mechanisms are crucial for the appearance of knowledge at the organizational level, not just because they coordinate activities and perspectives that would otherwise remain dispersed, but also because they create the context within which knowledge will circulate. In that sense, the ability to integrate dispersed knowledge is not just a useful part of the organization, but the essence of the organization itself.

Category three: Transfer of knowledge

Our third category deals with the circulation of knowledge between social actors, encompassing intra- and inter-firm transfer. Here we address an essential paradox of knowledge: the less transferable the knowledge of the firm, the more likely it is to generate a competitive advantage once applied, but the more difficult it is to mobilize this knowledge within the firm. Conversely, the easier it is to transfer that knowledge, the more likely it is to spill over and out of the firm, hence reducing the chances of sustaining the competitive advantage of the firm. This bivariate dimension captures only very partially the complexity of knowledge, and the methods used to transfer it.

Studying the transfer of knowledge in an organizational setting, Fiol presents the case of an 11-member team that needed to discuss, learn and achieve a consensus in order to develop an innovative product (Fiol, 1994). Although the concept of knowledge is not explicitly developed, the author refers to representations of knowledge such as "labels, pictures of reality, ideas, frames, language" that must be communicated (transferred) to the team in order to achieve the consensus. The collective learning, which can be assimilated to the creation of collective knowledge, occurred thanks to two main factors: the generation of diversity and the creation of consensus within the group.

In his study of 58 new vehicle developments, Nobeoka (1995) observes that large manufacturing firms must develop a constant stream of new products, which requires significant circulation of knowledge from one project to the other. In fact, "management of inter-project transfer and learning has become critical for many manufacturers" (Nobeoka, 1995:432). Two strategies for inter-project transfer of knowledge are presented: "concurrent design transfer" and "sequential design transfer". Concurrent design transfer involves transfer of technical knowledge and a design from a base project before the base project has completed its design engineering. Sequential design transfer strategy involves transferring technical knowledge and design from a base project to a new project after the base model development is finished. The author argues that "only through concurrent design transfer can knowledge be learned and transferred from a base project to a new project with mutual interactions and communication between the two ongoing projects" (Nobeoka, 1995:432). The author finds support for his hypothesis: concurrent design is a more efficient mechanism to facilitate circulation of knowledge among projects.

In some situations, however, what is needed is transfer of knowledge across firms rather than within the firm. This is, in fact, one of the main justifications for strategic alliances, and collaborative relationships in general. For example, Dutta and Weiss (1997) consider that partnerships are beneficial to firms because they allow them to respond quickly to changing technology, competition and customer preferences. However, these agreements also involve substantial risks, in particular in terms of leakage of knowledge, where valuable knowledge, typically tacit, leaves the firm involuntarily as an unpredicted consequence of an agreement between firms (Dutta & Weiss, 1997:343). In their article,

the authors examine the relationship between a firm's level of technological innovativeness and its pattern of partnership agreements. Technological innovativeness is defined as "the extent to which a firm creates technologies which are technologically significant as the firm's level of technological innovativeness" (sic) (Dutta & Weiss, 1997:344), which implies to a large degree tacit elements of knowledge that are not readily available in a market.

Transfer of knowledge across firms is dependent on the type of agreement entered into by the firm. According to the authors, three distinct types of partnerships agreements (joint ventures, licensing agreements and marketing agreements) "can be categorized according to the degree to which a technologically innovative firm transfers tacit technological knowledge associated with technological innovations." Transfer of knowledge, thus, is not only a function of the knowledge of the partners, but of the type of relation entered by the parties. As such, closer relationships involving joint ownership and risk (joint ventures) will be more successful in transferring tacit knowledge than other structural arrangements, all else being equal. They found that "the pattern of a firm's partnership agreement tends to reflect a protection of the tacit technological knowledge" (Dutta & Weiss, 1997:354).

On a similar note, Mowery and associates examine inter-firm knowledge transfers within strategic alliances, conceptualizing resources as a collection of sticky and difficult-to-imitate assets (Mowery, Oxley, & Silverman, 1996). The authors use two theoretical angles to study the issue of knowledge in strategic alliances: the KBO, with particular emphasis on the capacity of the firm to integrate tacit knowledge (Grant & Baden-Fuller, 1995; Conner & Prahalad, 1996) and strategic alliances as a mechanism for organizational learning (Eisenhardt & Schoonhoven, 1996; Hagedoorn & Schakenraad, 1990; Harrigan, 1988). It is generally believed that alliances are mechanisms used by firms to acquire technology-based capabilities from alliance partners (Cohen & Levinthal, 1990; Hamel, Doz & Prahalad; 1989; Hamel, 1991; Kogut, 1988).

In their study of alliances, Mowery and associates analyze the effects of interim knowledge transfers within strategic alliances, using a new measure of change in these capabilities: the citation patterns of partners firms' patent portfolios (Mowery, Oxley, &

Silverman, 1996). Using an empirical test of their hypothesis, the authors conclude that equity joint ventures appear to be more effective conduits for the transfer of complex capabilities than are contract-based alliances. Furthermore, a firm's ability to absorb capabilities from its alliance partner (i.e., what the organization is transferring from its partner) depends on the pre-alliance relationship between the firm's patent portfolios.

Grant and Baden-Fuller (1995) explore a similar avenue in their attempt to explain the circumstances under which inter-firm collaborative arrangements are more likely to be superior to market contracting or vertical integration. The authors hypothesize that collaboration agreements are efficient mechanisms to disseminate knowledge between firms. When that knowledge is not fully embodied in the product being exchanged, as is the case in very complex products where many components are needed, inter-firm arrangements facilitate knowledge transfer and vertical supply relationships. This increases when there are mismatches between the knowledge base of the firm and the requirements of the products to be marketed. When these two domains are incongruent with one another, firms have an incentive to collaborate, as collaboration increases the efficiency of knowledge utilization. Mismatches between domains are more likely when the number of skills needed to manufacture a product (the breadth of knowledge) is high, and the product specificity of that knowledge is low (Grant & Baden-Fuller, 1995:20). In addition, uncertainty about future knowledge needs acts as an incentive to collaborate in inter-firm alliances. Great uncertainty about future needs increases the pay-off of collaboration, compared with internalization of knowledge. Similarly, first-mover advantages play an important role in shaping the decision to internalize the knowledge-creating mechanisms or to enter alliances. When early-mover advantages are great, collaboration allows the firm to swiftly access knowledge that would take too long (and be too expensive, given the cost of the lost opportunity) to develop (Grant & Baden-Fuller, 1995:21).

A similar claim is made by Lane and Lubatkin (1998), who convincingly suggest that learning alliances are used to speed capability development and minimize exposure to technological uncertainties. This is achieved by acquiring and exploiting knowledge developed by others (Grant & Baden-Fuller, 1995). In their work, contrasting with most

recent writings that have focused on ***how*** the alliances have to be structured and managed (Bartlett and Ghoshal, 1995; Haspeslagh and Jemison, 1991; Kogut, 1988), the authors wonder ***with whom*** a learning alliance should be formed. They develop a test model of interorganizational learning based on Cohen and Levinthal's (1989, 1990) theory of absorptive capacity. The definition of absorptive capacity is the firm's ability "to recognize the value of new, external knowledge, assimilate it, and apply it to commercial ends."

Changing the traditional unit of analysis, the authors classify firms as students (the ones that want to develop a capability) and teachers (the firms that possess it). The ability to learn from the alliance depends not just on the characteristics of the firm itself, but also on the pairing. Thus, ability to learn is determined by the relative characteristics of both the student firm and the teacher firm.

Lane and Lubatkin also, recognize three methods for acquiring new external knowledge: passive, active, and interactive. Interactive learning is considered the best way to acquire external knowledge because the student firm develops sophisticated ties with the teacher firm, creating bonds that facilitate the circulation of knowledge. Some of their hypotheses were confirmed by their empirical research. Evidence was found to support the following claims: the relevance of the student firm's basic knowledge to the teacher firm's knowledge base is positively correlated with inter-organizational learning; the similarity of the student firm's and teacher firm's organizational structures will be positively correlated with inter-organizational learning; the proportion of the teacher firm's organizational problem set that the student firm shares will be positively correlated with inter-organizational learning. Furthermore, the authors found partial support for their hypothesis that the similarity of the student firm's and teacher firm's compensation practices are positively linked with inter-organizational learning.

Complementing the views of Lane and Lubatkin (1998) and Mowery et al (1996), Olk and Young (1997) studied the dynamics surrounding members' decisions to remain in or leave the strategic alliance, in this case R&D consortia. Using transaction costs and power dependency theories, two categories of explanations were used as bases to explain the decision to end the alliance. The first category, the alliance's performance, refers to the

results obtained by it. The second category, membership conditions, is related to the importance of the venture for the organization, to the alternatives (or lack thereof) available to obtain the needed resources, to the involvement of the partners, to learning, and to the network relations among the members.

Through an empirical study analyzing the survey data from 184 member organizations of U.S. based R&D consortia, the authors concluded that poor performance increased the likelihood that members would exit the alliance (the consortium). Conversely, good performance increased the probability of their remaining. Membership conditions also influenced continuity: network ties and knowledge-related involvement, in particular, were positively correlated with continuity in the consortia, but learning was not. Learning, which was defined as the development or acquisition of information that would help reduce the dependency of the organization, did not increase the chances of the organization staying in the consortia. The authors concluded that the determinants of continuity are not simply the level of performance, but the contextual factors of the relationship (Olk and Young 1997: 873).

Knowledge transfer is seen as a purposive task that can be achieved when (and if) the right incentives are presented to the rational actor. A stream of research, however, studies the difficulties in transferring applied knowledge in the form of "best practices", even when there is a rational incentive to do so. In his work on stickiness of organizational resources, Szulanski explores the barriers to the transfer of best practices within the firm (Szulanski, 1995, 1996). Unpacking that stickiness for the firm involves considering the characteristics of the knowledge to be transferred and the characteristics of the situation. (Szulanski, 1995:437). His empirical investigation of stickiness found support for the hypothesis that lack of motivation in the recipient is a strong cause of stickiness, as well as of a lack of absorptive capacity and of arduous relationships between source and recipients. Curiously, however, and contrary to intuition, lack of motivation at the source is negatively correlated with stickiness (i.e., less motivation at the source means less stickiness of the best practice) as is retentive capacity of the recipient. (i.e., firms that did not have stringent procedures prior to transfer learnt faster than the ones who did). This

finding, contrary to his hypothesis, points to unlearning problems, even when a better solution is available and desired.

Protection of knowledge

In competitive environments, the concepts of knowledge creation and protection are intrinsically tied. In fact, protection of valuable resources is considered to be a necessary step for competitive advantage, and the effectiveness of the protection (e.g., its duration) a determinant of the sustainability of firm advantages.

Liebeskind (1996) argues that firms, as institutions, obtain competitive advantages by protecting valuable knowledge from rivals who may wish to imitate or expropriate it. This protection, however, is quite costly. One traditional way to protect valuable resources is the use of legal mechanisms (such as property rights), but these are weak and difficult to enforce, particularly in regard to knowledge. In addition, knowledge is difficult to protect because expropriation attempts or illegal imitation by rivals are not easily detectable. Among the strategies used by firms to prevent undesired appropriation of knowledge by rival firms is the creation of barriers that avoid "expropriation of knowledge," in particular by reducing its observability (Liebeskind, 1996).

Drawing on transaction-cost economics, Liebeskind (1996) identifies three mechanisms employed by firms to protect knowledge resources: incentive alignment, employment and reordering rewards. In essence, all three represent advantages that firms have over markets in protecting knowledge and incorporating rents that stems from its use. Specifically, incentive alignments create "possession rights" over knowledge, which imply the transformation of a weak legal right (i.e., a patent) into a strong, contractable corporate ownership of that knowledge. Similarly, by creating conduct rules the employee is supposed to respect and by modifying responsibilities and tasks of the employee through job design modification, employment contracts (the contractual relation between an individual and a corporation) protect knowledge from leaking to rivals. Finally, through a reordering of rewards, a firm can decide to defer payment of rewards to an employee who holds a valuable piece of information, thus modifying the incentive of the employee to leave the firm and to take her valuable knowledge to a new job.

Similarly, but from a quite different perspective, Galunic & Anderson studied the impact on the firm of investment in human capital and employee commitment (Galunic & Anderson, forthcoming), hypothesizing that, in addition to specific investment in human capital, transferable skills were likely to increase employee commitment to the firm. It is hypothesized that in situations where employees are vital to the creation of knowledge resources, increased commitment and motivation makes these resources less likely to leave the firm. Their confirmatory findings are quite counterintuitive to the traditional RBV: firm investment in employee skill which may increase mobility of the employee, increases their commitment as well, thus reducing the actual chances of their leaving the firm and using these skills for other free-riding firms. Committed insurance agents (the specific type of employees studied by the authors) do provide greater value to the company (Galunic & Anderson, forthcoming).

Thus, protection of knowledge, refers to all the mechanisms put in place to avoid knowledge leakage (imitation and expropriation by other firms). The three dimensions identified in the literature have similar results (i.e., reducing the likelihood that a particular piece of knowledge or a capability will leave the firm), they do so for different reasons. As discussed above, some (Lippman & Rumelt, 1982; Reed & DeFillippi, 1990) are concerned with the characteristics of the resource that make it nontransferable (the inability to correctly attribute a competitive success to a series of antecedents), whereas Liebeskind (1996) focuses her attention on the mechanisms and combination of mechanisms that that firms may use to protect valuable knowledge resources, and others (Galunic & Anderson, forthcoming), focus on the firm investments and increased commitment of employees.

Summary

In sum, transfer of knowledge represents the mobilization of knowledge (or, more specifically, of abilities) between different social actors, either within an organization or between two or more organizations. Mobilization may occur voluntarily (in which case it is common to find references to the difficulty of transfer) or involuntarily (where authors focus on the easiness of "expropriation" of proprietary knowledge, and on free ride phenomena). Two positions emerge: either authors focus on transfer of knowledge, and

they wonder about its difficulties, or they focus on knowledge protection and they are surprised by its leakage.

In any event, knowledge is easier to mobilize when organization members share a common background composed of mental representations such as culture, language and common signs (Fiol, 1994). As well, structural elements influence knowledge transfer: certain types of alliance facilitate the circulation of knowledge, while others create safeguards that impede knowledge circulation among partners (Mowery, Oxley, & Silverman, 1996). However, other contextual circumstances modify the degree to which knowledge is transferred. In particular, inter-firm arrangements appear as useful mechanisms to transfer knowledge when firms do not possess all the skills needed to produce a complex product, as is the case in very complex products that require many components. In these circumstances, firms' incentive to cooperate (and thus to create the mechanisms to circulate knowledge) increases (Grant & Baden-Fuller, 1995). Alliances, in short, are used to speed capability development and minimize exposure to technological uncertainties (Lane & Lubatkin, 1998), by acquiring and exploiting other firm's knowledge (Grant & Baden-Fuller, 1995). Their duration is determined by a combination of performance and of other contextual factors of the relationship (Olk and Young 1997): 873.

However, knowledge is difficult to transfer even when there are good reasons to do so (Szulanski, 1995). In particular, knowledge remains within the firm because many contextual factors are lacking on the recipient side, and because knowledge acquisition involves unlearning of past practices as well. Nevertheless, firms attempt to exploit knowledge developed by others, giving rise to protection mechanisms, which tend to render knowledge expropriation more difficult. In general, this is achieved by reducing the observability of knowledge (Liebeskind, 1996), something that can be achieved directly by manipulating incentives, employment contracts and rewards, by increasing employee commitment to the firm (thus decreasing the likelihood of seeing knowledge leave the firm with former (and perhaps disgruntled) employees (Galunic & Anderson, forthcoming), and by increasing the causal ambiguity (Lippman & Rumelt, 1982; Reed & DeFillippi, 1990)

of organizational capabilities, which increases the cost of knowledge expropriation by rendering it difficult to correctly link causes and effects.

Integrating categories of knowledge

While the categories presented are often studied in isolation, their interrelation has been explored by some authors. Using a conceptual approach, Grant argues that firms excel at coordinating at a general level specialized knowledge held by individuals (Grant, 1996). Following the work of Demsetz (1991), Grant (1996) claims that knowledge acquisition requires greater specialization than its utilization, and that production calls for the integration of several individual specialists, who have developed knowledge of a certain aspect of a complex production problem. Firms are deft at coordinating that knowledge, and they do so more efficiently than markets, due to the immobility of tacit knowledge and the risk of expropriation by the potential buyer, knowledge being rather similar to a public good (Grant, 1996:112). Four mechanisms are used to coordinate knowledge: rules and directives, sequencing, routines, and group problem solving and decision making skills (Grant, 1996:115).

Other authors examine the process of acquisition, transfer, and depreciation of knowledge acquired through learning-by-doing (Darr, Argote, & Epple, 1995). This study is unusual not only in its scope, but also because they attempt to study service organizations, a rather unusual event in the literature, even if their service organizations are in fact pizza parlors, where the service component is rather low, and the product component high.

In their paper, Darr et al. link directly knowledge to learning curve effects. Knowledge is thus directly reflected in unit costs and is revealed by these costs: the larger the volume of cumulative production, the more the unit cost decreases. Using that definition, the authors examine whether some organizations can learn from the experience of other organizations, and have progress more rapidly on their own learning curve. The empirical part of their work explores productivity gains in 36 pizza stores, and the authors conclude that service organizations also evidence learning: as stores gain experience through production, the unit cost of production declines significantly. However,

knowledge acquired through learning-by-doing depreciates ("is forgotten") rapidly, and knowledge transfers across stores owned by the same franchisee but not across stores owned by different franchisees (Darr, Argote, & Epple, 1995:1761).

On a more conceptual note, Raelin attempts to integrate several dimensions of knowledge and learning (Raelin, 1997), developing a model of work-based learning. His model combines two traditional distinctions of knowledge (explicit E and tacit T) with two dimensions "fundamental to the process of work-based learning: theory (H) and practice (P)". These forms interact amongst themselves, creating a matrix of learning types, where learning represents modes utilized to acquire knowledge in a work setting. For each of the four possible combinations, a learning type is presented. At the individual level, the four types are conceptualization, experimentation, reflection, and experience, the result of the combination of E-T, T-T, P-E and P-T respectively. Conceptualization refers to the introduction of concepts and causal links into current thinking, allowing the individual to understand standard problems in a new light, to tackle new and previously unsolved problems, and to reflect upon practice (Raelin, 1997:565). Conceptualization corresponds to the intersection between explicit knowledge and theoretical learning. Experimentation involves contextualization or grounding of conceptual elements that individuals have; that is, creating the ability to modify the elements of that knowledge that do not directly apply to the situation in which they are being applied. Grounding reveals inconsistencies between theory and practice, and that gap, in a dialectic manner, is filled with new and better theories. Experimentation links tacit knowledge with theoretical learning, and helps modify the theoretical basis of that learning. Experience, on the other hand, reinforces the tacit knowledge acquired in experimentation (Raelin, 1997:566), which allows individuals to extrapolate from their particular experiences often without even knowing it. Finally, reflection links explicit knowledge and practice learning; reflection is the "ability to uncover and make explicit to oneself what one has planned, observed and achieved in practice," and involves recreation of meaning and valid explanations about one's reality (Raelin, 1997:567). Raelin builds a similar matrix is built for the collective level.

Using the same mechanism, the author presents four distinct types of learning: Applied Science (E-H), Action Learning (T-H), Action Science (E-P) and Community of

Practice (T-P). According to his definition, applied science models social reality using theoretical propositions and hypothetico-deductive logic. Action learning involves the application of theoretical principles to a setting in real-time, duly sanctioned by the organization and with concrete consequences. Community of practice involves the enactment of skills by the community; co-optation and initiation allow new members to "synchronize" their sets of skills with those of the community. Finally, action science seeks to render explicit causal models developed collectively, with the objective of initiating a dialogue that could test their assumptions and validity.

Raelin's model specifically addresses the "need for practitioners to bridge the gap between explicit and tacit knowledge, and between theory and practice." (Raelin, 1997:572). His model, in fact, suggests that knowledge is developed and transmitted differently according to its nature (i.e., tacit or explicit) and to the mode of learning used to transmit that knowledge (i.e. theoretical or practical). The notion of varying modes of transmission of knowledge, along with the idea that there are different kinds of knowledge, will be particularly useful in framing the empirical part of this thesis, when discussing the evolution of knowledge over time.

Conclusions

In this chapter we presented a categorization of knowledge based on a review of the dominant North American literature on knowledge. The classification we present here divides knowledge in four distinct areas: creation, which deals with the genesis and emergence of new knowledge in the organization; application, which discusses how knowledge is put to use in specific contexts; storage, which involves the creation of mechanisms to safely keep knowledge and to retrieve it when needed; and finally transfer, which deals with mobilization of knowledge among different parts of the organization or between different organizations, a notion of interest for the study of strategic alliances. Lastly, the interaction between some of these categories is presented and its implications discussed.

The taxonomy developed here serves as a basis for our empirical study of knowledge in strategic alliances, the results of which are presented in the empirical part of this work.

Chapter 3: Methodological Considerations and Research Design.

Summary: In this chapter we discuss methodological considerations and the research design of the study. We begin with a review of the theoretical reasons motivating our choice of methodology, and continue with a discussion of the research design. The different phases of research are outlined, and details about the research site presented. Finally, the data-gathering techniques are discussed, concluding with a review of the data analysis methods and triangulation techniques used to support findings.

> " (...) There is value to be had, in terms of explanation, in viewing the firm as a natural laboratory in which the theoretical propositions of the RVB are already being tested. The challenge facing researchers is to take a collection of firms that face a similar environment, to establish how these firms differ with regard to their resources, and to link these differences to barriers to imitation and the persistence of performance differences across time. (Godfrey & Hill 1995)

> "Field research on learning almost inevitably involves investigating non-experimental data. A challenge for such research is to find quasi-experiments in the field that make it possible to control for some factors while varying others." (Darr, Argote, & Epple, 1995:69)

Research strategy: reasons and motivations.

In spite of the important theoretical and practical implications of the notions of capability creation and knowledge circulation, the empirical study of organizational resources has been declared to be still in its infancy. As a consequence, the literature on the subject remains incomplete in several respects (Henderson & Cockburn, 1995; McGrath, McMillan, & Venkataraman, 1995; Montgomery, Wernerfelt, & Balakrishnan, 1989). We review below the main criticisms made to the literature, and explain the research strategy chosen to address them.

The study of knowledge resources: criticisms.

Research on knowledge resources has been criticized for its narrow empirical base. Commenting on the studies conducted so far, many have argued that research has focused chiefly on large, transnational manufacturing firms, with a particular emphasis on high-tech products (Collis, 1994). Given that most business firms are neither large, nor transnational, nor manufacturing, generalization from studies with a much narrower focus can be problematic, regardless of the method chosen and the strength of the findings. Although some authors have contributed to the literature with the study of service firms (Miller & Shamsie, 1995; Singh & Zollo, 1998), these tend to be also large, and to offer

very sophisticated services such as movie-making, financial services or banking, leaving aside the far more common low technology service firms that are abundant in most developed economies. (A notable exception is Darr, Argote, & Epple, 1995)

In addition to the problems with the object of study, some have also criticized the methodology chosen and the research strategies deployed. Firm resources, and particularly the knowledge-based resources that enable organizations to understand new technologies, to innovate or to effectively compete in new markets, have often been studied only by looking at their tangible consequences: the products and services marketed by the organization, but with little regard to the processes that make them possible. While, as we will see later, studying the visible consequences of knowledge may well be the only possible approach to study an otherwise intractable concept, nothing justifies the predominance of retrospective studies that observe successful organizations and infer from their products and services the reasons for their success, without paying considerable attention to the processes that make these products and services possible.

Contrasting with the abundance of these kinds of studies, in-depth studies of the process of capability creation are much less common, as are longitudinal studies in general. Longitudinal studies focusing on the factors that facilitate the creation of organizational resources and knowledge are rare, and when they exist, they are almost invariably retrospective.

These two criticisms of the bases of previous studies have at least two implications for further research. First, while it is sensible to try to understand what resources exist today that lead to today's competitive advantage, it also seems necessary to explore the processes that took place yesterday, leading to today's resources, and what processes are occurring today that will lead to tomorrow's competitive advantage. Given the lag between organizational processes and their results, it seems useful to introduce longitudinal measures to observe the activities of the organization at one point in time and their future results. This objective has often been stated by researchers (e.g. Ghemawat, 1993; Teece, Pisano, & Shuen, 1997; Wernerfelt, 1984), but empirical evidence still remains scarce.

Second, intangible aspects of value -such as customer service- have received less attention than more tangible activities such as manufacturing, procurement, or distribution. However, many have argued that in today's economy, value is added not just by the physical properties of a product but by the services that are appended to it (Quinn, 1992). If this is the case the organizational abilities to provide services -not just products- are crucial for organizations that wish to sustain strong competitive positions.

This thesis explores several aspects of the creation and development of these knowledge-based resources at the firm level. Based on our understanding of the literature, it is argued that the most valuable firm resources -i.e. the ones more likely to provide sustained competitive advantage- are the ones that are based on deep and tacit understandings and practices that go beyond the material aspects embedded in a product. These resources, however, are also the most difficult to generate and sustain, particularly in contexts that involve collaboration between organizations.

How are these resources generated? To understand how this is done, a research strategy that observed social actors (i.e., organizations and groups within organizations) over a relatively long period of time seemed an obvious –as well as sound- methodological choice. Given that our objective was to observe the evolution of the capabilities of the organization both retrospectively and in real time, a longitudinal study, covering as much as possible the history of the organization and its evolution appeared as the most useful research strategy. As Godfrey and Hill state it, the type of firm description found in the RBV is complex, deep and historical, and "since each firm is viewed as a unique entity, explaining the cause of superior (or inferior) performance at the level of the individual firm calls for clinical work of the type that is currently unfashionable in the strategic management literature" (Godfrey & Hill, 1995:530).

Fashion aside, and given the state of the research and our methodological inclinations, a qualitative study appeared as the logical choice for a thesis that was to be exploratory in nature. Our research strategy was chosen in conjunction with our objective of studying the processes of knowledge mobilization in business firms; case studies seemed a reasonable method to gain insights about these processes. Case studies are believed to be ideal methodological choices for situations where the objective is to

describe, understand and explain phenomena (Hamel, Dufour, & Fortin, 1993, see also Eisenhardt, 1989, 1991; Eisenhardt & Bourgeois, 1988), when the literature shows theoretical gaps and when there are theoretical and empirical questions that remain unanswered (Marshall & Rossman, 1989b). When they are retrospective, case studies describe how processes unfolded, why decisions were made, and which factors affected which outcomes. But these stories can be also told in real time: a case study can seek to understand what happened previously, and to observe what is currently happening.

In addition to these considerations, and with the objective of capturing situations in which organizations learn from the experience of others, we chose to study organizations involved in strategic alliances. To capture processes that were hypothesized to be at their peak during the early stages of activity, it was desirable that the alliances be recent, still operating at the moment of the research, that the firms be in the same industry and that they have different degrees of success in similar environments. Recent organizations were hypothesized to be still in their early stages of development of knowledge, and since we wished to observe the ways in which these organizations improved their standards to match international expectations, it seemed reasonable to observe organizations that had not yet achieved that standard. We also hypothesized that we could increase the quality and the accuracy of information if the organization was young, and still operating.

An important consideration for our research design was the sector of activity of the companies to be studied. Wishing to depart from the tradition of studying manufacturing firms, producing tangible goods, we selected service organizations. Armed with the desire of departing from the traditional studies of high technology or high value added services, a low technology industry was selected, where standard outputs were known and readily available to all players. The relative rareness of studies of low-tech service firms, coupled with the exploratory nature of this research, promised original and interesting results that could potentially contribute to the existing literature.

Thus, we selected the hotel industry in a developing country. The Republic of Cuba was selected as it had only recently embraced tourism as a hard-currency generator, but had entered the industry very aggressively, and with a firm intention of becoming a major player in the Caribbean. Within the tourism industry in Cuba, we selected hotels

that belonged to an international strategic alliance, that had initiated operations recently, and that showed considerable variation in performance in spite of similar structural constraints.

As we will discuss in chapter four, the Cuban tourism industry has some interesting features. As far as alliances are concerned, there were no cases of organizations that had closed down in the industry, but some alliances had collapsed and new partnerships had emerged. We avoided the increased complexity of such organizations by choosing firms that had kept the original structure of the alliance; or firms whose structure had been modified but without changing of partners. We decided that limiting ourselves to the same industry would increase our ability to compare among cases. After studying the industry and its segments, we decided to study one segment in particular (the all-inclusive resort), but to add another case study of a hotel in a different segment to keep some distance from the segment chosen. Finally, we tried to maximize the amplitude of our findings by choosing organizations that had good or very good results, average results and poor results. To evaluate and classify these hotels, we selected a panel of experts that ranked the hotels from the best to the worst. Since there was agreement among the ten experts consulted, we concluded with confidence that our categorization was correct.

With these objectives in mind, the research strategy was designed.

Research Design

First Phase

Due to the exploratory nature of the study, the research process was divided into two phases. Following Mintzberg's advice (1979a:94) the field research started with an in-depth single-case study (Marshall & Rossman, 1989; Yin, 1989) of a successful hotel in Cuba. The first phase was designed to allow the researcher to develop our understanding of three important factors: a) the overall dynamic of the tourism industry, both in Cuba and abroad, b) the processes of creation of organizational capabilities and c) the process of knowledge mobilization.

The primary sources of data for the first phase were open-ended interviews in which managers and employees discussed activities of the organization, their evolution over time, the development of the alliance, how and to what degree knowledge and skills have been transferred, and which practices and structures have been developed to aid in the transfer of knowledge. The goal of this first phase was to develop a "thick description" (Geertz, 1973) of the context of knowledge transfer and organizational capabilities development in an international joint venture. From this in-depth fieldwork, a first theoretical understanding of the dynamics of knowledge was developed.

Second Phase

In the second phase, we moved to a multiple-case study in an effort to further refine and test the theory. Capitalizing on the availability of several similar strategic alliances, we conducted a more directed and limited set of case studies. Multiple case studies are appropriate when there is some knowledge about the phenomenon to be studied but much is still unknown. In this second phase we selected strategic alliances that vary only in terms of their international partner (Parkhe, 1993:251), so that the patterns found could be compared among themselves, following the logic of literal and theoretical replication (Yin, 1989). Literal replication refers to a case study where one can predict similar results to the one used as reference, while theoretical replication, on the contrary, refers to cases where dissimilar, even contrary results are expected, but for reasons predicted by the theory used. The rationale behind replication, also called "theoretical sampling", is quite common in qualitative studies (Eisenhardt, 1989, 1991; Glaser & Strauss, 1967; Strauss & Corbin, 1990), and is used as a means to strengthen the robustness of the findings.

By choosing strategic alliances with as many common traits as possible, we controlled for industry, local partner, and structure of the deal. The second phase relied on more directed interviews rather than the open-ended interview technique used in the first phase. As well, the same indicators used for the first case study were applied to the population of hotels. The joint venture hotels examined in this section included a Spanish/Cuban venture and a Canadian/Cuban venture. To avoid biases, a hotel owned and operated by a Cuban company without a foreign partner was studied as well. The objective of the inclusion of this last hotel was to observe an organization in the same

context, but that did not have the opportunity to communicate directly with a foreign partner to solve some of the problems that appeared in their operation. The objective was to control, insofar as this term can be fruitfully applied to qualitative research, for the presence of foreign partner and observe the differences and similarities between these two kinds of organizations.

In the second phase, both interviews and objective measures were utilized to assess the degree to which organizational capabilities had been created and knowledge transferred. Non-obtrusive indicators were employed whenever possible to triangulate the qualitative indicators obtained during the interview process. In practice, most of the non-intrusive indicators were measures taken by the organization itself to gauge and control its own activities. Since most of them were crucial for the organization, they provided useful information to document observed trends and to assign magnitudes to some of the concepts used.

Choice of the object of study: practical reasons

Our research efforts were focused on strategic alliances in the Republic of Cuba involving international hotel chains and local hotels. These recent alliances have been quite successful in upgrading the overall quality of the hotels in Cuba, and although observers note that there is still a long way to go before these hotels fully meet international standards, that goal is one of the specific objectives of the alliance. Beyond the theoretical and methodological reasons highlighted above, this industry is of interest in itself thanks to an unique structural arrangement making it the object of a massive transfer of knowledge between capable and competitive foreign hotel chains and inefficient and non-competitive local hotels.

Two mechanisms have been developed by the Cuban government to organize alliances with foreign international hotel chains: non-equity alliances and joint ventures (Barney, 1996:285; Kogut, 1988). In the hospitality industry, two kinds of alliances have appeared since the fall of the Soviet Union and the opening to foreign business. First, the government has sought to strike deals with foreign firms to manage existing hotels, in the hopes of increasing their quality by adding the expertise, perceived or otherwise, of the

foreign firms. Second, and this has been the preferred option of the Cuban partners, new hotels have been built and are managed by joint ventures with significant managerial and operational input from the foreign partner. Nine international companies were operating in Cuba in 1996. Of these, eight managed hotels that existed prior to their arrival. The challenge for these companies was, and still is, to bring these hotels to international standards. This challenge has two distinct dimensions: first, management of the dilapidated condition of the physical plants, which required in many cases considerable investment from the foreign partner. Second, and perhaps more importantly, the development of the basic notions of service that are taken for granted by the international customers.

This industry setting provides the opportunity to observe a natural experiment of sorts (see Martin de Holan & Phillips, 1997), where many organization have different results despite similar structural constraints. The fact that a setting was natural helps strengthen the external validity and the generalizability of the findings (Judd, Smith, & Kidder, 1991:271). Although the concept of "naturalness" and natural experiment is often used with a multitude of meanings, three specific dimensions have been emphasized: naturalness in behaviors, naturalness in settings and naturalness in events (Tunnell, 1977). Behaviors, contexts and events are natural when one can claim they would have been identical without the presence or intervention of the researcher. In that sense, they are natural because they are not established nor manipulated for research purposes; and because they exist independently of the research that may be conducted on them (Judd, Smith, & Kidder, 1991; Kraut & Johnston, 1979; Tunnell, 1977). While it is easy to imagine situations where not all three aspects of naturalness are present simultaneously, the purest form of naturalness includes all three dimensions. The setting chosen for this thesis (a specific segment of the growing tourism industry in Cuba), and the events that affected that context (the quest to bring hotels on a par with international standards) meet the definitions of naturalness. Our data gathering methods meet these requirements partially: while archival data and analysis of performance indicators is natural, interviews are not, for they create a behavior that would not have existed without our presence.

Why are our settings and events natural? Simply put, the structure of the industry made Cuban hotels into a large experiment in knowledge creation. In the Cuban tourism industry, there exist several similar strategic alliances with the same local partner and different international partners. The industry is composed of about ten strategic alliances that include roughly 40 international hotels. Thanks to this unusual arrangement, several strategic alliances have appeared where the domestic partner, the age of the alliance, its legal structure, its nature and objectives, and often the geographic locations are held constant while the international partner varies. From that population, seven hotels were selected, each of them in one of two different segments of the hospitality industry: either an all-inclusive beach resort, and or a member of the business travel segment in an urban center. All but one of the hotels are business units of a larger corporation involving a large Cuban conglomerate and a foreign partner. The seventh hotel, used as a reference, was fully owned and operated by the Cuban conglomerate and had no formal contact with any foreign organization. A detailed list of the hotels along with the variables used to evaluate them is presented in Chapter 5.

Access to these hotels and to the parent corporation was requested through the Facultad de Economía of the Universidad de La Habana, with which a research partnership was established. Since we had preexisting research links to the Universidad de La Habana, who had conducted research on one of the major Cuban hotel chains, CorpCo[11] and two of its international partners, Alpha and Beta, we focused on these corporations, after having verified that they were relevant to the themes of this thesis.

The Research Site(s)

CorpCo is a large, vertically integrated Cuban conglomerate operating principally but not exclusively in the tourism industry. While its influence spans many industries, it operates almost exclusively in Cuba, with very few links abroad other than a small number of trading firms. The company, as is the case with most "means of production" in Cuba, is owned by the Cuban state, through its Ministry of Tourism, which is in charge of

management of the company and to whom all company executives report. The operational responsibility lies with the general manager of the corporation, who has extensive links with the minister and is its visible face. Both the head of the company and the Minister of Tourism are accountable for CorpCo's results, and it is generally believed that their career evolution is closely linked to its results. Among CorpCo's foreign partners are two large companies, well known for their extensive connection to the hotel industry and their vast experience. One of them, company Alpha, focuses almost exclusively on the management of hotels owned by third parties, while the second company, Beta, develops, builds and manages hotels that it may or may not own. Alpha and Beta are based in countries ranked among the top contributors (in numbers of visitors) to Cuban tourism. Having a diversified portfolio of international operations, neither Alpha nor Beta depend on Cuba for their financial well being, although the volume and the importance of their Cuban operations are, at the time of this study, considerable. Alpha and Beta's Cuban interest are significant, and their presence strong and long-lasting, as they have both made significant commitments to the country, in the form of specific assets and expertise. Both companies had, at the time of the study, significant expansion plans that involved building, operating and expanding a large number of new properties.

Both Alpha and Beta have developed considerable expertise over the years in the management of hotels outside of their country of origin; they are well respected among their peers for their skills and expertise. Alpha is credited with significant clout in the management of hotels, while Beta is considered to have a more complete set of abilities which enable it to develop a hotel from the early conceptual stages to the everyday operation, including selecting sites, developing them, building the physical property, equipping the hotels, recruiting human resources, and bringing the hotel up to international standards.

The hotels selected for this study are independently managed and operated as distinct business units, with autonomous management evaluated mainly on financial results

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11 All the names presented in this thesis are disguised, including the names of individuals. Only the official branches of the government retain their name.

and a sophisticated reporting system. Each of the business units studied has been operating for at least two years, with various degrees of success: two of the hotels have been quite successful, while the others have obtained average or poor results. In each of the seven cases, the hotels selected were new at the time of the initiation of the strategic alliance or had been reopened after several years of considerable remodeling and revamping. In either case, when the hotels opened to the public only very basic capabilities had been developed, and no cumulative learning at the organizational level had taken place.

Data Gathering

Collecting Evidence

Yin (1989:79) identifies six methods to gather evidence in case studies, noting that each one require different skills and methodological procedures. According to him, evidence can be gathered through documents, archival records, interviews, participant observation, and physical artifacts. In our study, with the exception of participant observation, all methods were used, although to different degrees, with a marked preference for interviews.

Documents were systematically gathered and consulted. Two categories of documents were obtained: those concerning the functioning of the organization, and those referring to the organization, where either the company is referring to itself or others are referring to it. The first set of documents includes those that reflect the functioning of the organization (memos, accounting data, balance sheets, etc). We focused in particular in quantitative measures of individual, functional and organizational performance, and used data prepared for comptrollers and accountants to evaluate the performance of different units. The second set includes all the documents that we could find over a period of two years referring to the segment studied in Cuba, or the hotels themselves. While it is impossible to claim that our database is exhaustive, we believe it covers comprehensively, and with great detail the object of study.

Semi-structured interviews were our main method of data collection. We focused mainly (but not exclusively) on managers in each of the business units. To provide a more

detailed account of events, we interviewed a few (typically two) employees in each business unit, and one or two customers of each hotel. The interviews were conducted during multi-day visits to each of the hotels in which the researcher would check in as a normal guest. The interviews began with the general manager and other senior international people and then moved on to lower level managers of the functional department, and some front line employees. In total, 78 interviews were conducted, with an average duration of 63 minutes. Particularly important interviewees were re-interviewed in order to further clarify and explore relevant themes.

To observe how events unfolded as time passed, several visits were made to each site, and repeated interviews were conducted over a period of more than two years. The objective of visiting each organization several times was to obtain retrospective accounts of events as well as description of current events. On subsequent interviews, the information obtained on a previous visit was contrasted with more recent accounts in order to obtain a richer description of the situation of the organization and its evolution over time.

The interviews at the business unit level were supplemented with a range of additional interviews at the parent companies as well as interviews of other relevant individuals in the Cuban government. To avoid linguistic biases, the interviews were conducted in English, French, or Spanish, at the interviewees' choice. Front-line employees were interviewed by Cuban researchers; the managers and all the foreigners were interviewed by the author. To facilitate the analysis and to preserve data integrity, permission to record was requested and granted in all but two cases. In the cases where permission was not granted, only interview notes were taken, and these were read at the end of the interview to verify that the interviewee agreed with them. Later, all interviews were transcribed and analyzed in their original language.

Following standard ethnographic procedures, field notes were prepared systematically during and after each visit, and briefing sessions were held every day by the principal researcher and his colleagues from the Universidad de la Habana, in charge of interviewing front line employees and some Cuban managers. The objective of these activities was to add the personal impressions of the researchers to the data that had been

gathered during the interviews. As well, these notes and meetings allowed the researcher to gather material regarding the visible face of the hotel, in particular its infrastructure and the facilities from a guest's perspective.

As mentioned before, we also utilized direct observation of the functioning of the hotel from a customer's perspective. During our data gathering phase, the principal researcher and the researchers from the Universidad de La Habana checked in each hotel as a standard guests, refusing special privileges, and being identified simply as University professors. For all practical purposes, and for most members of the organization, we were another guest. This allowed us to take notes of the functioning of each hotel and observe it without disturbing its normal routines.

Case Study Data base

In his work on case study research, Yin suggests that, contrary to other research strategies that dissociate data from its analysis, case method research tends to amalgamate data and analysis in one report whose validity cannot be easily examined (Yin, 1989). When data and its analysis are separated from one another, independent researchers can proceed to secondary analysis of data, independently of the reports of the original investigator. To increase the external validity of cases and to separate data from analysis, Yin (1989:92) proposes that qualitative researchers create databases composed of two distinct parts. The first part deals with the "data or evidentiary base" and the second with "the report of the investigator, whether in article, report or book form" (Yin 1989:92). The objective of this strategy is to create a database that can be accessed by independent researchers, who can in turn examine and perhaps challenge the conclusions drawn by the original researcher.

Following his suggestion, we decided to create a database that includes all the documents collected and interviews conducted in our fieldwork phase. This database includes chiefly the tapes of the interviews, as well as the transcriptions used as raw data for the computer program. Other elements of that database include company documents, brochures, computer printouts and other pieces of information gathered during our fieldwork. As is customary, the database can be obtained from the author upon request.

Data Analysis Methods

> "In general, data analysis consists of extensive reading, sorting and searching through (one's) materials; comparing with categories, coding, and adding key words and concepts; and then writing mini summaries of categories. Any technique or software (...) are fine as long as they permit category-by-category searchers, whether done with the entire record or document or individual field or categories within a record" (Altheide, 1996):43

Our data analysis strategy followed Altheide's guidelines, and utilized software extensively to classify data. In this section we describe the different methods and techniques used to aggregate, codify and analyze our documents.

As mentioned above, interviews were our main source of data. As previously mentioned, each interview was taped (except when permission was denied). Shortly after, each interview was transcribed into machine-readable format. In our case, this simply meant typing into a word-processing application all the questions and answers captured in the tape, and in some rare cases, notes of interest made by the interviewers. This work was contracted out, but each tape and the transcription were verified by the author. In all cases, the language of the interview was preserved; since the author speaks fluently the three languages, no translations were made.[12]

Once transcribed into a computer-readable format, each interview entered a first stage of coding. Following standard practice in qualitative research, the unit for coding selected was the idea. Ideas that have been verbalized during the interview are separated from one another. The recorded sentence is considered the utterance of an idea, and an idea a capsule of meaning, in which a series of words are linked together to express a meaningful statement about a state of nature. Each idea was thus separated from the one that preceded it and from its subsequent.

The logic behind the choice of fragmenting the interviews into a series of ideas had a practical and theoretical component. Practically, that format is necessary for most software packages: unlike researchers, software does not understand where an idea starts and where it ends, and has to be told so before it can process data. "Telling" the software

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[12] The quotes from the interviews presented here, particularly in chapter six and seven, were translated after all the coding and analysis were performed.

requires parcellization of the interview into coherent units before any analysis can proceed. The solution to that practical problem, however, has a theoretical and methodological component. The reasons that motivated our decision to use the idea as the basic fragment for analysis are clearly reflected in Miles and Huberman's words: "it is not the words themselves but their meaning that matters (..) a word or a phrase does not 'contain' its meaning as a bucket 'contains' water, but, but has the meaning it does by being a choice made about its significance in a given context" (Miles & Huberman, 1994:56). The theoretical and methodological objective of decomposing the data into ideas was to isolate a series of meanings in the discourse, and to enable comparison among meanings. This exercise leaves the document divided into a number of units of variable length that can be coded and analyzed. Coding, from this perspective, meant assigning a category to each idea and latter comparing ideas within the same category.

The tool chosen to code the data was the NUD*ist software package. Each interview was reread, and descriptive classificatory categories (Miles & Huberman, 1994:57) were attached to the units created in the first manipulation of the data. We initiated the analysis with the initial preparation of the material in our interviews. This was done by dividing the text issued from the interviews into ideas, which in fact separated a long sequence of words into paragraphs of uneven length but of clear meaning, and became as such the basic units of analysis. The challenge at this stage was to understand where the idea began and where it ended, and to avoid cutting an idea in half (or less).

Once that work was done, the 78 interviews had translated into a little less than 13000 ideas (represented by paragraphs on a text documents), about 166 ideas per interview, although the range varied from as low as 29 paragraphs, especially when the interviewee declined permission to record the interview and we had to rely on our notes, to more than 300 ideas in very long interviews. Noteworthy is the fact that the 13000 ideas to be analyzed were in three different languages (Spanish, French and English), but that did not interfere in any way with the coding, which was done exclusively in English.

The coding began with some initial categories that remained close to the data, in the sense that they only summarized what the interviewee had said during the interview. At that stage, we considered categories as tags that would describe as accurately and

succinctly as possible the pieces of information they classified. A comment on how a foreign manager had helped the employee refine her room-cleaning techniques by bringing a series of time saving methods would have been coded as "room-keeping - foreign knowledge – successful - adopted". This procedure was repeated until all the interviews in all hotel had been coded. Categories were then counted and compared. The logic behind this procedure was to create categories that would reflect the experiences of the members of each business unit. These categories departed from the first, descriptive categories, in the sense that they were much analytical than descriptive, as they required considerable creative effort from the part of the researcher. Thus, we proceeded to the creation of interpretive categories (Miles & Huberman, 1994:57), which are categories that encapsulate some meaning that the researcher has attached to it. These categories "depart" from the data in the sense that they entail some interpretation by the researcher. However, this is not an undesirable effect; on the contrary, at this stage we wished to introduce meaning into the categories. For example, our previous "tag" would have been modified and called "successful transfer of knowledge," and would now incorporate all the "tags" that share the common elements of the category, in this case methods and practices suggested by foreigners that were successfully adopted by the organization.

Once this operation had been repeated for all business units, an analysis of the categories was performed to unveil emerging patterns that would permit further consolidation. This type of category is called "pattern codes" and is more inferential and explanatory than the previous two. (Miles & Huberman, 1994). The objective of this manipulation was to obtain a parsimonious set of categories that would cover as many occurrences of the data as possible, with as few categories as possible. Four meta-categories (i.e., categories subsuming the groupings made during our first and second round of data analysis) were created to reflect the knowledge of the firm. Three categories were created to reflect the dynamics of knowledge, and four more to reflect the managerial tools employed to circulate knowledge. The manipulations of the data reflect standard practices in qualitative research, specifically the counting of intra and inter-occurrences of specific phenomena. (Richards & Richards 1991, 1992). To avoid biases while performing the coding and the analysis of the data, the safeguards suggested by prominent qualitative researchers were used (Spradley, 1979, Strauss & Corbin 1990, Miles, 1994).

Miles and Huberman (1994) suggest that codes and coding should be considered part of the analysis of the data; coding is analysis. As such, the analysis of data started with a period of data reduction (Miles, 1979), which was a process of preliminary analysis to "refine, iterate and revised frameworks, and suggest[ing] new leads for further data collection, and [making] data more available for final assembly into case studies and cross-site analysis." In sum, our process of data reduction was a series of iterations that allowed us to collapse categories together, merge similar categories and refine our definition of each one.

In summary, the process of data gathering and analysis involved four phases: generation of data through interviews; of organization of the data and creation of the model; coding of the data using the model as a reference; and modification and refinement of the model, with the stated objective of modeling behaviors and processes from "thick data" gathered during fieldwork, models that could be later tested and refined using computer technologies (Glaser & Strauss, 1967; Strauss & Corbin, 1990)

Triangulation

Whenever possible, triangulation methods were applied to support the qualitative findings. Triangulation is a research strategy that utilizes multiple methods to increase the robustness of the findings, under the assumption that qualitative and quantitative traditions can complement one another. Multi-method research seeks to complement the weakness of one method with the strength of another one (Jick, 1979, 1984), while allowing for a deeper understanding of the phenomena of interest. In our case, the study of the dynamics of knowledge in service organizations was observed through repeated interviews at similar sites, comparison among sites, and contrasting of interpretive accounts of knowledge dynamics with concrete results that showed the impact of knowledge on organizational performance.

The data for triangulation were gathered from financial reports, economic indicators and other activity reports produced by each business unit. Many of these indicators are industry standards audited by independent accounting firms (see for example (Horwath, 1996:56-57), which renders comparisons among units possible and meaningful.

Another strategy for triangulation was the use of archival material and company documents such as memos, manuals, instructions and procedures. This material was used following a logic of literal and theoretical replication. (Yin, 1989)

Summary

In this chapter we discussed the methodological choices made to gather data and the reasons behind them. Although it is quite common to consider the choice of methods as a neutral decision, qualitative authors versed in methodological issues remind us that data is not simply gathered, but constructed, integrated and interpreted by researchers and their methods (Boudon & Bourricaud, 1982; Giddens, 1976; Touraine, 1965). Given the objectives of the research and the level of analysis sought, an exploratory study with a qualitative emphasis appeared a reasonable choice, in theoretical as well as practical terms. Theoretically, qualitative case studies with replications provide useful insights to construct and refine theories, while providing multiple settings to validate the findings obtained in each one of the cases. Robustness, the traditional problem of qualitative studies, is mitigated by a theoretical sample that allows the researcher to control certain variables, in natural or quasi-natural experiments.

Although practical considerations are often not considered to be important issues for researchers, access sites, or, more precisely, lack of access can create massive barriers that prevent any research from been carried out. In our case, however, the feasibility of the study proved reasonable thanks to our contacts with the Universidad de la Habana, and previous work in the field. Access was adequate in spite of the environmental problems created by the rather unusual research sites. These problems, as well as the contextual conditions of the organizations studied, will be discussed at length in our next chapter, which presents in detail the Cuban hotel industry, the segments in which each of the organizations competes, and each of the organizations studied.

Chapter 4: Research Context: Environment

Summary: This chapter discusses the general context of our research, and gives some historical background to facilitate an understanding of the evolution of the tourism industry in Cuba. A strategic analysis of the Cuban industry is then presented. We conclude with some remarks about the strategy of the Cuban government in the tourism industry, and present the constraints that this strategy imposes upon hotels.

The Cuban Context.[13]

Any study of a Cuban enterprise must begin with an exploration of the complex and unique context within which Cuban firms operate. Simply put, the history of Cuba is the history of its repeated attempts to develop a workable, long-term relationship with a sequence of powerful states: first with Spain, then with the United States, then with the Soviet Union, and now, once again, with the United States.

The Spanish period. Despite being discovered by Columbus in the 15th century, as late as 1750 Cuba was still a largely forested, unmapped island controlled by Spain and coveted by Spain's enemies. The port of Havana had been built in the 1560's as a depot for Spanish treasure fleets making the trip to and from Spain, and from 1560 to 1750 the Cuban economy consisted primarily of various support activities for the Spanish fleets. Only at the beginning of the 18th century did tropical agriculture develop on a significant scale. The first cigar factories were established around 1770, marking the beginnings of a single-crop economy in Cuba. In the second half of the 18th century, sugar cane became the foundation of the Cuban economy as new markets opened up in Spain and America.[14] Commodities such as sugar and tobacco have formed the foundation of the Cuban economy since this period, which has heavily emphasized a single crop (or a basket of few crops) as their main source of exportation.

As the economy developed in Cuba, the ruling elite began to chafe against the distant and arbitrary rule of the Spanish government. The first war of independence in

13 This section is based upon Martin de Holan and Phillips (1997)
14 For more details on the development of the Cuban economy, see Halperin Donghi, (1969)

Cuba began in 1869, and while ultimately unsuccessful, the Ten Years' War "contributed to the growth and maturity of a national conscience" (Aguilar, 1993:26). More importantly, perhaps, it contributed to a growing animosity between Spanish representatives and Cuban nationals. The second war of independence began in 1895; and this time, the war was much more vicious and the damage more widespread. The intervention of the American government proved to be decisive in winning Cuban independence from Spain. However, the price was very high: after three years of war the island was devastated, and American participation in the war against Spain led to a growing American presence in Cuba. After a time, American involvement became so important that little economic activity on the Island could take place without the active participation of American interests.

By 1959, US investors controlled almost 90% of the telephone and electricity services in Cuba, 50% of the railroads, 40% of sugar production (Aguilar, 1993:87), as well as a large number of hotels, retail shops, import and export firms, oil refineries, and several industries such as mining, agriculture and manufacturing. While a sizeable minority of Cubans developed close links with American interests, a growing hostility towards Americans developed. It was that hostility coupled with widespread poverty and great income disparities that lay at the root of the revolution that brought Fidel Castro to power in January 1959.

The revolution and the movement towards the USSR. After a long guerrilla war against the government of Fulgencio Batista, Fidel Castro's revolutionary army entered Havana in January 1959 and formally took control of Cuba. The revolutionary government quickly initiated agrarian reforms, urban reform, and a vast campaign of nationalization. In addition, the new government began to develop its links with the Soviet Union as it moved towards a socialist system. The United States strongly condemned the reforms and the relationship between Cuba and the United States rapidly deteriorated.

In June 1960, a significant transfer of ownership took place when the Cuban subsidiaries of Texaco, Exxon, and Shell were expropriated by the Cuban government, leaving the issue of compensation for later negotiation. In July, following an escalation of threats and retaliation measures between the United States and Cuba, American-owned

firms in mining, power generation, power distribution, and sugar refining were expropriated. The escalating problems between Cuba and the United States came to a head in April of 1961 when the US government helped Cuban exiles orchestrate an invasion, in an episode known as the Bay of Pigs in the US, and the battle of Playa Giron in Cuba. In November of that year, the Cuban government declared that private ownership and management of firms were incompatible with the "reality issued from the revolution" and decided to profoundly modify the structure of ownership of land, real estate and means of production. For all practical purposes Cuba became a socialist country. Furthermore, Fidel Castro declared in a famous speech that he was a Communist and that the 1959 Revolution was to be Marxist-Leninist as well.

The most significant aspects of Cuba's socialist agenda were: 1) state ownership of most means of production and centralized management of the economy; 2) non-market allocation of most resources, goods and services; 3) development of privileged relations with the Eastern block; 4) priority given to education and health programs; 5) agrarian reform and redistribution of land ownership; 6) development of infrastructures deemed indispensable for future industrialization and 7) creation of a long term development strategy. (Calcagno, 1989: 91)

Until the severe crises of 1989, all Cuban citizens received rationed goods at highly subsidized prices, as well as heavily subsidized electrical power, rent, water, telephone service, and free education and medical care. Almost everybody in Cuba worked for the State, and the State took care of almost all of its citizens. Prices and quantities were centrally determined, and resources were centrally allocated to fulfill production quotas. Supply, rather than prices, became the central organizing factor in the economy, and scarcity appeared as a key element of Cuban life. Although basic needs, such as food, clothing and utilities were satisfied by this system, there was very little choice and shortages were common. At the same time, Cuba was highly egalitarian and many Cubans, as well as other Latin Americans, saw the Cuban revolution as a success in that it had eradicated the "pobreza" (poverty) that is ubiquitous throughout Latin America.

In 1963, a then-obscure Ernesto "Che" Guevara, Minister of Industries, stated that the market law of supply and demand ought to be eliminated in order to move rapidly

towards Communism. As such, all enterprises would become branches of central ministries; all financing would occur through the central budget by means of non-repayable interest-free grants and all enterprise deficits would be covered by the state. Buying and selling between state enterprises would be simple accounting transactions. Money would be a unit of accounting but would not be used to assess profitability. Material incentives (wage differentials, bonuses, overtime payments) would be phased out. (Dominguez, 1993:109). This socialist system lasted until early 1989, when the collapse of the Soviet Union forced the authorities to introduce market-oriented modifications, a traumatic and difficult step for socialist Cuba and its leaders (Fitzgerald, 1994).

Perhaps the most significant of these reforms is the degree to which the Cuban government is encouraging FDI (foreign direct investment) in all sectors of its economy. However, the effect of these new "investor friendly" laws has been tempered by the continuing embargo, first declared by the US in 1961, and then reinforced by the Toriccelli Law in 1992 and the more recent Helms-Burton law of March 1996. While these restrictions have not stopped investment and trade with Cuba, they have made it difficult for many multinational companies to do business in Cuba and have increased the cost of imported goods and services.

Context: Tourism in Cuba, past and present.[15]

As noted above, Cuba has been a Marxist-Leninist country since 1959 and, according to Marxist principles, the economy of the country has been, and still is, heavily influenced by the State and the government. Officially at least, most means of production belong to the collectivity through the state, and the tourism section is no exception. In particular, the vast majority of business firms operating in Cuba are state-owned and government run, and private property is limited. Since the fall of the Soviet Union in 1989, an unprecedented economic crisis has pushed the government to authorize and later encourage foreign participation in the economy through joint ventures and strategic alliances. These agreements are officially considered as a means to bring the economy to

15 The analyses presented are based upon Martin de Holan and Phillips, 1997.

the levels it had in 1989 and to gain "technology, marketing expertise and access to markets" (Government of Cuba, 1995)

This recent focus on tourism is in stark contrast to the previous 30 years of government policy. Tourism, traditionally an important sector of the Cuban economy, suffered a steep decline after the revolution in 1959 with the number of visitors dropping from 350,000 in 1958 to virtually none by 1962, shortly after the American embargo that prevented most US travelers from legally visiting Cuba. This decline was intentional on the part of the Cuban government, which believed the influence of tourist, American citizens in particular, to be noxious. A large number of American tourists were replaced by a small number of more frugal and less demanding visitors from the former Eastern block. The quality of service, food and accommodation dropped significantly after the revolution, and many of the attractions the island had to offer - restaurants, casinos, luxury resorts, marinas, and a range of (sometimes illegal) entertainment facilities - were removed in favor of activities more compatible with the ideology of the new regime. From a strategic management perspective, the core capabilities of the tourism industry were rapidly dismantled.

Generally speaking, the tourism sector in Cuba is considered the most dynamic and successful sector of the economy. It has been pictured, both internally and externally, as a model industry in its ability to attract foreign investment and to produce hard currency earnings. (CubaHoy, 1995a; 1995b) According to the indicators used by the Cuban government to measure its success - number of tourists, number and volume of foreign investment, and gross revenue generated - the tourism industry has expanded rapidly over the past few years. Below we discuss the perspectives taken and the costs involved.

The tourism industry in Cuba: perspectives.

The Caribbean tourism industry has generated mixed emotions - perhaps most notably an attitude of resigned ambivalence - among development experts and among the Caribbean countries themselves (De Kadt, 1979; World Bank, 1975). While many argue for its potential in developing the economies of poorer countries (Momsen, 1985; World Bank, 1975), others point to the social, ecological and cultural problems that tourism can

create or exacerbate. Those arguing the positive side point to the increased trade and access to hard currency that tourism brings (Momsen, 1985:35). Those arguing the negative side point out that tourism in developing countries, when not carefully controlled, tends to have deleterious social consequences. It can lead people to exploitative labor conditions, and it creates a situation where residents are tempted to engage in illegal activities including black market trading, theft and prostitution (e.g. Hellbom, 1977; 1985).

For Cuba, the movement away from tourism ended with the fall of the Soviet Union and the resulting collapse of the Cuban economy (Martin de Holan & Phillips, 1995a, 1995b, 1997). In a dramatic reversal of its previous policy, the Cuban government identified tourism as a strategic sector of the economy shortly after the collapse of the Soviet Union. Since then, the Cuban government has developed two explicit objectives for the tourism industry: a) to systematically increase the revenue generated by tourism and the overall profitability of the industry and b) to increase the number of tourists visiting the island, reaching 2.5 million visitors by the year 2000, up from 750,000 in 1995 (Martinez Garcia, 1994).

By late 1995, the Cuban government had taken a series of steps towards these objectives (Kaplowitz, 1995; Suchilicki & Jorge, 1995). It has engaged in a large number of joint-ventures with foreign companies to build, manage and develop hotels and tourist sites as well as instituting new "investor friendly" laws regulating foreign investment, and completely restructuring of the bureaucracy dealing with tourism, creating business-minded "holding companies". We will consider each of these steps in turn.

First, Cuba is actively courting foreign investment in all sectors of its economy and has passed a new investment law that is much more liberal than previous arrangements. This change has been driven primarily by pragmatic considerations. Until recently, foreign investment was regulated by Decree 50, enacted on February 15, 1982, the purpose of which was to obtain foreign cooperation in the development of a very limited number of industries in which neither the Cubans nor their socialist partners had expertise. After the fall of the Soviet Union, it quickly became a way to inject large amounts of foreign investment and expertise in an attempt to re-start the Cuban economy. In addition, a number of other measures were taken to increase foreign activity in Cuba. In 1992, for

example, Article 23 of the Cuban Constitution was modified to explicitly recognize ownership of joint-ventures with foreign partners. The current framework for foreign investment in Cuba is defined by Law 77, which was established on September 5th, 1995, to replacing and expanding Decree 50. According to Article 1.1, the basic purpose of Law 77 is to encourage foreign investment in all sectors of the economy except health and education:

> (...) This Act has the purpose of promoting and encouraging foreign investment in the territory of the Republic of Cuba, in order to carry out profitable activities which contribute to the country's economic capacity and sustainable development, (...) and of establishing, for that purpose, the basic legal regulations under which this can be realized. (Government of Cuba, 1995)

However, the effect of these new "investor friendly" laws has been tempered by the continuing embargo first declared by the US in 1961, and then reinforced by the Toriccelli Law in 1992 and the more recent Helms-Burton law of March 1996, which severely penalizes investors who "traffic" expropriated property that was once owned by either American companies or American citizens.

Second, a restructuring of the bureaucracy responsible for tourism took place in 1994. The government dismantled INTUR, the monolithic institution in charge of all international tourists, creating several holding companies that manage well-defined sectors of activity. The hotel industry, for example, has been divided into market segments, each of which is to be served by one "chain" that controls and manages a variety of hotels, restaurants and discotheques grouped according to the perceived quality and prestige of the product delivered. This structural arrangement is intended to help tourism enterprises gain economies of scale, to accelerate learning, and to reduce wasteful competition. Since each one of the chains has a well-defined product-market segment, its managers need not worry about other segments or even other markets. As a result, there is little rivalry between enterprises. Perhaps the most significant ramification of this arrangement is that facilities are assigned "quality" rating and enterprises gain no advantage from exceeding their rating. The number of stars associated with a Cuban hotels is a goal, not a measure of the actual quality, and is often evaluated taking into account exclusively the physical aspects of the hotel (e.g., swimming pool, color TV, air conditioning,...) rather than the quality of

the services delivered at the location. Ratings in the Cuban system are therefore a measure of the best case, not necessarily their current level of performance.

Finally, and most importantly for our study, the Cuban government has developed a number of relationships with international companies to build and manage hotels and other facilities. The need for hard currency investment is part of the reason for this interest in joint ventures, but the Cuban government also realizes that the industry lacks the skills required to compete for international tourists. The lack of managerial capabilities needed to deal successfully with tourists has been diagnosed by many observers, including Cuba's president, Fidel Castro, who declared in a speech to the National Assembly that there was a "lack of competencies in the marketing of tourism", and "we (Cuba) have been terrible in marketing tourism" (CubaHoy 1995: 3). Recognizing the need for managerial skills that are simply not available has led Cuba to rely heavily on foreign firms. This strategy has proven successful in terms of attracting increasing numbers of tourists.

The result of the steps taken by the Cuban government is not insignificant. Despite decades of neglect, tourism was expected to become, and has indeed succeeded in becoming Cuba's most important source of hard currency in 1995 (Martinez Garcia, 1994) Since the fall of the Soviet Union, the tourism industry in Cuba has developed at a rapid pace in terms of the number of visitors, the revenue generated, and the number of joint-ventures created. A massive investment plan has been implemented, bringing a number of new and refurbished hotels and tourist facilities into operation, and increasing the number of rooms available to foreigners from 5000 in 1991 to almost 25,000 in 1995 (Simon, 1995). The revenue generated by the industry approached $1 billion in 1995, up from $850 million in 1994.

Cuba's Tourism Strategy: motivations, pressures and organizational consequences

In this section, we will analyze the international competitiveness of Cuba's tourism industry, and the underlying motivations and strategic objectives of the main stakeholders. Given the socialist framework of the Cuban economy, in which all firms are either wholly-owned by the Cuban government or are majority-owned joint ventures with international

companies, we will combine the firm and industry levels of analysis. This simplifies the analysis greatly by replacing considerations of firm level strategies with those of industry level strategies. The threat of new entrants at an industry level disappears, while the power of suppliers and buyers increases, since there is generally only a single source of supply for each good or service. We will also explore the consequences for firms, and how these pressures provide an interesting context for the study of knowledge mobilization.

Firm/Industry Level Analysis

The first step in our analysis must be to determine the strategy of the Cuban government. One of the most influential definitions of strategy has been given by Chandler (1962):13: "(...) strategy is the determination of the basic long term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals." This definition has been expanded by Andrews (1971): strategy is the pattern in a stream of decisions in an organization that determines, shapes and reveals its objectives, purposes, or goals, produces the principal policies and plans for achieving these goals, and defines the activities the organization intends to be involved in, and the kind of economic and non-economic contribution it intends to make to its shareholders, employees, customers and communities. Later, Mintzberg (1978) added an emergent dimension to the definition: strategies need not be consciously planned (as argued by both Chandler and Andrews); instead they could emerge in the organization without plan or even intention.

The steps taken by the Cuban government to develop the tourism industry appear to fulfill the definition of strategy for business firms. First, they involve well articulated objectives and the plans to achieve them; second, they involve the allocation of limited and valuable resources; and third, they can be integrated into a coherent pattern. As such, Cuba's dynamism in the tourism sector can be seen as an explicit, "intended" strategy (Mintzberg & Waters, 1985) implemented by the Cuban government to create an internationally competitive industry.

The three working assumptions of the Cuban strategy are: a) it is possible to attract a growing number of tourists every year; b) costs per visitor will remain stable or decline

as numbers of visitors increase; and c) the increasing revenue will generate more profits for the Cuban economy. But for these assumptions to be valid, at the industry level individual organizations must achieve certain goals, deliver a level of quality that at the very least matches customer expectations, and charge prices that are acceptable to the customers, given the alternatives. In the next section, we will study the Cuban tourism industry in detail, highlighting the consequences of that strategy for organizations and reviewing each one of the elements constraining its success. We start with the alternatives available to customers, both large and small.

Rivalry and competition in the Caribbean tourism sector

As far as alternatives go, Cuba has tried to avoid competition within its industry. The tourism sector in Cuba, at least when using a geographic definition, lacks any significant rivalry: organizations do not compete with one another, and the vast majority of the customers they attract are foreigners, who buy a full package rather than a simple hotel stay and are not very mobile when on the island. This lack of internal rivalry is part of a conscious, "intended" strategy to foster what was considered a better alternative for the industry: the Cuban government has structured holding corporations, hotels and all other facilities precisely to avoid duplication and competition among them, in the belief that competition would reduce innovation and improvement and dissipate scarce resources that could be better spend trying to develop the "Cuba product." Cuban authorities have repeatedly stated that their main concern is consolidating the position of the country as a player in the Caribbean tourism industry, rather than developing any one particular hotel, or even specific areas.

However, in an industry as dynamic and competitive industry as is tourism in the Caribbean and Central America, levels of competition should be measured not simply by the degree of rivalry within a particular geographic area, but by the offerings available to the wholesalers and to the final customer, when making a vacation choice. From this perspective, the industry does face significant competition from quite capable foreign competitors. In fact, it is widely believed that wholesalers have a vast array of choices and very low brand loyalty, which emphasizes the importance of management activities to create a difference between hotels and amongst hotel chains. By forcefully entering the

tourism industry, Cuba has entered a highly competitive industry with powerful buyers, low brand loyalty, low switching costs and strict international quality standards. The international nature of the industry creates strong competitive pressures at the firm level, whether or not the firm actually competes with other firms in the domestic markets. In other words, a three-star hotel in Varadero is implicitly competing with three star hotels in other Caribbean countries, even if the government decides not to foster competition among three star hotels within Cuba. An analysis of the flows of visitors shows that, as a destination Cuba faces strong competition from the Dominican Republic for Canadians, Spaniards and Germans, and from Jamaica for Canadians, Germans, and Italians, nationalities that constitute the bulk of visitors to Cuba (see Simon 1995:32). But while these other destinations have the option of targeting the US market, the embargo prevents Cuba from doing so.

High external rivalry has triggered a series of organizational responses. In particular, the industry has tried to adjust prices (and consequently, costs) and improve quality in order to be able to compete in international markets. We will explore price and costs, and then quality, highlighting the issues that each one has triggered.

Prices and Costs in the Cuban industry

These two elements, cost (and its derivative, price) and quality, have interesting implications for our work. With regards to price, it is quite obvious that healthy firms are the ones that are able to keep a reasonable margin between price and cost. As such, Cuban authorities have emphasized cost containment measures. At the industry level, the essential element of the strategy is based on economies of scale stemming from a large and increasing number of tourists visiting Cuba, as highlighted previously in our discussion of Cuba's strategy.

All the transformations observed in the past seven years indicate that the Cuban government is implementing a *price leadership strategy* (as opposed to cost leadership, see Porter, 1980; 1985) on a combination of low price, low cost and high volume. Even though government officials and Canadian tour operators euphemistically highlight the "excellent bang for the buck" of Cuba for foreign tourists (see, for example, Berman,

1994), business observers focus on the unidimensionality of the strategy, emphasizing that "Cuba's one competitive advantage over any other island destination in the Caribbean is that Cuba is cheap, cheap, cheap. (...) Cuba costs less than other Caribbean destinations." (Berman, 1994:12, see also Simon 1995:31). Moreover, comparisons between hotels owned or operated by the same hotel chain show that, all other things being equal, prices are lower for packages to Cuba than competitive Caribbean locations (Berman, 1994:13).

However, the success of a low price/high volume strategy depends on the ability to become the true *low-cost* producer. Given the nature of the Cuban economic system, the true cost of producing a tourism package is currently difficult to calculate, since many inputs are supplied to the tourism industry at world prices despite their production in centrally planned, and hence uncosted, facilities, and others (such as depreciation) are elaborated using non standard practices. In other words, the Cuban-produced goods and services that are supplied to the tourism sector have no determinable hard currency cost, since all the inputs to their production were provided within a centrally-planned system in which values are assigned. The actual cost structure for many goods supplied to the tourism industry by related industries is unknown, but simply based on the very large number of workers involved in the inefficient Cuban production systems it seems unlikely that they are low-cost.

Well aware of these problems, Cuban authorities (the main stakeholder of almost all hotels) have been putting significant pressure on their management teams to reduce operating costs without affecting quality of service. This emphasis has exacerbated the search, at the hotel level, for new mechanisms to provide a "better product" at a reduced cost, and as a consequence, the efforts expended to obtain these results. We will see in our empirical section that this decision has had a significant impact on the management of each of the business units that we have studied.

Quality, Cuban style.

The most elementary definition of quality involves a match between what a reasonable customer expects and what it is delivered. Consumer research typically defines quality using a model where preexisting customer expectations are confirmed or

disconfirmed by the service they receive (Arnould & Price, 1993; Fiebelkorn, 1985; Oliver & DeSarbo, 1988). Customer satisfaction "can be described (within the dominant paradigm) with a summary index of a product or service's performances on various attributes" (Arnould & Price, 1993:26). Service industries are notoriously difficult to manage in that respect, for the service experience tends to be quite difficult to standardize, a central element if one is to match expectations. Two aspects of quality are of interest for our discussion: general infrastructure and its limitations (at the country level) and the specific constraints it creates for business units (the "Cuba effect" on all hotels conducting business on the island).

At a national level, the first important dimension of competitiveness (and, in a related manner, quality of the product being offered) involves factor conditions (Porter, 1990). While the Cuban "sun and sand" is clearly of world-class quality, perhaps the most important limitation faced by the Cuban industry is the lack of solid complementary industries with amenities such as restaurants, shopping, and entertainment. Tourists often complain that there is little to do beyond the beach in the two major tourist centers in Havana and Varadero, and that the hotels meet international standards, but barely, and not all the time. Perhaps this limitation provides a partial explanation for the low return rate of visitors to Cuba, less than 10% versus more than 40% in Barbados (Simon, 1995).

Human factors are in equally short supply. The ability of Cubans to manage and market a world class vacation package is severely limited by years of Communist production and, management and marketing must therefore be purchased internationally. While there are several MBA-style programs being offered to Cuban managers, there is a great need for education and hands-on experience. Cuban managers will learn these skills over time, but this process will certainly take many years and the expense in the meantime is considerable.

Supporting industries, as well as suppliers, influence to a large degree the outcome of operations in other parts of the value chain, both upstream and downstream. Cuba's lack of supporting industries for tourism grows out of the COMECON doctrine that whatever a country could not produce could be imported from "sister" nations at preferential rates. Some of what international tourists consider to be the most basic items are not produced in

Cuba and have to be imported to insure that the customer is satisfied. The alternative that the Cuban government faces is either to let international hotels import these products and increase the leakage or decide not to import them and face angry customers who find the whole thing unacceptable. For example, Cuban hotels with large international clienteles are under significant pressure to import diet beverages, low calorie sweeteners and "healthy," low-fat products that are unavailable in Cuba. The Cuban government is left in a position of allowing the imports and losing precious hard currency or denying them and reinforcing the image of Cuba as a low cost, low quality destination that does not meet international standards. This decision trickles down to the business unit, and creates strong constraints for general and functional managers.

The consequences of the lack of supporting industries are exacerbated by the fact that Cuban firms are generally unable to produce goods that meet international standards. Many of the goods produced by Cuban firms are perceived, often justly so, as being inferior and not fit for the international tourist. This is especially the case with products such as meat, poultry and fresh fruits and vegetables, but similar situations can be found in consumer goods and durable goods. One example of this problem was provided by a Canadian tour operator who remembers when he developed the Playa Giron (Bay of Pigs) product for Canadian tourists: "Obviously, (the destination) was not sellable as it was. We had to import almost everything: from the locks for the doors to the dish-washers for the kitchens, as well as the sports equipment." (Bulletin-Voyages, 1996:6-9). Moreover, the distribution system is inadequate and cannot guarantee on-time, on-schedule delivery; an essential element of a successful tourism industry. Hotels, even the most prestigious ones in Havana, periodically run out of essentials such as certain kinds of drinks, foodstuffs and items like soap, toilet paper or paper napkins. In the case of foodstuffs, the deficiencies of the distribution system have a direct impact on the quality of the food served at the hotels and restaurants, making it extremely difficult to provide items that are, for example, not too ripe nor too green.

At the business unit level, organizations perceive their competitors to be other hotels in the Caribbean, and strive to achieve standards at least roughly equivalent to these, but often with fewer resources and more constraints. This is the case because they

correctly perceive the alternatives their customers have, and the elements used to evaluate them and choose to vacation in the Dominican Republic or Cancun rather than in Varadero. The pressure to equalize their offerings with their competitors are increased by the existence of well-defined industry standards, that shape to a large degree what customers expect of any given hotel. Consumers expect a three star resort to have certain amenities, regardless of where it is located (For a disgruntled customer's perception of service in Cuba, see Annex 2). In fact, these amenities, together with the quality of service, are what gives the hotel its three-star rating. Consequently, managers are pressured to find ways to increase the standards of the hotel to match, at the very least, the industry average. This, coupled with the cost/price issues mentioned above, creates an interesting context for the development of knowledge. In other words, the delicate situation of the general infrastructure in Cuba creates a context in which pressures for developing new skills are great, and where creativity, understood as the ability to find novel solutions to business problems, is at a premium. Organizations have to expend extra effort to gather the skills needed to bring their hotels on a par with international standards, in spite of the difficulties created by an uncooperative environment. Simply put, organizations try harder, and the environment makes improvement difficult. Given that the context applies equally to all organizations in the environment, this is an ideal setting to study the dynamics of knowledge and the barriers to knowledge creation and mobilization. We will explore these issues in the next chapter.

Summary

It is generally accepted that the general context in which firms evolve, also called macro-environment, has a strong influence on the nature of the industry and on firm behavior. While firms do have a great deal of choice as far as strategy goes (Bourgeois, 1984; Child, 1972), the influence of the environment on firms is considerable, and Cuba is no different from anywhere else in that respect. In short, firms maneuver within a context that sets limits on what they can do, but does not determine their behavior.

The context in this case is tourism in Cuba, a socialist country in a capitalist world trying to reconcile out a relationship with a powerful neighbor who has some vested

interest in the island and a profound antipathy towards its regime. Nowadays, and for the first time since its discovery, Cuba does not have a colonial power directly dictating policies and procedures, and it must function (i.e., survive and develop) entirely on its own resources. This has been achieved through the revival of the latent tourism industry, once a powerful component of the economy but neglected for many years, to the point of falling into near oblivion.

This industry has grown since the fall of the Soviet Union, and quite spectacularly considering everything else in the country. From virtually nothing in the late 80s, the tourism industry has overtaken the ill-fated sugar industry as the main source of foreign currency. Many hotels have been created, all with the same overarching goal: become, as soon as possible, on a par with international standards, in spite of the constraints of the industry. At the industry level, these constraints are: scarcity of capital, the US embargo, lack of internal rivalry, scarcity of adequate human resources, lack of supporting industries, and, in a more general sense, lack of understanding of the critical success factors in the tourism industry.

However noxious these factors may be for the competitiveness of the industry, they create strong incentives at the organizational level, forcing managers and organization to respond to them. In particular, they create pressures to contain costs and maintain overall efficiency in order to keep costs low. Furthermore, there is an emphasis on quality and customer service in order to create a meaningful difference, in the hopes of distinguishing the "brand" from other destinations as cheaply as possible.

In the next chapter, we will explore how the organizations we studied reacted to these pressures (which applied equally to all of them), and how they developed the ability to deal with these constraints.

Chapter 5. Industry Context: Alliances and Hotels

Summary: In this chapter we present the industry context of the research, with particular emphasis on the competitive positioning of the business units studied and their industry segments. This is done by analyzing the industry segments in which each hotel competes and presenting a set of generic issues for any hotel wishing to compete in that segment. Then, the information is aggregated to highlight the structural similarities of the sites. We conclude with a detailed presentation of the organizations in our sample, based on case studies

The objective of Chapter five is to present the most salient features of the hospitality industry, and in particular of the two segments studied in this thesis. The hospitality industry is vast and encompasses a large population of organizations dispersed over many segments, each one giving rise to one ideal-type configuration or organizational form. These configurations range from the simple bed and breakfast operating only during peak season to the corporate hotel with several thousand rooms and a high degree of efficiency, with many more segments in between (i.e., the eco-lodge, the city boutique hotel, the country hotel, ...). In this work, we focus on two particular segments of that industry: the all inclusive and the city-hotel segment. Although these segments are obviously not the only ones operating in Cuba, they are clearly dominant in its tourism industry: most of the existing hotels in Cuba fall in one of these two categories, and most of the hotels that are being constructed will be either all-inclusive or city hotels. The predominance of these two organizational forms over other alternatives can be easily explained by the Cuban environment: outside of the main cities the infrastructure for tourists is so poor that a tourist can run out of options for food in his/her first two days. In addition, most beach hotels are removed from cities or towns, making it impossible for the guest to eat out, and un-competitively expensive to charge for each meal taken at the hotels.

In this chapter, we proceed as follows. First, we outline the most important dimensions of the two segments mentioned above. This explanation of the generic issues of the segment gives way to a detailed explanation of each of the hotels studied, where the peculiarities of each hotel can be presented without repeating the generic themes. Each case presented here is describes the evolution of the hotel, and presents the most important

issues faced by managers at the time of our visits or, in other words, the foci of organizational attention.

Towards the end of the chapter, we present a summary of the main characteristics of the hotels, where the most salient facts of the cases are presented. We conclude with a final summary of the main results of the studies according to several variables of interest.

Competitive Positioning 1: The All Inclusive Segment.

The concept of "all-inclusive resort" is generally attributed to Club Med Inc., a French company that has based its strategy on this concept since the early 1970s, and developed it during an aggressive expansion in the early and mid-1980s (Hart, Arczynski, & Maher, 1990a, 1990b; Kartun, 1991). All-inclusive hotels are resorts catering to a clientele of vacationing individuals who will remain for several days at the same location, rarely leaving the premises and enjoying the numerous facilities available at the typically quite comprehensive resort. In general, all-inclusive hotels are associated with beach locations, but this need not be the case. What is central, however, is the capacity of the hotel to entertain its guests for several days.

An average all-inclusive hotel provides its guests pre-paid packages that include all or most of the services a vacationing individual will need throughout their stay. A typical package includes breakfast, lunch and dinner, snacks all day, beverages (sodas, a selection of wines and beers) and recreational activities. Aside from some minor personal expenses such as telephone calls, mail and the lobby store, guests do not need any money on premises; indeed, some companies will advertise vacations in their premises as the "perfect escape from society," since money does not circulate in the resorts.

While the final consumer is the individual guest, hotels usually sell their rooms in bulk to institutional buyers – tour operators and big travel agents — who in turn do the retailing. Typically, the customer is not from the country where the hotel is located, and has purchased his/her vacation through a travel agent, who in turn deals with a tour operator and/or with a wholesaler. This arrangement gives considerable power to the wholesalers, who demand constantly better prices and increased services for its guests.

Given the abundance of resorts and low switching costs, wholesalers have great power over individual hotels. A common strategy that hotels have used has been to integrate horizontally and vertically in order to obtain economies of scale and scope, and to propose a large number of tailored packages to their customers. While pure kinds of vertical integration are rare, strategic alliances between hotels, wholesalers and tour operators are not uncommon. However, tour operators and wholesalers are notoriously demanding, and pressure hotels for better conditions.

> "There is an eternal fight between the marketing guys and the tour-operators. They are the sacred cows of tourism; in fact, they are the ones that can fill your hotel or leave it empty." (F&B manager, male, Spanish, Key Hotel)

The concept of "all-inclusive" has contradictory consequences for the guests and for the organization. For the individual, the generalized perception is that everything is free because s/he has prepaid. Customers feel they are entitled to as much food and as many beverages as they desire, and are believed to show a tendency to abuse that freedom and to eat and drink more than they would consider appropriate in their home countries. However, all-inclusive resorts emphasize that freedom as a positioning tool, telling customers that once they have bought the package, they will not have to worry about extras.

In spite of the apparent clarity of the deal between the hotel and the customer, it is frequent for hotels to receive customers that are not aware of the details of their package. Consequently, management of customer's expectations is important, to avoid confusion and frustration arising from unfulfilled expectations. Hotels spend a great deal of time explaining in detail what is included in the package the consumer has bought and what is not, and what to expect from the hotel. This is done immediately after arrival, and is reinforced by documents and other brochures left in the rooms. By framing expectations at a moment where the customers expectations are still flexible, hotels try to shape future perceptions in a more favorable light: when customers are told what they will receive, and they receive what they have been told they will receive, perceptions of quality tend to increase.

But customer satisfaction is not based only on quality. Management of expectations acts as a mechanism to guide customers' behavior. From the organization's point of view, it is obvious that even though guests do not have to hand out any money for the services and goods received, there still is a variable, additional cost each time a guest requests something. For managers, this type of arrangement has other implications: an all-inclusive hotel knows when the contract is signed how much revenue each guest will bring in but does not know until the guest leaves the actual cost of his consumption, and can only estimate the expected margin. Consequently, any function that has a large variability is of utmost importance to the hotel, for these functions can significantly influence the costs, and thus the profitability, of the hotel.

Management of functions that generate variability in costs are crucial. It is known in the hospitality industry that "the service rendered by a housekeeper or a food server can vary widely from hotel to hotel, or even at the same property. This much variability is not found in consumer goods, and maintaining a consistent level of service is a challenge to all hospitality properties" (Abbey, 1996:33). For all-inclusive resorts, the challenge Abbey discusses means that costs cannot be predicted with certainty, while revenues are fixed. Therefore, reducing uncertainty (and its cause, variability) becomes very quickly a crucial management task.

The most important source of variability in an all-inclusive hotel is the Food and Beverages (F&B) division, particularly in places where the raw materials are relatively expensive.

> "What we want is the guests to eat cheaply and to drink cheaply, but we cannot afford to upset them. It is a constant battle to reduce costs without them [the guests] noticing. (...) We have to keep them entertained so they do things and they do not go to bars or restaurants and increase our costs; if possible, we have to take them out of the hotel with excursions and other open air activities." (General Manager, male, Cuban, Caribbean Hotel)

In addition to the variability it can bring to costs, this function is important because guests tend to generalize their experience with the quality and quantity of food to their experience of the whole hotel, and correlate one to the other. As such, the three important dimensions of F&B are quality, quantity and cost. Says a manager:

> We must improve the stability of inputs, I mean, reduce variability. We have to be even, keep a standard in products that reach the hotel, in the raw materials that we buy, so we get the same products because we depend on the inputs to produce results, if the inputs are different the results are variable. Another problem is the distributors, their infrastructure is deficient and we suffer from it. (F&B Manager, male, Canadian, Withwind Hotel)

Another important function is "entertainment," which includes the amusement of the guests and the organization of several kinds of activities, including water sports, tournaments, passive sports, dance lessons, festivals and nightly shows, among many others. To avoid the boredom that could settle in if the guests are not constantly entertained, the activities proposed must be varied and adapted to the type of guest the hotel caters to (e.g., senior citizens, singles, families, honeymooners). Besides the obvious entertainment value of the activity, managers believe that this function, properly organized, can help reduce costs, since a guest that is engaged in any activity is less likely to eat or drink than one that is idle.

> There are major differences between an all-inclusive system and a normal one, in a conventional hotel. For example, in a normal system you try to increase consumption, because when your guests buy, they have to pay. Here my profitability lies on what you do not consume. Thus, I have to put the onus on entertainment, that is a very important factor, because everything I can get in entertainment, amusement, activities, represents someone that is not stuck to the bar, to the cafeteria. Those are things one has to adapt all the time, and we adapt them by looking for better entertainment, for more services, looking for the things we can do (with what we have). (Services Manager, male, Cuban, Caribbean Hotel)

As stated, the portfolio of activities can very considerably from hotel to hotel, and is a function of the resources given to the department and the creativity of the managers and the employees.

Another source of variability is staffing. However, the number of employees tends to be closely correlated with occupancy (although there is always a lag), which is very often known well in advance. Consequently, staffing does not generate the same level of uncertainty as F & B or entertainment. Hotels tend to develop sophisticated systems indicating the number of employees needed at a certain level of occupancy, allowing them to plan personnel rotation.

On the revenue side, all-inclusive resorts generate income by selling packages, and to a lesser degree, by selling some additional elements not included in the package. All-inclusive resorts typically have several hundred rooms and rely on relatively high occupancy rates to break even (typically around 60% on an annual basis). In general, high

occupancy rates are needed to insure profitability as well as a certain level of quality. The occupancy rate influences quality because more guests mean more variety in food, drinks and entertainment at a lowering marginal cost. The marginal cost of adding variety in F&B or entertainment diminishes with each additional percentage point in occupancy until the hotel is fully booked. It is generally believed in the industry that below a certain occupancy rate (which varies from hotel to hotel) it is impossible to run the property profitably, and that at a lower point, it is impossible to have a level of quality compatible with the rating of the hotel. Lower occupancy rates signify problems, therefore, both in terms of profits and quality. However, most contracts include clauses that force hotel managers to provide all services (restaurants, entertainment, games, bars,...) to the tour operator's customers regardless of how low the occupancy rate is. In these cases, the hotel is operating at a loss, and typically each customer is "sponsored" by the hotel.

Aside from the operational considerations mentioned above, fixed costs influence profitability. The most important component is the cost of the physical plant (buildings, furniture, machinery, equipment,...) and depreciation . The cost of the buildings, associated with the rate of depreciation chosen, can determine the overall profitability of the hotel for years.

In addition to the cost of the building, the design of the hotel influences profitability. Its design is important not only for aesthetic reasons, but also because it can make operations easier and less costly. Good designs facilitate operations, without impinging on the overall aesthetic experience, striking a balance between sheer functionality and beauty. A well-designed resort has few large buffet restaurants, some thematic restaurants, several small snack bars, several bars with limited offerings and few with large selections, typically the lobby bar. The area occupied by the resort is enclosed to facilitate security and to prevent non-paying visitors from entering the property and enjoying benefits reserved for guests. Hotel personnel identify the guests by some type of "tag" they are forced to wear, typically a bracelet that is given to the customer when s/he enters the hotel. The "tags" have color codes that help the staff identify the type of guest (normal, newlyweds, VIP...) and the type of plan he or she has bought. (breakfast and supper, all meals, etc). Tags act as an identification device to segment customers, and as a

control mechanism to discriminate between customers and other individuals, who do not have (or should not have) access to prepaid services.

To summarize, resort hotels cater to a clientele that will remain in the hotel for the length of their vacation, having paid in advance for a package that includes some or all of their food requirements and drinks. The distinctive requirement of this clientele, as opposed to city hotels, is the need for entertainment and a variety of food. For the hotel, the critical issue is cost containment and its relation to quality, given that costs are variable while revenue is fixed.

Competitive Positioning 2: City Hotels.

The category of "city hotel" encompasses a myriad of hotels whose common denominator is to be located in an urban community. In its most general definition, the category comprises all the hotels a city may have, from the luxurious five star hotel with conference facilities, restaurants, bars, health club and spa to the modest one star providing a bed and a bathroom, and little else. City hotels, however, differ radically from resorts, providing interesting material for comparison. In Cuba, where the vast majority of hotel stays happen in resorts, the differences are very pronounced: customer expectations, everyday operations and general management of the hotel differ markedly between categories. Some of these differences are captured by the following comment, made by the general manager of the hotel Belltolls:

> There are big differences between Belltolls and Montelimar; the first one is a city hotel, the second one a resort . That has a great deal of impact on the staff, on the way people work and how they relate to customers and guests. It is very different from one to the other, at Belltolls (city) they don't have to pay much attention to the guest, they have to give the service that is appropriate to the situation and the guest is on his way. At the resort instead, the guests are living there, so the service has to be more personalized, more up close and personal. (General Manager, female, Canadian, Belltolls)

Belltolls does not differ much from other city hotels, but the contrast with resorts is clear . The atmosphere is radically different, and an air of professionalism marks the operations of Belltolls, as would be the case in any other city hotel. As is the norm in city hotels, there exists a clear distinction between the basic package one buys, and all the other pay-per-use services the hotel offers to its guests. Generally, a standard night includes a room and essential bathroom items such as towels, soap and a few other amenities,

breakfast and few other elements. Belltolls, and city hotels in general, cater to the traveler who has some kind of activity outside of the hotel and needs a room to rest, shower and conduct some work in connection with his/her main activity.

The profitability of a city hotel is heavily influenced by several factors. On the revenue side, the two most important revenue-generating activities for this segment are accommodation and the Food and Beverages section. Obviously, the amount of revenue generated by renting rooms depends on the number of rooms occupied at any given moment, measured by the occupancy rate, and the amount of money charged for each room. Occupancy, and the revenue per room it generates, depend to a large extent on internal and external factors. The external, macro-environmental factors include the state of the economy, the attractiveness of the city where the hotel is located; these factors influence the financial performance of the hotel. Internally, marketing and the overall value the hotel provides to its customers determine both whether a client stays there or elsewhere, and how much it pays for the room, the better hotels commanding the higher prices. While important, occupancy rates for city hotels are not as crucial as they are for resorts. Quite obviously, high occupancy rates are preferred to low ones; nevertheless, the higher rates charged to customers and the pay-per-service configuration help managers control costs much more effectively than is possible at resorts, and gives them many more degrees of freedom. On a similar note, quality is not as closely linked to occupancy, and high quality levels can be attained without having full occupancy.

The other revenue generating activity, Food and Beverages, includes all bars and restaurants that operate in connection with the hotel. These are in direct competition with other restaurants outside the hotel, and it is generally believed that the value they provide to customers (i.e., relation between quality and cost) determines to a large extent their success. But customers do have choices. The first task of the restaurants of a city hotel is to attract and keep customers that are guests of the hotel. This task requires an adaptation to customers' needs, which in general means a combination of quick service, good food quality and reasonable prices. In addition to the guests, who are natural clients of any restaurant associated with a hotel, particularly good restaurants or cafés can attract

customers that are not guests, and increase revenues of the hotel with marginal increases in cost.

Customer expectations for a city hotel are quite different than they are for resorts. With regard to food and beverages, customers in this segment tend to prefer quick and accurate service, and even if some customers take a significantly longer period of time for their meals, it is accepted that a average meal should be completed in about 45 minutes, including payment. As a consequence, hotels offer rapid service that can be extended if the customer so desires. This has the advantage of promoting more efficient use of fixed capacity, which tends to saturate around mealtime and sit idle the rest of the time.

This concept, however, was radically different from the Cuban standard taught in Hospitality Schools16, which was based on what is called the "Spanish method," emphasizing long lunches and suppers with many courses, and an attentive – but sometimes quite slow – service. This model has the negative consequence of increasing the length of time required for the customer's lunch, and reducing the number of customers that can be served during peak time. Says one manager:

> When I came to Havana I found people with a great deal of experience, but their experience was on the service à la Spanish, which is too slow and long. That did not work very well in a city hotel where the service has to be much quicker and more agile. (...) With these modifications we have obtained a good efficiency point, reducing the staff but keeping the same level and speed of service, which means we are more productive. (F &B Manager, male, Canadian, Belltolls)

On a similar note, an assistant chef describes his experience:

> [Alpha wanted] the service to be faster, and we had to break some schemas, like the one they taught you in school that says you must be standing there stiff with your arms straight and your hands on your back. Alpha said you had to put your hands forward, all the time, and you had to smile all the time, talking to the customer, I mean, many things we did not do, that were strictly forbidden. (Assistant Chef, male, Cuban, Belltolls)

City hotels tend to have fewer functions than beach hotels, reflecting the fact that customers tend to stay for shorter periods of time, and be on the premises fewer hours per day. Furthermore, city hotels do not need to entertain the customer as resorts do and,

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16 Hospitality Schools in Cuba are a mandatory requirement for any individual wishing to work in the tourism sector. This is a government-imposed standard that is supposed to regulate the labor market, provide sufficient training, and control who migrates from one profession to another.

consequently, they do not have a division responsible for entertainment. Similarly, the nature of the Food and Beverage service is completely different than it is at a resort. While Food and Beverages at a resort is trying to reduce the cost of the food while keeping variety and presenting enough alternatives, a city hotel simply passes on the cost of whatever it prepares to the customer, within the limits set by its quality and the alternatives. These factors influence the way the work is carried out. The ambiance of a city hotel tends to be much more professional, not having the "vacation" feel of a resort hotel. It is generally believed in the industry that city hotels should emphasize professionalism and speed as principal characteristics of the service they provide. While courteous service is essential, it is the efficiency the service that affects customers' opinions. This requirement is particularly acute in areas where the customer and the organization meet, and managers typically pay a great deal of attention to these areas. Front desk personnel, for example, are instructed to handle check-ins and check-outs rapidly, and have standard delays against which they can compare their actual performance.

In an attempt to distinguish their products from the alternatives, city hotels use a vast array of differentiation strategies. These can involve the whole hotel (for example, when the hotel itself caters to a bohemian clientele, or to the elite) or a part of it. To overcome the problems posed by the inflexibility of their infrastructure and the high cost and high uncertainty of a modification, city hotels often try to differentiate their offerings by allocating one section of the hotel to a particular segment, catering to its needs more specifically and configuring a package of products and services that are specific to that segment. In this case, while the hotel is the same, the levels of service are different from segment to segment: a businesswoman who values her time is served more promptly than other customers, and she can check out faster than other customers. One of the hotels studied had dedicated an entire floor to business travelers, and had changed the furniture in the rooms to accommodate the needs of that segment. The hotel had added desks, mini-bars, coffee makers, bathrobes, more towels, and a concierge with office-like capabilities reserved for these guests.

In sum, city hotels reflect the needs of their clientele, which is much more segmented and varied than is the case for resorts. Accordingly, hotels segment their offerings to cater to that clientele, within the limits imposed by the infrastructure and the buildings they possess. The differentiation of services that this segmentation entails is thus relatively limited, given these constraints and the fact that they provide mainly accommodation and pay-per-use services.. The emphasis in city hotels is on speed, accuracy and professionalism, primarily in the areas where the customer and the organization intersect (i.e., front desk, restaurants and bars, among others). The main differences are summarized in Table 1.

Table 1: Comparison between Resorts and City Hotels.

	Resorts	City Hotels
Clientele	Tourists	Business people / people with activities outside the hotel
Main objective	To provide a vacation	To provide accommodation
Source of revenues and cost.	Revenue is prepaid and known, cost is highly variable.	Pay-per-service. Cost is known, revenue is variable from a known floor.
Key Success factors	Occupancy (annualized break-even point around 70%, depending on size)	Occupancy (annualized break-even point around 50%, depending on size)
	Cost management.	Increase in expenditures of guest
	Increased quality at given cost (or at a higher rate than its cost)	Increased efficiency at given quality (or at a higher rate than quality decline)
Differentiation strategy	By quality and type of service provided.	By customer segment, given the infrastructure.
Differentiation among hotels	Mostly by service and location	Mostly by quality and location
Type of Service	Personal	Goal driven
Requisite of service	Friendliness and sympathy.	Speed , accuracy, professionalism.
Crucial functions	Entertainment, Food and Beverages	Front desk, customer relations, business desk.
Profitability determined by	First by rate negotiated with wholesalers, then by total occupancy rate, finally by cost of service per guest.	By rate negotiated with final customer, then by extra amount spent by customer, then by cost of operation
Main characteristics	Labor intensive	Efficiency driven
	Customers participate actively in their experience, separation between back and front office is tenuous.	Tight separation between front office and back office, customer is maintained on the fringes of operations.

In the next section, the two strategic alliances studied and each of the business units are presented in detail.

The case studies: overview.

The strategic alliances

We begin our presentation of the cases with a brief discussion of the strategic alliances studied. As mentioned in chapter four, the Government of Cuba decided in the early 90's to give significant impetus to tourism as a hard-currency generator. The tourism industry in Cuba is now considered, despite potential problems, one of the few viable alternatives to rescue an economy in the wake of near paralysis (Fitzgerald, 1994; Martin de Holan & Phillips, 1995a, 1995b; Perez-Lopez, 1994; Simon, 1995). While the first post-revolution foreign-operated hotel open in 1988 in the then-beautiful but underdeveloped area of Varadero, about 130km away from Havana, by 1997 at least fifty hotels throughout the country had some type of foreign participation, from contractual arrangements to co-ownership of the hotel and their facilities. In implementing its strategy of using tourism as a means to compensate for the losses in other sectors of the economy, Cuban authorities have deployed a vast array of contractual agreements; all combinations probably have been tried, from sites developed and financed by foreign entities to hotels under management contracts.

It is in that context that Alpha, a foreign company, contacted the Government of Cuba around 1991. Alpha desired to manage hotels in Cuba, and the Cuban Government was interested in penetrating Alpha's market. Conversations began and very rapidly, a series of contracts marked the beginning of Alpha's participation in Cuba. As we will see below, the beginnings were fraught with problems, but by 1996, Alpha – CorpCo's strategic alliance had developed to at least six properties in various parts of the island. All –but one- represented product line extensions for Alpha, a company more used to managing large city hotels than small or medium resorts. This was, in fact, one of the incentives Alpha had to enter the Cuban market: to develop its own expertise in an unsophisticated market with a large potential. CorpCo, on the other hand, desired to access quickly Alpha's local market, and benefit from the expertise and brand name that Alpha could bring.

The alliance with Voyage developed along the same lines. Voyage is a well known European company with a strong presence in the Mediterranean countries and a broad product line that includes beach hotels and resorts, golf resorts and urban hotels. Latin America, though, was largely alien to Voyage, who saw in Cuba an excellent way to introduce itself in the sub-continent and develop its own skills. Unlike Alpha, however, Voyage was known not only for the management of hotels, but also as a solid partner capable of raising capital (and, occasionally, bringing its own money) to develop and build new hotels, something that was of great interest to CorpCo. CorpCo-Voyage's alliance started with the renovation and management of a very important hotel in a large city of the country around 1993, but very rapidly developed into a full fledged partnership that included many hotels in several parts of the country.

The cases studied here belong to either of these two alliances (Alpha-CorpCo and Voyage-CorpCo), with the exception of the Caribbean hotel, a hotel fully owned by CorpCo with no foreign intervention. In total, six case studies are presented here (Hotels Belltolls, Withwind and Montelimar, Voyage-Key and Voyage-Nut Resorts, and Caribbean Hotel[17]), although a seven case was created when Hotel Belltolls' management was reverted to the owner, CorpCo, as the contract with Alpha for that hotel was terminated.

The hotels are grouped into three categories: strategic alliances between company Alpha and CorpCo, composed of Hotel Belltolls, Hotel Montelimar and Hotel Withwind; strategic alliances between Beta and CorpCo, composed of Hotel Voyage – Key and Voyage Nut; and Cuban-owned and operated hotels, including the Caribbean hotel, and Hotel Belltolls after the departure of Alpha. The objective of the sample was to maximize the sources of variance in the dependent variables (insofar as the notion of dependent variable is meaningful for an exploratory, qualitative study), while conserving a high degree of similarity, in order to allow comparison. As such, all hotels are under the same structural constraints and face the same general objectives, imposed upon them by their stakeholders.

[17] Fictitious names.

Also, we wished to study hotels with different degrees of success. To evaluate the success of the different hotels as accurately as possible, we asked a number of experts (n=12) in Cuba and Canada to evaluate each hotel using economic and quality indicators. The expert panel used to evaluate the hotels was composed of professionals in the tourism industry who had broad exposure to Cuban realities but who were not connected to any particular hotel. To confirm the validity of the ranking created by our panel, we asked the general managers of the hotels we were visiting to evaluate a list of hotels using a 5-point Likert scale. That list was made up of all the hotels included in this study, as well as a number of other hotels not included, in order to avoid identification. However, we systematically excluded the hotel where the manager was currently employed, so the evaluation only reflected their estimate of success of other hotels and not of his/her own. The inter-rater reliability of this measure is high[18], and indicating that there is a solid consensus within the industry of which hotels have reached good levels of economic performance and quality.

[18] High is here defined as superior to .9. All the variables were above that cut-off point.

Cases: description of the research sites

Strategic Alliance 1: Alpha – CorpCo. Case 1: Belltolls.

Belltolls is a pleasant hotel located about 25km from downtown Havana. It is attached to a marina, where boats from around the world are docked while their owners tend to their business in Havana or vacation on-site. It was planned and built a few years before the Socialist revolution, which took place in 1959, and was specifically designed to hold a casino that would operate in connection with the Marina. At that time, the city of Havana hadn't expanded as it did from 1960 to 1980, and the hotel looked remote enough to represent a quiet destination not too far away from the city. By 1990, though, the city had caught up with the hotel, and the first suburbs of the city were only two or three minutes away from the marina by car.

The main building of the hotel has less than 150 rooms, and several two-story bungalows (*cabañas*) have been built for guests who desire more space and privacy. These cabañas are located within a short walking distance of the main building, which contains the lobby bar, a store, the reception and the restaurant where breakfast, lunch and dinner are served. Although the hotel was built on the ocean, the beach is stony and cannot be accessed from the hotel. This is compensated for by a large swimming pool where guests can swim. Although it is now a city hotel catering to business travelers, it was originally designed to be a hotel for individuals that would spend most of their time at the Marina, if not at the hotel itself. While the swimming pool is adequate, the lack of beach access and the distance to downtown are perceived as problematic, particularly for individuals who wish to conduct business or simply visit the city.

Brief history.

The hotel was not inaugurated until thirty-two years after it was built. The government that came to power after the revolution in 1959 considered a casino unnecessary, and the hotel remained unfinished for a few years. In the mid-1960s, the hotel was turned into a school, and attached for several years to the Ministry of Education, which traded it in turn to other government units. The changes in ownership continued

until the mid-1980s, when it was decided to use the building for its original purpose – a hotel, attached to the Ministry of Tourism. By that time, the building was in a sorry state of disrepair, and all the furniture and appliances, industrial as well as individual, were missing. The government ceded control of the building to newly created CorpCo, a large, diversified corporation whose principal theme is tourism-related activities.

Rebuilding and revamping the hotel was neither easy nor cheap. While CorpCo gave itself a deadline of twelve months from the starting date, to complete work on the hotel, it remained unfinished three years later, despite considerable investment and effort. At that point, under severe pressure from the government, CorpCo management launched an ultimatum to operating management to finish the hotel by the end of the year. Simultaneously, CorpCo entered a strategic alliance with Alpha Hotels, a well-known international company that builds, designs and manages hotels in several countries. Alpha Hotels was given the right to manage three hotels in different parts of the country, including Belltolls. Very quickly, foreign managers were sent to Havana to help with – and accelerate the completion of - the last details of Belltolls. These individuals were to take control of the hotel and occupy the top management positions, while the Cuban managers that had been previously designated by CorpCo were to assist them in that endeavor, taking the role of "right-hand men".

Operations.

The hotel has adopted a traditional structure that divides responsibilities across functional lines. However, following the general guidelines of the alliance, foreign managers are assigned to the positions that appear crucial for the functioning of the organization. In particular, the General Manager of the hotel, the Food and Beverages (F&B) manager and the room service managers are foreigners. A fourth person in charge of special project is resident in the hotel, although she has no responsibility in the operation of the venture.

The consensus during our first visit among managers was that the hotel was not up to standard and could not compare to other hotels managed by the same corporation. Even though the contract is a standard contract like "any other contract that would take place

elsewhere," and the hotel is the one that most closely resembles a city hotel in Alpha's country in terms of market segment, the quality differential is perceived as significant by managers and independent tour operators. This is despite of the explicit mission assigned to the manager to "bring the hotel up to standard." In her words, her mission was

> "(...) to train and to run the room side of the hotel as I would do it at home_, as close as possible, to follow Alpha's policies and procedures, to implement Alpha's privileges here and finally, to implement Alpha's signature services on the fifth floor. (..) I came to implement these basic programs that would be common at home, from a managerial perspective I came to implement things such as employee empowerment which is a quite foreign concept here." (Special Project manager, female, Canadian, Alpha Corporation)

The gaps in quality were particularly visible in three functions: Food and Beverages, Housekeeping and Reception. The restaurants employed too many people, the menu was not varied enough, the overall contribution of the function was problematic, and there were serious concerns about the profitability of the restaurants. While it was impossible to verify it quantitatively, some employees suggested that the restaurant would lose money if it were considered a stand-alone operation, and that it was a heavy burden on the finances of the hotel. There were other problems with the restaurant that were as distressing as the lack of profitability. The variety of the menu and the low level of complexity of the dishes were incompatible with the hotel rating. The quality of service was also problematic. Customers were not served quickly nor accurately, and some complained bitterly about it.

In addition to these problems, shrinkage and pilferage were suspected, particularly with expensive items such as imported liquor and some raw materials such as beef and lobster. While some of the shrinkage was certainly due to mismanagement and to poor inventory and control systems, managers at Belltolls were convinced that some, if not most, of these goods were sold on the black market. Severe measures were taken to avoid theft, including the banning of all purses, bags and backpacks, which were replaced with a small fanny pack the company offered to its employees. Says the general manager

> "Stealing quickly became a problem. A lot of things were missing, and we didn't know what to do about it. We could not put a guard behind each employee, and we could not go on like that, because it was having an impact on the results and it was a bad example to the ones that were not stealing. Then I decided to ban purses and backpacks and bags that employees used to bring to work. But then the problem was where to put the cash and the lipsticks and mascara and the other things they do need.

Well, I bought and gave them little bananas (fanny packs) and told them that from that day on, bananas were mandatory." (General Manager, Canadian, female, Belltolls)

After introducing these solutions, shrinkage was reduced, but wastage remained and had to be addressed specifically. Theft and dishonesty were not restricted to small items. During the first few months of operation, a group of employees worked together to defraud the hotel by manipulating flaws in a computer program. This scam was fairly successful until it was discovered by accident by a manager, when a frequent customer complained about a minor and unrelated incident. The incident, which cost an undetermined but considerable amount of money, involved lower level employees and at least one functional manager. All were dismissed after the incident was revealed, although it was impossible to recuperate all the money embezzled.

These were not the only issues. Housekeeping had a variety of problems as well, the main one being the lack of standards delineating the quantity of work to be completed by each individual in the organization and the quality of that work. The former was problematic when employees' and guests' definitions of "cleanliness" diverged. Furthermore, the variance in the number of rooms that each employee could take care of was significant, and this affected employee morale and output, since each employee had an incentive to be as productive as the least productive employee.

Finally, the front desk was also below generally accepted standards. Check-in and check-out times were long and problematic, and confusion regarding the charges corresponding to each room was frequent when checking out, delaying and infuriating guests. Telephone calls were a source of discontent. Calls were not answered according to company standards, or they were misconnected. Often, guests did not receive messages that were left for them, and faxes were delayed. Finally, English was not widely spoken on the premises, and sometimes the employee answering the telephone was not fluent in the language, which made communication difficult.

Management Issues.

As mentioned above, the central issue for management was how to bring the hotel up to international standards, according to standard procedures and to the category of the

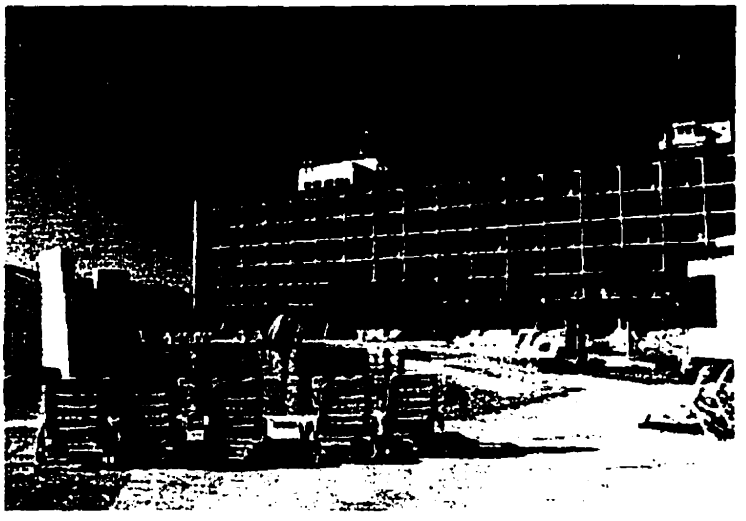
hotel. While the problems were different from function to function, the commonality had to do with lack of standards and ignorance of them.

A significant amount of time was also spent on operations to manage the hotel profitably. Problems included excess personnel, lack of rigorous accounting methods, inability to control costs, and inadequate product offering and low occupancy rates. Of these, only low occupancy rates were considered to be a problem two years after the opening, all others having experienced substantial improvements.

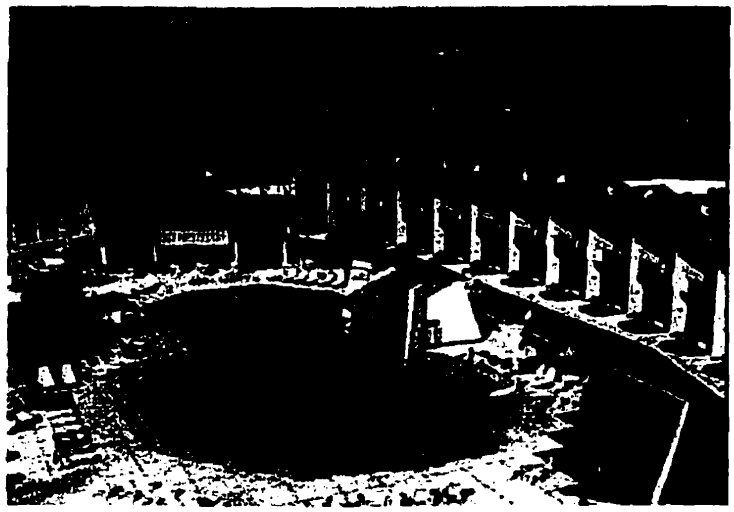
In sum, Belltolls is a city hotel with an adequate physical plant and improving standards of quality. Despite two years of efforts, a great deal of improvement is still needed to bring the hotel to international standards. The experts' ratings classify it as medium on our three-point scale. This is consistent with the informal self-evaluation of the manager, who during an interview evaluated the hotel to be at 70% compared to an equivalent hotel in a developed country. Nevertheless, there has been considerable improvement in the hotel. Quality and speed have increased, and operating costs have decreased, which are indicators of the development of a body of knowledge.

Belltolls – Images.

A typical room of slightly higher quality (and hence price) than the average one, thanks in part to the top floor (in this case, the fourth) and to the ocean view. The minibar that can be seen is not functional and acts only as a fridge. The TV is of smaller size than the standard for a four star hotel, as is the round table to its left, which acts as a desk. There are two small twin beds merged together, a very inconvenient detail for couples who wish to share a bed and still have the convenience of a larger mattress. The beds are not of standard size.



The Hotel viewed from the swimming pool. On the left side of the image, barely visible, are the cabañas. Note the lack of distinctive architectural details, and the functional design, which is particularly visible in the straight lines of the building and its regularity, all of which simplify construction and reduce cost. The swimming pool is pleasant but relatively small for a hotel this size, and oddly shaped. The aquabar, seen on the left side of the image, is unusual for a hotel which targets business travelers.



Cabañas and Swimming pool. A small part of the stony and unusable beach can be seen on the left side of the image. On the right side, the cabañas (bungalows) for individuals who want more space than a conventional hotel room, and some amenities not usually found in rooms, such as a fully equipped kitchen, a bigger bathroom and bigger closets.

Strategic Alliance 1: Alpha-CorpCo. Case 2: Montelimar Hotel.

Montelimar is a four-star beach hotel built on a hillside, in a beautiful, undeveloped bay on the southern coast of Cuba. The region is relatively isolated, although the city next to it is an important urban center, with an international airport, good urban facilities and a solid tradition of industry and trade. Montelimar was built under the auspices of the government, which wanted to develop international tourism in the region. With that objective in mind, the Ministry of Tourism planned a complex of several hotels in a beautiful but isolated bay that combined lush forest with mountains and beaches. Montelimar is the first, and so far the only, hotel built under that plan. It is located less than 100km away from the main city on a small but pleasant road, and is, as a consequence, isolated and rather remote.

Montelimar is a medium-sized hotel, composed of three compounds or "blocks" of similar form and number of rooms, built on the mountain slopes. A clever design that took advantage of the shape of the terrain succeeded in giving all rooms a view of the ocean, although compound B and C are closest to it and have better views. Rooms in all compounds are similar, and, distance to the main lobby and proximity to the ocean aside, there are no significant differences between them.

Brief history.

Construction of the hotel took place from 1989 to 1991; it was built by one of the branches of the Cuban State in charge of building development, on behalf of its tourism board. Its original purpose was as a flagship hotel that would help CorpCo develop the area, which was considered to have great tourism potential and reasonable general infrastructure. The specific objective for Montelimar was to create a market for this part of the country, distinct from the one that already visits the large city a few miles away.

Montelimar Hotel was built to be owned and administered by CorpCo, but for a number of unspecified reasons, a few weeks before its scheduled opening a decision was made to negotiate a management contract within the existing strategic alliance between Alpha Hotels and CorpCo. It was at that moment that the foreign managers first visited the hotel.

Given the short time frame before the opening, most of the resource allocation decisions involved in the opening had already been made by the time the new foreign managers joined the hotels, even if the actual goods had not been delivered. The hotel's infrastructure was almost complete, and its machinery and furniture had already been bought, limiting the *marge de manoeuvre* of the new management team. However, as soon as the agreement was announced, a group of five foreigners were sent by Alpha to the hotel to work as top managers. Their mission was to ensure that the hotel would be ready for the scheduled inauguration date, and later to remain on site as managers of the new venture. The foreign managers had considerable experience in the hospitality industry, but none of them had previously worked for Alpha. In fact, most of these foreign managers had been hired by a head-hunting agency whose primary mission was to find competent individuals with a solid command of the Spanish language, Alpha Hotels personnel being unable or unwilling to take such assignment.

The first few weeks were, according to the managers, a time of discovery, and discovery there was aplenty. That period was used to evaluate the hotel and start operations within the limitations of a brand new hotel built by an inexperienced construction firm. From the managers' perspective, this period was spent acquainting themselves with the infrastructure of the hotel and its limitations, and developing a working system that would allow operations, while introducing modifications to the hotel that would create and consolidate its rating (four-star) and control costs. Says a manager:

> "When we took control of the hotel, we had to tell them [CorpCo] that we needed to make these changes, that the rooms were not... sellable to a Canadian or a European visitor. Then, we had to make all these changes and the renovations, and fix the kitchen, and everything [that was amiss] in the hotel. Someone had to have a plan to follow up on things, to make sure that what was planned got done. (Housekeeping manager, female, Canadian, Montelimar Hotel)

Operations.

The hotel is, and has been since its inauguration, an all-inclusive resort with beach, water-sports and passive sports (chess, dominoes, cards...) as the main activities for tourists. The average length of a stay is ten days, but almost all tourists stay for full weeks, either one or two and very rarely three. Given that pattern, the animation and shows that take place daily rotate on a fifteen-day basis, so most visitors will not see the same show

twice. This pattern is repeated in the kitchen, where the menu covers two full weeks to avoid monotony. Although breakfast and lunches vary little, suppers are thematic (Italian, Mexican, Gala night,...), and the average visitor will not attend the same thematic supper twice.

Montelimar has one large, central kitchen, with industrial freezers for frozen foods and an adjoining cold room for other type of foods, and a large selection of industrial ovens to cook meals and bake goods. Its equipment is standard, and has been bought in the open market; only minor modifications have been made to it. As a general rule, the hotel only buys uncooked and/or unprepared goods: all the transformations – peeling, cooking, shaping, portioning - are done by hotel personnel. This is believed to increase efficiencies and reduce purchasing costs, but puts a heavy emphasis on food preparation and menu design, tasks realized under the direct supervision of the head chef and the Food and Beverage managers. Apart from food consumed at the snack bar, all food consumed in the hotel is prepared in the kitchen, and served in the restaurant next to it, where breakfast, lunch and dinner are presented to the guests. The restaurant is a large, L-shaped room that can accommodate about 350 guests. It is near the swimming pool, and within a short walking distance of the lobby.

In addition to the main restaurant, there is a grill next to the beach. This grill (called the *Ranchón*) is a rustic construction with a limited infrastructure that can serve barbecued foods and salads, as well as some minor snacks.[19] The Ranchón is convenient and well-located, and allows tourists to eat without leaving the beach. In addition to food, a small selection of beverages is served to accompany the grilled food. The Ranchón is open only for lunch, but it is heavily used by customers who do not wish to return to the main restaurant.

The hotel has a large swimming pool, which some of its clientele prefer to the beach. Next to it, there is an "aqua-bar," or poolside bar. This bar was designed to serve

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[19] A ranchon is a Spanish word to describe a wooden structure with no walls, whose roof is made out of palm tree leaves. It is used generally as a house by poor people in mild climates, but it can serve as a structure for other activities as well, hence the generic name for the snack bar in this and other hotels.

swimmers on one side, and non-bathing guests on the other, either at the bar or sitting at tables. A large selection of beverages is available, from coffee, tea, fruit juices and sodas to alcoholic beverages, hard liquors, beers and wine. In contrast, the selection of snacks is limited to a few sandwiches, pizza and pasta at lunchtime. This bar is open all day, closing only at night, and is heavily used all the time.

Finally, a lobby bar serves roughly the same selection of drinks as the pool bar, but its operating hours are limited and no snacks are available. This bar is situated next to the lobby's very comfortable chairs and sofas and the pool and ping pong tables that serve as part of the recreation area. This bar is less frequented than the other two bars.

Housekeeping operations were perceived as normal, but complicated by the three different compounds. Teams of maids had to be organized for each compound and for the common areas, which rendered the work of the manager more strenuous, particularly when she needed to control how the work had been performed. In addition to these problems, the low occupancy of the hotel at certain moments obliged the manager to dismiss employees regularly, some of whom never returned. This, in turn, obliged her to renew the efforts to train new employees when occupancy increased.

Management Issues

Several issues attracted the attention of the managers very early on, some of which had not been solved by the time we visited. The first issue, one that appeared very quickly after inauguration, was related to the physical plant of the hotel in general. While it is considered adequate, problems with the infrastructure, the equipment and the furniture quickly appeared. While the physical plant was installed and operating, some parts of it were severely malfunctioning. Most rooms did not have hot water and water pressure was inadequate. In addition, severe design problems affected the balconies and the draining system for rainwater.

Most of these problems arose from the poor design or construction of the hotel. As mentioned previously, the Montelimar was built on a hillside, each floor being a terrace whose floor serves as roof to the room on the floor below. While this design provides each room with a spacious balcony and facilitates construction, it blocks the natural flow of

water when it rains. The water that previously glided from the top of the mountain to the ocean now flows from roof to patio to roof, until it finally escapes to the ocean. To prevent water from entering the rooms, the balcony floors are built with an outward slope to facilitate the drainage of water. In the case of the Montelimar, however, the balcony floors are tilted towards the inside of the room rather than outwards, causing flooding of the rooms when it rains. The drainage system, hidden under ceramics, was properly designed but improperly executed, and many junctions leaked, provoking water damage in rooms and corridors.

In addition to these problems, the wiring system was set up to European standards (220volts) while most of the clientele was from countries using the North-American system, which requires only 110 volts. Other essential elements of design were also inadequate: for example, the lobby did not have any kind of protection against rain, and most of it, including parts of the front desk, were left almost completely unprotected. Whenever rain occurred in association with moderate to high winds, the lobby furniture and the reception area became wet, which damaged furniture and electronic equipment, preventing employees from carrying out their normal duties.

Similarly, some safety features were not present, or were not up to standard. Balconies were shorter than international standards, and their protections shorter, increasing the possibility of accidents. Furthermore, a fountain with an artificial river and a small bridge in the lobby were hazardous, and had insufficient safeguards.

Beyond the problems with the physical plant, some machines that were needed to operate the hotel were inadequate or completely lacking. Of particular interest are the machines related to Food and Beverages, and to the kitchen: obsolete equipment had been bought, vital machines were missing and superfluous ones were present. These problems became serious issues because the owner of the hotel, CorpCo, did not allow its business units to make capital expenditures, however minor, without approval, a lengthy and complicated process with no guarantee of success. In the kitchen, for example, the freezers had insufficient shelving, forcing workers to stack food on the ground. Similarly, many specialized pots and pans were not available, while others were duplicated. Some of the furniture was also inadequate. The chairs in the dining hall were not designed for the

industrial use they were subjected to, and very quickly deteriorated and needed to be replaced.

Similarly, some of the bed and table linens were inadequate, and there was a shortage of towels. In particular, the upholstery, the bed linens and the bedspreads were of the wrong type, suitable for a city hotel but not for a beach resort where individuals tend to sit on them while wet or while wearing sunscreens and other oily lotions that leave permanent stains. Bed covers and curtains were made of cotton, which decays quickly, and, despite an adequate supply of towels, the variety required in a four star hotel (hand towels, bath towels, beach towels) was lacking.

Human resources were also problematic. Contrasting with the considerable experience of the top management team (foreigners, but many Cubans as well), the employees had very limited training in the hospitality industry, some of them never having visited a hotel of any kind in their lives. The restaurant manager commented:

> "everything was so quick that we did not have time to be prepared, as one would normally be in a hospitality school (...) so people here were too... they still had a lot to learn, they had a lot of goodwill, good guys as far as human traits go, but they didn't know much about anything" (Restaurant Manager, female, Cuban, Montelimar)

Thus, there was initially a heavy emphasis on basic training to allow the workers to master the essential elements of service. The evolution has been good, and, at the time of our visits, managers and observers are satisfied with the quality of the human resources.

In stark contrast with the great stability of the Cuban personnel and management team, the turn-over of foreign managers has been high. Four general managers and five Food and Beverages managers have come and gone in almost four years. Many of these managers left the company and the country, but several others were promoted or changed assignments from one division of the strategic alliance to the other, and have rotated between hotels. This turnover proved particularly problematic for the Cubans, who complained bitterly about the disruptions caused by such a rapid change.

As mentioned previously, the management team, foreigners and Cubans alike, had a great deal of experience and a high level of competence in the tourism industry, but in different contexts: in international hotels for the foreigners and in Cuban-operated hotels

for the Cubans. Conversely, the workers tended to be inexperienced in tourism and hotel management. A large number of workers are professionals, but very few have studied hospitality as their main discipline, and most lack formal training in hospitality, other than at the most basic level. Due to the great distance to the city and the difficulties in ensuring proper and regular transportation, most of the workers come from the surrounding areas, which are rural, poor and quite underdeveloped by Cuban standards.

To compensate for the lack of experience or qualifications of the personnel, functional managers of non-key areas and supervisors were chosen among the available students from the internal school of CorpCo. Furthermore, training programs were implemented in the hotel by CorpCo and by Alpha hotels, often without consultation among them. This resulted in conflicting teaching schedules, programs and objectives: while CorpCo wished to raise the theoretical qualifications of the workers by implementing courses that addressed more abstract issues, Alpha wished to have employee's practical abilities raised as quickly as possible, with little or no regard for theory. This resulted in conflict between the partners and considerable duplication of courses and seminars.

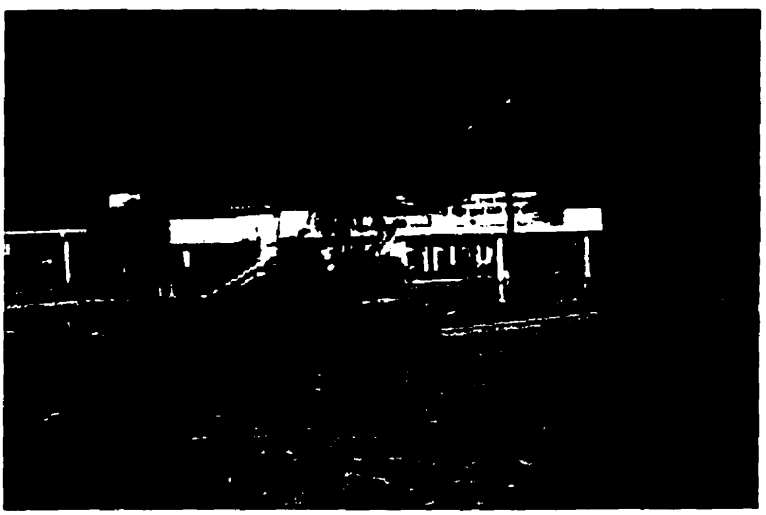
Montelimar: Images

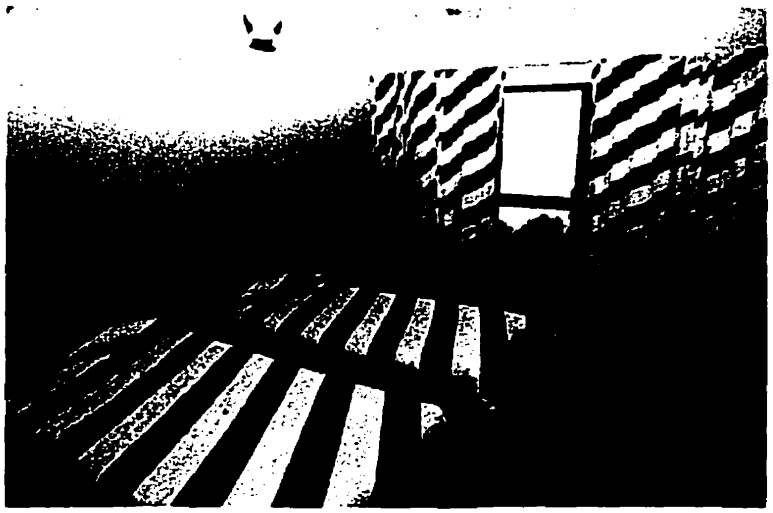
Montelimar's beach, viewed from the main area, built on the side of a small hill. Noteworthy in the image are the poor quality of the sand (gray, coarse) and the narrowness of the beach, ending where the vegetation reaches the ocean, approximately one hundred and fifty meters from the end of the slope. On the right of the image, the Ranchón (or barbecue restaurant) can be seen. This restaurant is intended for individuals who do not wish to take a trip to the main building to eat lunch. The building to the left of the Ranchón (in the center of the image, with a star-shaped roof) is the marine center, where water-sports can be contracted. The company that operates this building is a subsidiary of CorpCo and not directly affiliated to the hotel.

The beach. Note its grainy texture, and the coarseness of its sand, which is mostly composed of stones and rocks, forcing visitors to walk on it with some kind of protection to avoid hurting their feet. Aside from a small band next to the water, walking barefoot on the beach is painful and difficult. The poor quality of the beach, one of the characteristics of this part of the country, was one of the most contentious points with some tourists, who felt extremely disappointed by it.

The Buffet restaurant. This restaurant acts as the main dining room, and all meals are served here. This room is used for some shows, in particular when the rain makes outdoor activities difficult.

The swimming pool. A beautiful pool, although its odd shape makes cleaning and swimming difficult. The white building in the center of the image is the pool bar, whose second floor acts as an open-air discotheque, and occasionally as a snack bar. The lower level serves as an aquabar, and has a few tables on the other side, opposite the pool.





An average room. Note the pattern of the bed linen, matching the curtains. The fading mentioned above is not visible in the picture. . Also, the beds are non-standard, smaller than a double bed but wider than a single one. Note also the deficient protection on the balconies.

Strategic Alliance 1: Alpha-CorpCo. Case 3: Withwind Hotel

Withwind Hotel is a medium-sized hotel (approximately 270 rooms) on the northern shore of Cuba, on a white-sand beach considered among the most beautiful on the island. The hotel is composed of two wings of five stories each, both of them facing the superb beach and the ocean. Withwind is considered to be one of the finest hotels of its kind in Cuba, not just because of its splendid location and environment, but also thanks to the quality of the buildings and the costly details that decorate it. In addition, the hotel has made significant progress in its three years of operation, and is evaluated by industry experts as one of the highest quality hotels on the island in its category.

The hotel was built in the center of a cluster of hotels. The site, long favored for the beauty of its beaches, has three other hotels, all owned and operated by CorpCo. With the exception of Withwind, managed by Alpha, the site is considered to be the exclusive turf of CorpCo. There is a consensus that Withwind is of far superior quality to the other three hotels, and CorpCo managers cite the need for international standards in the region as a strong motivation behind their choice of Alpha as a partner for Withwind. Aside from the four hotels, the area is not well developed, and there is little else that could attract the interest of tourists. All four hotels belong in the all-inclusive segment, although there are significant differences in the prices charged and the clientele they cater to. Industry experts indicate that although all the hotels are nominally in the same segment (all inclusive, four-star beach), the difference in prices between Withwind and the others (up to 35% for comparable packages) are good indicators of the quality gap.

Brief history.

Construction of Withwind was initiated in 1990, and completed four years later, almost three years after the scheduled date for completion. In late 1993, about eight months before its completion, the hotel was included in the on-going strategic alliance between Alpha and CorpCo, and almost immediately four managers from Alpha were dispatched to the site to supervise, control and accelerate completion, scheduled for late 1994. In particular, the individual who would become the general manager of the hotel was involved from the moment of his arrival in giving the finishing touches to the hotel,

from construction details to the colors of the bedspreads. In addition to material details, the general manager was involved in the selection process of his management team (apart from the other three foreign managers that had already been selected to work with him by Alpha), of most employees, and finally, on the training programs that were implemented from the beginning.

From the day the team arrived, the most important issue was to finish the hotel according to the schedule agreed between CorpCo and Alpha. The date indicated, however, was considered tentative by the construction company, who, having no late delivery penalty, had little incentive to finish the hotel according to schedule. Once the management contract had been signed, the situation changed, although the incentive was given to the foreign manager rather than to the construction company: every delay represented a penalty for the foreign partner in lost revenue, but not for the construction company or CorpCo, who had already accumulated three years of delays. Alpha acted promptly. Its team of managers began an exhaustive supervision of the construction site, with the explicit objective of inaugurating the hotel in time for the high season. A considerable amount of time was spent negotiating between partners and sorting out construction problems, until CorpCo succeeded in convincing the Ministry of Tourism to dispatch a delegation that would supervise the completion of the hotel, and would have power to enforce deadlines for suppliers and contractors. The hotel was on its way to inauguration.

Shortly before inauguration, when the main construction issues were solved, Alpha's managers shifted their emphasis to modifications to improve the quality of the hotel, or facilitate work, making it more efficient. In the first category one finds issues such as the distance between bars on balconies, height of balcony protections, communicating doors between rooms to make them family-friendly, and ramps for wheel-chair access, amongst other modifications considered necessary. Alpha's managers insisted on their kitchen design, on half kitchen doors to facilitate movement, on the creation of bars next to the theme restaurant where customers could wait for their tables and on the reduction of the size of the swimming pool, so a larger scene could be built for the nightly shows. Although most requests were eventually realized, either by the

contractors or directly by Alpha, many of them generated considerable tension between the constructors, Alpha and CorpCo. In the end, only the request for a smaller swimming pool was rejected and could not be modified. All the others were resolved, either by the contractors or directly by Alpha. Six days before the scheduled date for inauguration (but almost two years after the original date), Withwind was inaugurated.

Operations.

The hotel operations do not deviate much from a traditional all-inclusive, the exception being the attention paid to detail for recreation and gastronomy, probably attributable to the experience of the general manager, himself a longtime Club Med employee. The management team sent by Alpha to inaugurate the hotel paid considerable attention to recruitment, and all the managers were involved in the interviews, the questionnaires and each step that helped narrow the large pool of applicants. This zeal clearly reflects the desire to raise the standard of the hotel to a "true" four-star hotel, capable of competing with rivals in the Caribbean. To achieve this, the foreign team focused their efforts on the two elements considered crucial by the general manager: entertainment of the guests, and food and beverages. As a consequence, these two functions became important, but they were also subject to a great deal of scrutiny, control or simply observation.

Putting that preference aside, the hotel operates in a similar manner to those described previously, and the issues that concern its managers and employees are rather similar. We go into more detail below.

Management Issues.

The three most important issues for Withwind managers were management of human resources, cost of operations, and revenue. Although revenue was rightly perceived as being crucial in the profitability of the hotel, managers did not have a great deal of control over it. Revenue was mainly, but not exclusively, a function of the number of guests and the price paid per package, and was determined by factors external to the hotel. Marketing efforts, perceived as being crucial for high occupancy rates, were mostly controlled by the parent companies, as was the overall image of the hotel and the

destination. Occupancy rates, their consequence, fluctuated with the acceptance of Cuba as a vacation destination, the competitive efforts of rival destinations, and the basic daily price set by the parent company which determined the price of the package for the final consumer. Withwind managers had little input into these arrangements, and felt the prices were often set too high, and their increases from year to year were too steep, steep enough in any case to scare customers and to disappoint tour operators, who had little brand loyalty. Although managers argued that the quality of their hotel justified the price asked, they also noted the significant increases that CorpCo requested year after year had an impact on occupancy and confused the clients, pushing the hotel into a different and foreign niche. Managers believed that Withwind provides a service "superior to most resorts on the Caribbean, our [Withwind's] direct competitors, they are not as good as we are. The problem is image, we can't sell this hotel as we should because people do not believe we are better than the other hotels." In addition, they were convinced that demand did not have the elasticity CorpCo had built into their calculations, and customers (and in particular the wholesalers, who had significant clout within the industry) would prefer cheaper alternatives.

Thus income was beyond their control. Costs and quality, on the other hand, were not, and a significant effort was put into these two topics, to improve the latter while reducing the former. Quality of operations was an issue from the beginning, and remained so at the time of our visits, being largely defined as the ability to consistently achieve a desired standard. Says the general manager

> "[it may sound like details but] that is what haute cuisine is all about. They [the employees] will make you a sauce in a different way, and you need a structure so the sauce is just the same. Within that structure, creativity is fine, but the structure itself does not change. (...) You know, a sauce means a particular flavor, and it means a saucer, and a little dish underneath, and a little spoon and a big spoon. Well, these are details, but that is haute cuisine. (...) If you don't pay attention, your sauce is going to taste real different from the one you tasted last night, and instead of spaghetti sauce you get turkey gravy and that's not cool"(General Manager, male, French, Withwind)

Quality, thus, implies desired standards, and consistency in achieving these standards. Emphasis on standards and their observance had a powerful impact on results. With income constant, cost of operation was considered the most significant source of

variability in the hotel, and quality could help define what type of variability was undesired, and what the desired output was. This, coupled with a sense that significant slack remained in most operations, pushed managers to embark on a cost reduction program. A significant effort of standardization was initiated, comprising all functions thought to have an impact on final cost. In particular, food and beverages and room-keeping were closely monitored with the help of the functional managers (all foreigners), and productivity (i.e., ratio of outputs to inputs) closely followed.

Simultaneously, but preceding these cost containment efforts, human resources were singled out as an important element of organizational effectiveness. We have already mentioned the considerable amount of time spent by Alpha's managers recruiting and selecting the top management team, the middle managers and the staff, and the importance they attached to these activities. Once recruiting had been completed, formal training began, and although the staff was perceived as being talented and qualified for the tasks, considerable effort was put into improving their abilities and their skills, so they could generate better results with less effort.

A final issue that arose in this hotel, with more intensity than the previous two, was in regard to fixed costs, and particularly depreciation. In normal situations, depreciation is a conventional sum taken from pretax income, supposedly to cover the cost of deterioration of the asset over time. Being written in the books as a cost, depreciation retains income in the organization and prevents it from being registered as a profit. Traditionally, legal authorities decree how much (i.e., what percentage) of the value of the asset can be depreciated yearly. While the interest of the government is to increase pre-tax profits as much as possible to maximize taxes, the interest of the company is quite opposite: higher depreciation retains cash within the organization. In this case CorpCo successfully negotiated an arrangement with the government to use an unusually high rate of about 12% per annum, which reduced the pre-tax profits of the company, and with them, the bonus paid to Alpha. This generated a great controversy between the partners, since each one had divergent incentives. In addition, CorpCo refused to consider the costs emerging from the delays as sunk costs, and insisted that they be recorded on the hotel's balance sheet. This situation forced the hotel to strive for unusually high returns, simply to

cover for the unusually large costs with which it had been endowed at the beginning of operations. These issues were still unresolved at the time of our visits, although significant progress had been made: the hotel was now evaluated not on pretax profitability, but using an international indicator called GOP (gross operating profit), indexing the results obtained by the hotel before special charges and average occupancy.

In spite of these problems, Withwind was highly regarded by CorpCo and by Alpha, as it was by the industry as a whole. It was considered a successful hotel with a proven concept and a remarkable delivery despite the problems that affected the island. In fact, it was so successful that the managers perceived their main problem to be the reputation of the destination, which, they said, was inferior to theirs and was creating a situation where customers would not pay the real value of the hotel simply because it was in Cuba. As the manager claimed, "if we were in Jamaica, people would be paying much more for their package than they are paying now. But we are in Cuba, and people remember that when they pull out their credit card." Managers considered their hotel to be far superior to comparable hotels in Cuba, but they felt their reputation was being unfairly affected by their less proficient competitors. Some industry observers shared the enthusiasm of the managers, qualifying Withwind as having among the best value on the island, in terms of overall quality and cost.

Withwind: Images

Hotel Withwind, aerial view.

Withwind Hotel viewed from the beach. Note the high quality of the sand (white, soft) and the generous width of the beach. This beach is considered to be among the most beautiful in the country. Its quality generally matched customers' expectations of a Caribbean beach.

The buffet restaurant, seen from its far end. To the left of the picture, the main entrance can be distinguished. On the right side, to the left of the stained glass, one can see the buffet table, of generous size and usually well stocked. Note the expensive details of the ceiling (the structural beams in particular), made of fine wood, as well as the wood theme in the decoration of the room. The stained glass on the structural columns gives a pleasant touch to the room, drawing on a Cuban tradition of using colored glass to add texture to a room. The chairs and the tables are made of wood, and are of good quality but not sturdy enough for an industrial use; they deteriorated quickly with the abuse they were subjected to. The silverware, the cups and the glasses are unpretentious but of good quality and adequate for intensive use.

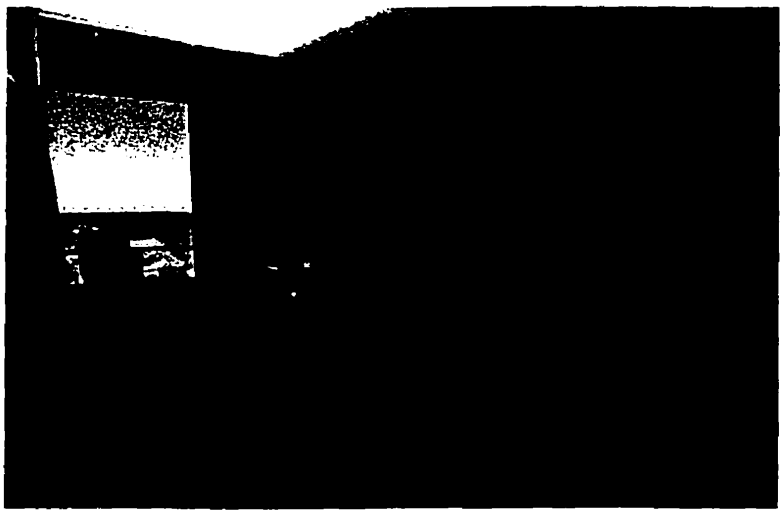
The Ranchón, or snack bar. Because of its proximity to the beach, this snack bar reduces trips to the buffet restaurant. The cost of providing food in this location is significantly lower than the main restaurant, as the food served is generally of lower cost (hamburgers, sandwiches, hot-dogs) and people eat less when they are served. However, customers are typically more satisfied with it, as they appreciate the courteous (but sometimes hurried) table service, and the convenience for customers who do not wish to return to the main building. The

Ranchón serves soft drinks, beer, wine and a limited selection of hard liquor. The cost of the beverages served is much lower than the cost of food. In addition, people that drink tend not to eat as much, reducing the food cost of the main restaurant and the snack bar itself.

The swimming pool, as seen from the top floor of the main building. The yellow arrow indicates the stage where entertainment activities take place each night. Being too narrow, its size is inadequate for its function, dangerous for the crew and inconvenient for the viewers, who must sit too close to the pool and diagonally to the scene. Despite the vociferous recommendations of the foreign associates, neither the shape nor the location of the scene could be changed, principally because the pool had already been built. In the center of the image, one can see the pool bar, where drinks are served to customers, and the small bridge which provides access to it.

The second level of the main building. On the left side of the image, the Cappuccino (an Italian theme restaurant) can be seen. This restaurant offers a superior gastronomic experience and a more intimate alternative to the buffet restaurant. Note the ceilings and the structural beams, made from high quality wood, significantly more expensive than the alternatives, and more fragile as

well. At the time of the visit, some beams were rotting due to water damage. The sculptures are of good quality, and were created by local artists. The whole monument, inspired by a Roman aqueduct, is of low functionality and impedes the appropriate use of the room, which was originally intended to be a dance floor.



A typical bedroom of slightly higher quality than average. This room benefits from being located on a higher floor, which enhances its splendid ocean view. Note the small size of the balcony and relatively low height of the protection. Neither are suitable for children. The height of the metal bar was deemed satisfactory by the Cuban contractors, but was lower than specified on the building codes of the foreign partner's country. This caused innumerable problems, as potential liability issues were considered by the foreign partner, who could be legally pursued in its own country. The ceiling of the balcony is made of wood. Many of these ceilings were seriously damaged when we visited the hotel.

Strategic Alliance 2: Voyage-CorpCo. Case 4 and 5, Voyage-Key and Voyage-Nut.

Voyage is a compound of two hotels, the Key Hotel and the Nut Hotel, both on virgin shore along the north cost of Cuba, on a small but beautiful island connected to the mainland by a bridge. The island, a protected bird sanctuary, is largely undeveloped and hosts a research site sponsored by the United Nations dedicated to bird-watching and the study of animal behavior. Overall, the island is magnificent, with lush vegetation that has remained largely wild and unspoiled despite the construction of the Key and the Nut hotels and all of the required infrastructure. Both hotels were carefully designed to minimize their destructive impact, and under the hopes that they could command a premium rate for their eco-friendliness and the splendor of their surroundings.

The site as such is quite remote, about two hours by plane from Havana and a 50 minute drive from the airport. The nearest city, about 50km away, is a small provincial town of little interest; the capital of the province being 100km away from the hotel. A small road connects the hotel to the capital. The province is largely rural, with few industries; two universities affiliated to the Cuban National University network and little if any tourism tradition. Despite this, the natural beauty of the beaches and the flora and fauna of the province helped grant the site and the province a special status by top managers at CorpCo and the Ministry of Tourism, which included it on a priority list for resource allocation and new developments plans. After having decided that the area was top priority, money was allocated to build the hotel Key. We will begin with a review of this hotel.

Brief history.

The Key hotel, the first to be constructed on this location, was built between 1989 and 1991 by a Cuban construction company, a subsidiary of CorpCo, who financed its construction and currently owns it. Key's original mission was primarily social, with economic considerations far behind. The hotel was intended to be a source of employment for this remote region, and begin a slow process of transforming a rural and isolated area into a tourist destination. Key Hotel was constructed with little regard for cost, and only top quality materials were used in its construction. Fine wood, ceramics and other

expensive details, coupled with an innovative and aesthetically pleasing design based on colonial roots, drove construction cost per room (a standard indicator in the hotel industry) 2.5 times higher than the Caribbean average. In addition, the hotel was designed to be a traditional beach hotel, without the all-inclusive service. Guests were expected to pay for their rooms and for any additional services they requested, including drinks and food. This was the concept under which the hotel was inaugurated: a luxurious, four-star beach resort, designed for cost-insensitive consumers. Key was intended to be the beachhead of a complex of several hotels that would bring wealthy individuals to Cuba. In that sense, Key was an experiment; CorpCo wanted to add a higher segment to its portfolio, a segment that was completely foreign to it at that time.

Financial considerations delayed completion of Key, and delayed projects for the complex. Construction of Key Hotel was paralyzed for many months, and experienced complications that delayed completion. Meanwhile, CorpCo decided that it was not in its best interests to develop a hotel complex in the area, and finished and inaugurated Key. The first few months were very disappointing, and after a few months under Cuban administration characterized by very low occupancy rates and negative cash flows, CorpCo. resuscitated the idea of a hotel complex, but in association with a well known foreign partner: Beta. After discussions and negotiations, CorpCo struck a deal with Beta to construct a second hotel next to the first one. These two would be linked, with a common top management team and would share some functions during the low season. The new hotel, as we will see below, was to be a joint-venture hotel, mainly financed by Beta but owned in equal parts by both companies. As part of the deal, CorpCo and Beta agreed to transfer the management of Key to Beta, who would, upon completion of the second hotel, manage the hotel complex.

The Nut Hotel, the second hotel in the region, was built between 1993 and 1994. It was built within walking distance of Key Hotel, but is physically distinct from it, and there is a clear separation between the two hotels, although there are no architectural barriers between them. The Nut Hotel's design concept is different from the Key's, which was designed to be a "vacation hotel" but not an "all inclusive." In contrast, the Nut was designed from the beginning to be an "all inclusive," and its facilities incorporate that

concept. In particular, the restaurants, bars and the location of the rooms have been conceived to maximize the efficiency of the services and to reduce ancillary costs such as wastage, loss and shrinkage. Comparatively, Nut has fewer "points of sale" (bars, snack bars and restaurants) than Key, fewer kitchens and storage rooms, and much larger kitchens and restaurants. From its inception, Nut was designed to maximize efficiency and to reduce operating costs, and more cost-effective materials were used to build it. Overall, the construction cost per room, including furniture and equipment, was about half of that of Key. The details of the common areas and the rooms themselves are near-perfect; the hotel leaves an impression of professionalism in its construction and finishing, despite construction materials that are not as expensive as the ones used on the Key. The consensus among managers is that the Nut is a "better hotel," by which it is meant that the operations of the hotel facilitate the working processes of the staff. Says a manager

> "this hotel [Nut] is well designed for operations, we work as an all-inclusive, and that is what the hotel is designed for. As you can see, services are centralized, buffet, restaurant and others are central, it is not like the other [Key] which wasn't designed with the all-inclusive concept in mind, and that makes your cost much higher, if nothing else because of the number of employees you are forced to use at each point of sale, and there you do not sell, you give away. If they paid a decent price it wouldn't be so bad, but we are starting out and we need to do some marketing, and we can't charge the price we would like, that has an impact on costs and profits." (Resident Manager, Cuban, male, Key Hotel)

Despite a well-conceived design, the construction of these hotels was fraught with difficulty, partly because of the infrastructure needed to operate them (roads, water supply, sewage system). In particular, the drinking water supply was ensured by a large pipeline from a neighboring city (about 50km away, on the mainland) but this pipe broke regularly leaving both the Key and Nut Hotels without water for periods of several hours, and in one case two days. By the time the Nut was built, these problems had been addressed by the Cuban state, the local government and CorpCo, but some remained unsolved due to the high cost of the proposed solutions. Water shortages were common in both hotels, although much less frequent than initially (measured in events/year).

Voyage-Key and Voyage-Nut: Issues

Several problems required the attention of the managers from the very beginning, even before the hotel opened. Along with grave deficiencies in the infrastructure, staffing became a major concern, principally because of the significant pressure put on the foreign

company to use the hotel as a source of employment for people from the region, even if they were not as competent as the alternatives. During opening, it was discovered that 90% of the Cuban staff, even those with degrees in hospitality from the local university, had never left their native province, and of these a vast majority had not even visited the provincial capital.

Finding adequately qualified human resources became a critical issue for managers, and was only solved by lowering Beta's standards, and selecting the best applicants whether or not they had the experience or the knowledge needed for the task. The problem was multiplied when Nut needed to hire, but Beta decided to transfer half the personnel from Key to the brand new Nut hotel, and assign the newcomers to either hotel, so each function would be staffed with individuals with at least a partial exposure to the type of tasks required.

As soon as staffing issues were solved, training became the main concern. At the time of our visits, training was still emphasized, but it was believed that the hotel had significantly improved from its early days.

Operations.

Of the two hotels, Key presented a great deal of problems, most of them due to the change in its concept. Transforming the hotel from a traditional pay-per-service to an all-inclusive proved difficult, time-consuming and costly. The physical plant, however beautiful, was largely incompatible with the new operating mode; work routines were more complicated, involved more steps and were generally more costly. As a consequence of the design, Key was more expensive to operate than Nut, even when controlling for occupancy rates. The numerous points of sale increased fixed costs, but the obvious solution of closing some according to occupancy was excluded due to contractual arrangements with the wholesalers, who insisted on having all facilities available all the time, regardless of season or occupancy levels. Compared to Key, Nut operation was uncomplicated and smoother, and did not create the inconveniences mentioned previously.

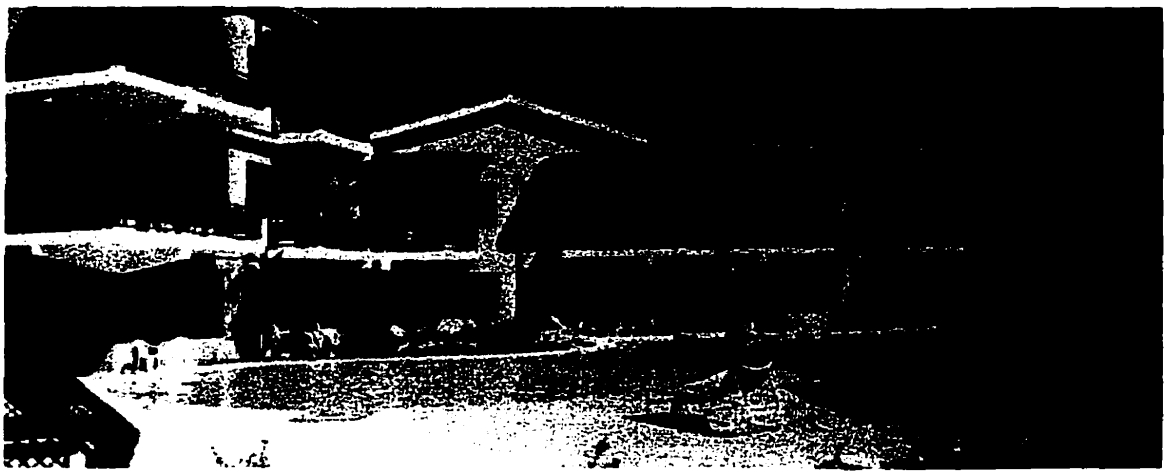
Management Issues

Beyond the problems already described, one of the most important issues faced by both hotels was the low occupancy rates they experienced. Although occupancy rates were moderate and high for Key and Nut respectively for long periods of time, the hotels were unprepared to deal with situations where the number of guests approached the break-even point. However, as the hotels gained a better reputation and the parent companies decided to increase the low prices they had introduced as a promotional device, occupancy rates declined. The seasons of 1995-1996 and 1996-1997 were particularly bad in these respects, with rates of around 40% or less during the low season. Reacting to these problems, managers pushed forward the idea of the "complex" as a cost cutting mechanism, a notion that had been largely dormant when both hotels were faring reasonably well. The integration proved difficult, and was one of the most problematic issues during our visits. In particular, it was felt that integration of both hotels was only pushed forward when occupancy was low, and mainly during the low seasons. As soon as occupancy levels increased and both hotels operated more efficiently alone, integration was relegated to the back burner. But the next season brought similar problems, and an increased push to share some functions, beyond the obvious ones such as purchasing. The integration of functions, and the creation of a true "complex," along with finally bringing the level of the hotel on a par with international standards, were the main concerns we encountered during our visits.

Voyage-Nut and Voyage-Key: Images

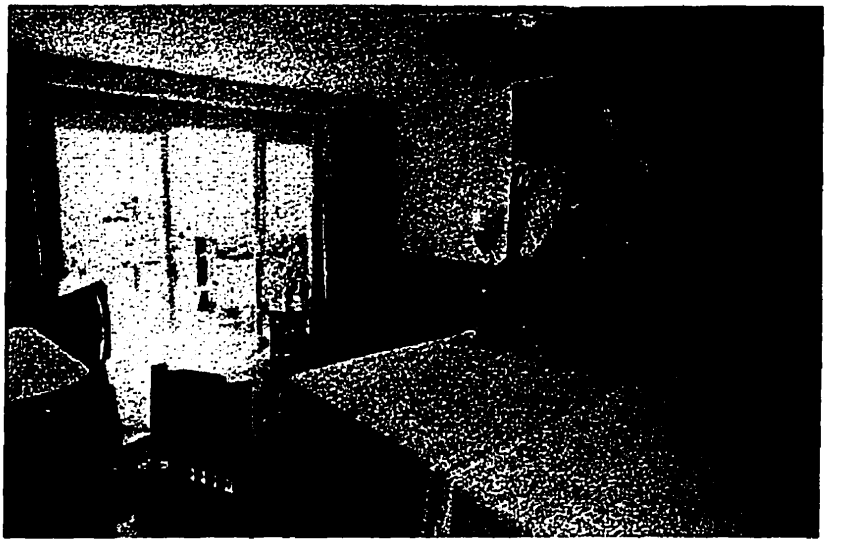
Aerial view of the Nut Hotel. The high quality beach can be seen from the SW of the picture (lower left corner) to the NE (upper right corner). To the right of the image, the Nut Complex is clearly visible. Further behind towards the NE, the Key Hotel (barely visible on the image)

A natural lake seen from the path that connects the Nut hotel with the Key hotel. Although special care was taken during construction to minimize the amount of damage to the environment, some concerns remained about the eco-friendliness of the hotel, particularly regarding the treatment and disposal of residual water. The wildlife surrounding the hotel, nevertheless, are remarkable.



Key hotel. The rooms are located in small buildings of two or three floors of few rooms each. The rooms face either the ocean, or a swimming pool (as seen on this image). Four or five buildings face a swimming pool, giving a pleasant sense of privacy and community.

Paths connecting the hotels Key and Nut, the groups of buildings mentioned on the previous image, and the facilities of the hotels (restaurants, swimming pools, beach, ...)



An average room of Hotel Key. Note the double bedding of standard size, and the fine decoration of the wall. Unconventionally, a bottle of champagne can be seen on the SW corner of the image (lower left), probably as a promotional device. Aside from it, the room is representative of the other rooms in the hotel.

Cuban Owned Hotels. Case 6: Caribbean Hotel & Resort.

The Caribbean is a mid-size hotel (approximately 270 rooms), constructed next to the ocean, in the tourist area of Varadero, by its parent company, CorpCo. At the time of our visits, the Caribbean was the newest of all the hotels of the area, which is very well known around the world for the quality of its beaches, and is the most important tourism destination in Cuba. The Caribbean was built almost at the end of a peninsula, and it is surrounded by the beach and some of the original forest that once covered the whole area. The Caribbean is a very modern hotel, incorporating some state-of-the-art features, including intelligent building devices that regulate temperature and air pressure in the rooms according to occupancy, and a sophisticated phone system. In addition, the Caribbean was built after lengthy discussions with the Cuban Academy of Science, which contributed significantly to the project so the hotel would not impact negatively, or as little as possible, on its natural environment, and particularly on the beautiful beach and its surroundings.

The Caribbean is composed of two buildings, connected by a common lobby, recreation area and restaurant. The buildings surround a large swimming pool, built within walking distance of the splendid white sand beach. Palm trees separate the beach from the swimming pool, creating a pleasant sense of isolation. Between the swimming pool and the beach sits a snack bar that specializes in grilled food, barbecues and salads, serving also soft drinks, beer and wine. Next to the swimming pool there is a large recreational area, divided in half. One half is used as an open-air lounge, with comfortable chairs and tables; guests can sit in the sun to read, write, or play a variety of games. Some recreational activities take place there, such as an aerobics class, or early morning calisthenics and stretching. The other half is a *ranchón*, used as a recreation area during the day. Guests can sit under the shade, or exercise there when it is uncomfortable to do so in the sun. At night, this ranchón turns into a discotheque, complete with a bar that is closed most of th e day.

The style of the hotel is modern without being avant garde. It is generally pleasant and emphasizes the proximity of the beach, the greenery that surrounds the area and the beautiful trees that separate it from the beach. The sense of proximity to the natural

surroundings is increased by its oversized windows, which make its interior particularly bright. At the time of our visit, however, parts of the hotel were still under construction, unfinished despite the inauguration. Moreover, a large patch of land just across from the hotel but within the fence that encircles its perimeter was being dug out for future construction of the Caribbean's third building.

Brief history.

The Caribbean was built by CorpCo with the objective of incorporating it into the on-going strategic alliance that CorpCo has with company Theta, a foreign company specialized in the all-inclusive segment in various locations in the Caribbean. The hotel was designed and built to be an all-inclusive hotel, geared towards adults and young adults, and emphasizing the needs and wants of that particular segment. However, for a number of unspecified reasons[20], this part of the alliance between CorpCo and Theta did not materialize, and three weeks before the scheduled date for inauguration, the hotel opened entirely under CorpCo management; managers had been recruited under great duress from other CorpCo hotels. Although managers generally liked the promotion and the sense of responsibility that came with it, they were ambivalent about the effort needed to create a competitive hotel without the help of Theta, and the high level of uncertainty they would be exposed to. At the time of our first visit, the hotel had been operating for eight months, a period that had seen no changes in the top management team. During these eight months, CorpCo had significantly modified the strategic goals of the Caribbean, from being another hotel owned by CorpCo, to becoming the flagship hotel of a chain of Cuban-owned and operated all-inclusive resorts that would copy the Caribbean's procedures to accelerate learning. The Caribbean went from being a hotel under the umbrella of a strategic alliance to the reference for all hotels in its segment, with a special emphasis on Cuban-operated hotels. Thus it had to become competitive, and riding down the learning curve of a new concept appeared to be the most pressing activity for the hotel and its managers.

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20 Managers from CorpCo and from the Caribbean Hotel were unwilling or unable to give the details of the failure of the strategic alliance for this particular hotel. The versions we received later were contradictory and could not be verified.

The development of an innovative concept was not easy, nor was its application. Since the hotel had been developed following technical advice from Theta, its features had been designed with this concept in mind. Changing it proved difficult and challenging, especially for a top management team who learned only three weeks before opening that they would become solely responsible for the hotel and its profitability. Accordingly, one of the most significant changes introduced by CorpCo's new management team was the repositioning of the hotel. Almost upon arrival, managers decided the hotel could not compete effectively with the other hotels in the area offering the same concept (all-inclusive vacation for young adults) that Theta had been exploiting for a number of years in a competing destination in the Caribbean and in other hotels in Cuba; it was reformulated as an all-inclusive hotel for families with or without kids, and senior citizens. This was done with the significant help of a local university through its school of applied economics and business, who sent a group of students and faculty to help the hotel refine its concept and some of the strategic issues that would arise from it[21]. After some laborious weeks, academics and managers felt they had developed an interesting plan that would enable the hotel to compete in its aggressive market, by developing an occupied position in the industry.

Management Issues

Observers agreed the hotel is of good quality, that the building cost per room was reasonable and not far from the industry average, that the issues encountered by managers and employees were normal for a brand new hotel, and that they did not require major changes to operate according to plan. Managers and employees indicated that the sophistication of the hotel requires a longer learning period for them to master all the possibilities offered by the hardware, but were generally optimistic about the possibilities of the hotel, and happy with its features. The infrastructure, despite its sophistication, which would increase the amount of time needed to develop knowledge about it, was adequate to the task and largely met international standards.

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[21] The author of this thesis was not involved in any manner in these consulting efforts.

Despite the quality of the hotel and its potential, the drastic change in the concept created some serious issues that were still unresolved during our visits. Changing the concept brought a mismatch between the infrastructure and the strategy, an issue that did not exist when Theta designed the hotel. In particular, some of the features of the hotel proved inadequate for the new type of customers; the hotel was unable to cope with some of the requests of the customers it had selected by repositioning in its new segment. For example, no swimming pool for youngsters had been planned, there were not enough communicating doors between rooms for families to stay together. Also, most of the games and entertainment devices were prepared for young and healthy people, far from the passive sports and the recreational devices required by young kids and senior citizens. The first months of operation were spent modifying the hotel to fit the needs of the new clientele, with varying degrees of success. The lag between the decision to change the concept and the changes in physical plant and operating procedures created tensions with customers, who were upset to find that the hotel was not ready to accommodate their needs, despite the promises of the marketing brochures. In addition, different tour operators put forward different aspects of the new concept, and began selling the hotel for young adults, families and senior citizens simultaneously. The intersection of these rather diverse clienteles created serious quality issues, none of them feeling the hotel was doing enough for them. Safety issues for parents were crucial, as was animation for all categories. Being geared towards young adults, animation was incompatible with children and seniors, and quality suffered as a consequence. After discovering the misfit, a considerable amount of effort was put into correcting the marketing blunders, and developing the skills and acquiring the assets needed to offer the services adapted to the clientele targeted.

A second issue was related to personnel. As was the case for the hotels we have described previously, the Caribbean had trouble recruiting qualified individuals beyond a core of about 15 individuals that composed the top management team. Front line employees were difficult to attract, mainly due to the stiff competition in an area replete with high quality hotels offering decent salaries and interesting bonuses. The Caribbean found itself unable to recruit qualified personnel, and as a consequence turned to less qualified individuals, or even completely unqualified ones, in the hope that they would

acquire on the job the skills they lacked upon arrival. However, this proved to have some significant unintended consequences, including a process of negative selection. Employees were joining the Caribbean because they did not have enough skills to get a job in any other organization in the industry, and were leaving the hotel as soon as they could find a position somewhere else. Those who had not learned enough, or were not skilled enough, remained at the Caribbean. All of this created a situation where individuals would enter the organization because they had no alternatives, and would leave as soon as they had one. In addition to hiring, retention of employees quickly became a major issue for managers, who, despite their finest efforts, could not reduce a turn-over rate of 67% in the first eight months of operation. Competition for skilled employees is fierce in the area, but the Caribbean has a heavier handicap than its rivals. While joint-venture hotels, co-owned as well as simply under management contract, have the option to pay a portion of the employees salaries, and gratuities in hard currency, Cuban-operated hotels are forced to pay in local currency, whose purchasing power is not as great. Hotels in the area compete for employees, and employees prefer to work for hotels that will pay them in hard currency.

Despite these problems, the hotel was highly regarded by CorpCo, and its potential was indicated by everybody involved with it. Its managers were very optimistic about the results of the first year of operations, and thought the hotel had made considerable progress since the inauguration. This notion was shared by tour operators and industry professionals, who were pleased by the standards attained by the hotel. Managers thought that whenever they could convince CorpCo to allow the Caribbean to pay its employees using the same scale that foreign companies were using, the most pressing problem would disappear, and with it its most visible consequences: high turn-over, slow learning, and inconsistencies in quality that had proven difficult to solve using the traditional human resources tools. What they needed, they thought, was simply the freedom to set competitive salaries for their workers.

Caribbean – Images.

The hotel viewed from its main entrance. We can see it pleasant décor, and the youngness of its trees. An artificial water stream and a system of bridges were built to add space to the main building and create a sensation of openness and respect for nature, lacking in many older hotels. Picture taken from the last remaining primary forest of the area, a beautifully preserved patch of land. (unseen on the picture)

The main lobby of the hotel. Skillfully designed, the lobby is functional and aestetically pleasant, although its furniture is not of industrial strengths, nor is it as beautiful as the rest of the room. To the right of the image sits the reception area.

The beach presented here is reserved for the exclusive use of the guests of the Caribbean Hotel. Note its remarkable quality (white sand, considered to be among the best in the region) and its width. The water is quite shallow for many meters and the waves are small, making this beach a good destination for families.)

The buffet table, in the main restaurant. This image was taken from a promotional brochure distributed by the hotel and was used to describe the variety and the quality of the meals on site. However, it does not accurately reflect the reality of the hotel, as it overstates the presentation of the meals to real customers and the variety and amount of food available during normal operation.

Summary.

Continuing the description of the context of our research initiated on chapter four, here we describe with detail two competitive segments of the Cuban tourism, presenting in particular their generic issues and other constraints for a successful competitive positioning. We argue that these issues were equally present for all hotels, although the abilities of the hotels to generate specific answers to them varied greatly, and consequently their degree of success. The formal characteristics of each hotel are presented and summarized in Table 2.

Table 2: Main characteristics of sites.

Management/ Ownership	Business Unit	Type of hotel	Type of alliance	degree of success	Opened in	visits/interviews/Period followed
Strategic Alliance 1 Alpha – Corpco	Belltolls Hotel	City hotel	Non-equity	Medium	Dec 93/ Revamped (major renovations)	16 interview /6 visits /1 year
	Montelimar Hotel	resort	Non-equity	Low	Dec 93 / inauguration	17interviews /2 visit /6 months
	Withwind Hotel	resort	Non-equity	High	Jun 94 / inauguration	17 interviews /2 visits /18 months
Strategic Alliance 2 Voyage – Corpco	Key Hotel	resort	Non-equity	Medium	Jan 94 / inauguration	14 interviews / 2 visits / 10 months
	Nut hotel	resort	Equity	High	Jan 95 / inauguration	
Cuban Owned and operated	Caribbean Hotel	resort	No alliance	Medium		12 interviews / 1 visit ./ 6 months
	Belltolls Hotel	City hotel	No alliance	Medium	Jan 96, end of contract, no renovations	2 interviews / 1 visit.
					Total	78 interviews, 15 formal visits

Then, we compare all the organizations studied to highlight their similarities and their differences, and we summarize the salient points of the case studies, using four variables of interest: infrastructure, generic strategy followed by the organization, content of the strategy, and match between strategy and infrastructure. We also describe the

pressing issues of each organization, defined as themes that attracted the attention of the organization at the time of the study.

Finally, we present the case studies. A case study is presented for each organization, detailing the specific problems and issues it faced. These individual cases describe the situation of each hotel, and detail the specificity of each organization.

Table 3 below summarizes the main findings of each case and serves as a quick reference. We include in this table the name of the hotel, a general evaluation of the state of the infrastructure, the generic strategy followed by the hotel and its content (what segment of the industry and what characteristics of the segment were the main focus of attention of the hotel), an evaluation of the fit or lack thereof between the strategy and the infrastructure of the hotel, and the pressing issues that managers faced when we first visited the hotel, as highlighted during the interviews.

Table 3: Main Elements of case studies

Hotel	Infra-structure (IFN)	Generic Strategy (STR)	STR Content	Match IFN/STR	Pressing issues
Belltolls	Good	Narrow segment	Business traveler	Good	Bring hotel to international standards
Montelimar	Poor	Broad differentiation	Beach Resort vacation	Adequate	Poor infrastructure
Withwind	Very good	Narrow segment	Luxury resort (4 star)	Very good	Cost containment, revenue increase, human resources management (selection, training)
Key	Very good	Broad differentiation	Beach resort	Very good	Differentiate from Nut; break away from all inclusive concept
Nut	Very good	Broad differentiation	Beach resort	Very good	Increase occupancy while maintaining high quality
Caribbean	Good	Broad differentiation	Beach resort	Poor	Mismatch IFR/STR Human resources selection/retention Technological sophistication
Belltolls II	Good	Narrow segment.	Business traveler	Good	Keeping standards created by Alpha.

Note: All items ranked on a Likert scale (1-5): very poor, poor, adequate, good, very good.

Chapter 6: The Meaning of Knowledge in Organizations

Summary: In this chapter, a taxonomy of knowledge is developed using four basic dimensions which represent applications of knowledge to specific organizational activities. Then, knowledge mobilization is categorized into three separate processes. The chapter concludes by presenting an integrative model of these two categorizations, which captures the processes that constitute the core elements of knowledge management.

In this Chapter, we explore several dimensions of the notion of organizational knowledge. Following the literature review presented in Chapter two and the definitions that followed from it; we conceptualize knowledge as a local integration of thoughts and activities in a collective action that requires the coordinated efforts of several individuals. As mentioned before, here we study knowledge by its consequences (or, in other words, by the visible results it leaves), and by the narratives used to describe it. This conversation about knowledge starts by exploring the connections between the outputs of the organization and the patterns of action needed to produce them, arguing that the former are the consequences of the latter.

The empirical part of this work starts with a static exploration of knowledge. Using the interviews as our main source of data, we construct a typology that captures the areas around which knowledge naturally clusters when it is applied: the assets of the organization, the routines of the organization, its structure and the explanations for its existence, called understandings. Composed of this four distinct categories, our typology serves as a platform to study the dynamics of knowledge in organizations. We begin with a definition of each category of the typology, showing then how each one makes use of a distinct combination of the constitutive elements of knowledge: actions and thoughts. Although organizational knowledge is composed of these two elements, the magnitude of each element differs according to the category studied.

Having categorized knowledge, we focus on the processes of knowledge mobilization. We claim that three distinct processes are used to mobilize knowledge within and around organizations: knowledge creation, where the organization builds knowledge from within, using its own resources; knowledge transfer, where the organization acquires

knowledge that already exists in other organizations; and knowledge consolidation, where the organization tries to avoid knowledge dissipation.

Using these four categories of knowledge and three processes of mobilization, we study the integration among them. We observe that certain combinations of categories and processes are favored by organizations, lending credence to the hypothesis that each category of knowledge has a preferred mechanism of mobilization. In a similar vein, we observe that categories of knowledge differ in terms of difficulty of consolidation: some categories are easier to consolidate than others. These findings are presented in a parsimonious model that integrates categories of knowledge, processes of mobilization and difficulty of consolidation. This model is the platform used study the evolution of knowledge presented in Chapter seven, which retraces the processes that lead an organization from ignorance to integration.

We begin this Chapter with our taxonomy of knowledge.

A taxonomy of organizational knowledge.

We start the presentation of our findings with the taxonomy of knowledge that emerged from the analysis of the data. Since the objective of this first analysis was to categorize knowledge, it seemed necessary at that stage to study its behavior and patterns, to verify whether it appeared randomly, or rather clustered around specific organizational activities, and to explore the mechanisms used to mobilize it. We started with the practices (the results of collective action) that took place in the organization and the narratives used to describe them during the interviews we conducted. The logic behind this emergent classification was to categorize these practices (and the collective action they required to materialize), to observe their characteristics, and to seek similarities and differences between them. Following our definition of organizational knowledge, particular attention was paid to the degree to which activities and thoughts influenced these collective actions, to observe if all categories were influenced in a similar manner or if meaningful differences could be observed.

We began our analysis with a categorization of collective actions, as highlighted on our methodology section. The first step of that process consisted of filtering the paragraphs to retain only those that addressed the issues of knowledge. Of a total of 12955 paragraphs, 7968 did not discuss knowledge and were removed. The remaining 4987 were kept, and were used to create our taxonomy of knowledge.

The first level of our coding pyramid was done by assigned categories or "tags" to each paragraph, as described on our methodology section. We went through all 4987 paragraphs, until all of them had received one tag each. Not surprisingly, this pyramid had at its base the very activities realized by the individual: when, for example, a chef discussed his work, most of his ideas went to the work he performed. Impressionistic evidence shows that higher ranked employees (i.e, managers, coordinators, area managers, ...), tend to make more generic comments about work, but we did not attempt to quantify this proposition nor to test is systematically. After a long process of categorizing all relevant paragraphs of all interviews received a tag. Table 4 shows a series of examples of first level categories.

Table 4: Examples of Categories

Tags (name of category)	Example of category	Number of occurrences of category
Cleaning rooms	Before, I was told to begin my work by cleaning the room and then to move to the bathroom, but Alpha told me to start with the bathroom, finish it and move to the room.	35
Transfer of phone calls	Before we automated the phone system, we had a person taking the calls and routing them to the rooms	52
Cooking of meals	No one here knows how to make a Dutch Sauce	46
Cost and revenue calculation	We can now calculate the cost of food per guest every day, so the cook can lower the cost the next day if he overspent for any reason	32
Operating manuals	The manual says a four star hotel must serve four kinds of juices for breakfast	25
Work methods	The problem in Cuban hotels is that operation serves administration, when administration should be there to serve operations.	42
Inadequate infrastructure	This hotel was designed for adults and older people, and now I am supposed to have kids here, but the place is not safe and there is not much to entertain the little ones	20
Problems with infrastructure	The roofs leak, it is not a big deal, but the roofing will rot if they do not take care of it	27
Mission of the organization	I asked them (the employees): why on earth do you think we are here? And they had no idea what the mission of the hotel was, that we were supposed to turn a profit	18
Market positioning	Everything in this hotel should be prepared for the business traveler, they are the ones we want to attract	16
Objectives	We are now focusing on cost efficiencies, after being a little too generous with the customer. We want to keep our standards, but that has to be done cheaper than in the past	23
(...)		(...)
Other		37
	Total paragraphs (n=)	**4987**

The second iteration sought to integrate of the categories created in our first iteration. During these operations, a considerable amount of merging, splitting and combining categories was done, to finally reduce the first set of categories to four meta-categories that encompassed all the paragraphs we had selected as relevant to our concept of knowledge. At this stage, 37 paragraphs could not be classified and were eliminated. With these four meta-categories we were able to present a parsimonious -yet complete-

description of the application of knowledge to specific actions. This categories, as we will explain below, represent clusters of knowledge, areas to which knowledge is applied.

As we studied the mechanisms that enabled the organization to integrate ideas and activities into a collective action, four basic dimensions emerged from the analysis. Each of these dimensions emphasizes a different combination of narratives and action, and applies to a different dimension of the behavior of the organization. In other words, knowledge appeared to cluster around four areas of activity (the assets of the organization and their use, the routines created to perform the activities of the organization, the structures used to allocate hierarchical positions and tasks, and the common understandings about the general objectives of the organization), which represent the materialization of knowledge, the concrete side of the integration between thought and activities. These meta-categories are described on Table 5.

Table 5: Meta-Categories of Knowledge

Name of category	Examples of categories merged into it	Number of occurrences of category	%
Assets	Inadequate infrastructure, Infrastructure improvements, Modifications to infrastructure.	1721	35
Routines	Manuals, operations, transfer of phone calls, cost and revenue calculation, cooking of meals, management of kitchen, management of human resources, operating manuals, work methods, new methods	1030	21
Structures	Direct supervision, staff, line, connection between staff and line, administration, administrative problems	1205	24
Understandings	Mission/Vision, Strategic Changes, Organizational mission, broad objectives, diffusion of mission, sharing of vision	994	20
Other		37	.007
	TOTAL (n=)	**4987**	100

Our interpretation is simple: everything happens as if knowledge materializes around well-defined areas of activities requiring a particular combination of the two constitutive elements of knowledge mentioned above (activities and thoughts). Later in this chapter, we will elaborate on the combination implied in each of the categories described; in the next section we shall focus on the categories themselves.

First category: assets

The first category deals with the application of knowledge to the assets of the organization, which we define as the tangible (a convection oven, an industrial dish-washer, ...) or intangible (a computer program, a digital phone system,...) items that are attached semi-permanently to the firm (Williamson 1975, Dierickx & Cool 1990, Barney 1991, 1996, Grant 1991, Peteraf 1992 , Black & Boal 1994).

The logic behind this category rests on the premise that the activities to be carried out by the firm can only be done with some material platform, which we call assets – machines, equipment, furniture, etc. - and these assets require specific and non-intuitive skills to be properly operated, and in many cases to be operated at all. Owning the assets and operating them adequately are two very different notions that need to be decomposed if we are to understand how organizations get acquainted with and master the intricacies of their equipment, or, in other words, how they deploy these assets to produce results. Intuitively, it seems reasonable to claim that there is a close relationship between the sophistication of the assets and how easy (or difficult) they are to use: more sophisticated assets require more effort to put them to use in a satisfactory way. However, even what would seem to be unsophisticated assets require a great deal of knowledge, and they can be used in several ways, producing better or worse results for the same set of assets. Says a manager[22]:

> Q: What about The Vessel Hotel?
>
> A: The Vessel is a different story, it wasn't really in operations, it was targeted to local (Cuban) tourists. The Vessel was a two star, but it has thirty-four rooms, and we managed to make two more, so now it has thirty-six. It had a lot of potential, we had to make a lot of modifications but it was cosmetic work only, not a lot of investment to raise the level to a five star. (...)
>
> Q: Tell me more about these two rooms
>
> A: It has thirty four rooms, but it had two rooms that were not really rooms, but storage rooms for the maids, and we knew we didn't need such big rooms, two at that for thirty-four rooms. It did not make any sense. We could move the storage rooms and the maids somewhere else, and take that space and turn it into rooms. And you generate more revenues, two extra rooms that did not exist, two revenue rooms we made out of nothing. (Special Projects Manager, female, Canadian, Alpha Co)

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22 All the quotes presented here are extracted verbatim from our interviews. Minor modifications may have been made to facilitate comprehension, but the meaning of the sentence was not altered in any case.

Commenting on the relationship between individual intelligence and the assets we use to deploy it, Gardner says:

> Intelligence inheres as much in the artifacts and individuals that surround one as in one's skull. My intelligence does not stop at my skin; rather, it encompasses my tools (paper, pencil, computer), and my network of associates (office mates, professional colleagues, others whom I can phone or to whom I can dispatch electronic messages) (Gardner, 1993; cited by Glynn, 1996:1093)

As problems appear and solutions are sought, individuals and groups in the organization find new ways to use the assets at their disposal and/or modify them to produce different results, with the hope that these results will be better. We will develop the connection between "problems" and "solutions" at a later point in this chapter; here we wish to emphasize that knowledge applied to a firm's assets involves comprehending how to put to use the physical assets the organization owns, to produce the results that are expected from them. This type of knowledge involves an understanding of the technical dimensions of the assets and the ability to adjust these dimensions to the results the organization wishes to obtain. The simplest expression of this knowledge is developed by finding ways to use the available assets: in other words, to get results from the assets.

> Q: What has been modified in the hotel since you came?
>
> A: As soon as I got here I knew the kitchen was poorly set-up, I had to change the position of the furniture so people could work quicker, in a more agile manner and more efficiently. I had to remove a bar because there were too many of them, two lobby-bars was one too many. (F&B Manager, male, Canadian, Belltolls)

How to use assets adequately, particularly when the assets are complex, is far from obvious. Although it is clear that certain things can only be achieved when certain assets are present, having the assets does not guarantee that the organization will achieve the desired result. Putting assets to use requires interactions among individuals and functions; when these interactions are not properly designed, or when they are inadequate to the situation, the assets do not produce the expected results. Hotel Belltolls, for example, considered that a mini-bar was necessary in the executive suites. Without the mini refrigerators and the mini drinks, however, it was impossible to create the mini-bars. But when these were acquired, providing the mini-bar service proved to be too complex for the organization to handle.

Q: What happened to the mini-bars?

A: It was a nightmare. We couldn't get the bill right, and all too often we didn't invoice customers adequately, and they ended up not paying their drinks, or being overcharged and upset. In addition, it slowed down the check-out process, and guests had to wait for a long time before they were cleared at the front desk. (...) In addition, shrinkage was a problem, and we felt we were giving away more bottles than the ones we were actually selling; the mini-bar created all kinds of complications we wanted to avoid; mini-bars were really draining our energies. Now we have the little fridges in the rooms, and guests are free to store their cokes and their bottle of rum, and any other drink they may want. But we are out of the mini-bar business, for now at least. (Guest Services, female, Canadian, Belltolls Hotel)

A second dimension involves finding new ways to use the assets available, either by rearranging them or by modifying the way they are used. In the example below, we interview a manager who discovers a creative way to solve an old problem by "fiddling" with the assets at his disposal until a new solution is found.

A - We are working on a project to switch the voltage in the rooms from 220 volts to 110, most of our clients are from Canada and they don't know that we have 220 volts here, and their appliances burn.

Q – How do you do that?

A – With transformers.

Q – Is it difficult?

A – No, not really. It seemed complicated but it's not, it is just a matter of changing a few connections and installing a transformer that fits, we don't have to spend any money because we already had the resources.

Q – You had the resources?

A - Yes, we had some spare transformers and we are using them. The hotel works on 380 volts, when they built it they thought that 220 was good, but 110 is what it should be, the tourists bring 110, so that is what we should have. But for two years no one had the idea, until we started fiddling with it and we found a solution, cheap and good. And the tourists' appliances don't get roasted here. (Maintenance Manager, Male, Cuban, Montelimar Hotel)

In a similar manner, we have descriptions of several incidents where it was necessary to modify or improve the existing assets in order to obtain better results. Says a manager:

Q: (I asked you to tell me) the major changes that have taken place (in the hotel) since you came here. You mentioned the hair salon, the masseur...

A: We also have the water treatment plant.

Q: The water treatment plant?

A: Exactly. The water treatment plant. We fixed it completely. It's about 20...no, 29 km from here. The plant is ours. We fixed that one. It's working fine right now. The drinking water, also there's a well. It's about 15 miles away from the sewer plant. That one is ours too. We soften it. We have our own water. We modified that one, and we put in new pipes. Also, we improved all the property. You can see it. We have fences all over, all those fences in here. That's one change. Now when you go to maintenance and the warehouse, we're doing things that we didn't have before, which is shops. Everything was on wood, not on the floor, but it was on wood. You'd go down right now, some of the shelves are (made of) wood, it's nice and clean. But wood is not the correct thing to use inside a walk-in refrigerator or freezer. It has to be galvanized metal, or even better, inox. What we did, we (...) we went to buy some of that

galvanized piping and we're doing that as well. It's almost completed. (...) We are putting in the shelves now. If you go to housekeeping. The housekeeping in some places, everything is clean and they're taking good care of how to do things. They are not all over the place, running all over the place. But what we need is shelves, so they built the shelves in there too for housekeeping. Before we did not have anything like it. (General Manager, Male, Spanish, Montelimar Hotel)

Knowledge around firm assets is divided into two types: the first involves the ability to correctly operate the infrastructure, or to operate it in a better way, and the second highlights gaps between what is needed to obtain certain objectives and what the organization has. These gaps trigger a search for ways to improve the infrastructure in order to solve what is perceived to be a problem. Missing elements and features, mismatches between what is desired and what is currently the case, and problems dealing with the physical infrastructure pertain to this category. Problems with physical assets are quickly detected by the experts, even if solutions are not always rapid.

From the discussion above, we conclude that knowledge around assets can be defined as the mechanisms that enable the mobilization of these assets, that is, the capacity to put the assets to use or to better use, the capacity to find new ways to use the assets and finally, the ability to detect gaps between what is available and what is needed. But how are these assets used? Here we appeal to the notion of routines.

Second category: routines

Our second category, routines, involves the ways activities are carried out, the steps needed to perform things in the organization. Routines involve the basic processes in the organization, the different ways of doing things and the manner in which the organization performs its activities, in particular when these processes are clearly laid out so the individual or group in charge of executing them can follow the steps to obtain the results.

Q: You mentioned you had created new methods, what kinds of methods?

A: We have measured the time [it takes to perform an activity] for the maids, we know that at 8.00am the maids must get to their floors and starting at 8.00 sharp they have their planning for the day, and at 9.00am they start cleaning the rooms, and at 4.00pm they must be back in our department. That [the planning] took a great deal of effort because they have a lot of rooms and we demand that all rooms are done equally, with the same level of quality. (Housekeeping Manager, female, Cuban, Withwind hotel)

Changes in the routines, such as the ones illustrated below, can significantly modify the efficiency of a particular task. The changes introduced by the manager reflected her

experience, and allowed the maids to rationalize the cleaning process, obtaining a similar result with less effort. She says:

> A – [A]nd then Chita came, (...) and gave us her advice, she has a lot of experience as housekeeping manager, and she gave us a procedure to make the rooms very different from the one that we had before, and the room ends up being just the same. Now we do the work much quicker and it has the same level of quality.
>
> Q – Can you give me an example of this?
>
> A – For example, in the manual of CorpCo, you start cleaning the room by the balcony, and Alpha says we shouldn't. Alpha says to start from the bathroom, and it is much better for the maids: the bathroom is a bathroom, when they are done, they close the door and that is it. (...) The same with the bed linen: CorpCo says to put the pillow has to be put on top of the sheet, Alpha says that we should put the sheet on top of the pillow, so when the customer goes to bed, the pillow is right there and does not fly off as it did before. [Alpha's procedures] make our work much quicker, and the customer is happier that way, when he goes to bed there is no inconvenience while undoing the bed, when he goes to bed the pillow stays put; with CorpCo it flies off. (Housekeeping manager, Female, Cuban, Montelimar Hotel)

We note here that the procedures employed to achieve some results can be improved, and that modifications to them can produce better (or worse) results. The modification of the ways in which the work is carried out is a pervasive theme when the interviewees explain the type of things they have learned. What is central here is the notion that there are several ways to carry out an activity, and that some of these ways produce better results or require less effort for similar results. The assistant chef describes his experience:

> Q: And beyond cooking directly, I mean recipes, flavor, what other things have you learned as far as administration of the kitchen goes?
>
> A: Well, I have learned a few things about administration, in general I calculate my daily cost every day, the cost of everything, and [I must say] that I have learned to work in a different way, because in other hotels it is much more convoluted (*engorroso*) because you have to do more paperwork, and here I have learned a simpler and more effective way to calculate the costs.
>
> Q: And do you pay attention to the cost of the menu, I mean, is it an objective for you to calculate how much it costs?
>
> A: Everything is written down, I have the costs of every meal that leaves the kitchen, calculated, even the cooks know it, I don't mean that I know them all, the cost of many ingredients... the objective is to let them know how much some items cost so they can be aware of how much they are spending. They even have a little pamphlet where the costs are written down, the costs of the recipes they make every day so they know how much they are spending. Sometimes one tells them what ingredients they have to use in one dish but one cannot abuse, so they should have a sense of how much each item costs. These are very important things, no one does that, people used to give them the recipe and they didn't know the cost, these are the things I have learned. (Assistant Chef, Cuban, male, Withwind Hotel)

Changes in routines have concrete consequences: they change the results of the work and the amount of efforts needed to accomplish tasks. Says a manager

> Q: Have you changed the rules or procedures since you came?
>
> A: Yes, the rules.

Q: Which rules?

A: Well, to be more efficient in the grill, before we used to prepare all the silverware, now we put the forks and the knives, and we wrap them up on a napkin, that really accelerates things around here, that type of thing. (Food and Beverage Manager, male, Spanish, Nut Hotel)

Knowledge around routines represents the mechanisms that are developed to perform the activities needed to obtain specific results. These can be very simple, as we quoted on our example above, or quite sophisticated, as in the operation of a five-star hotel or a nuclear plant, but in all cases they involve sequential steps that lead to concrete consequences; a series of activities that, once integrated, provide the basis for what the organization offers. Part of that integration is handled by our third category, structures, as we will see below.

Third category: structures

The third category, structures, deals with the way in which the organization divides labor amongst its members. The word structure here is understood in the traditional sense of dividing responsibilities in the organization hierarchically, and tasks amongst functions and members. Here, knowledge involves understandings between cause and effect relationships that arise when a particular way of delegating authority and tasks is applied, i.e., certain types of structures are more compatible with certain kinds of management styles, or certain structures match certain kinds of strategies better. While there is no shortage of generic structures, the many changes observed show that adequate structures are contingent to the firm, and are a function of its resources and capabilities. For example, in one organization crucial organizational functions such as food and beverages, recreation and guest services were put under the orders of expatriates, even if this demanded the amalgamation of activities perceived by the local partners as having no common thread. This structure was believed to guarantee higher levels of quality than the standard structure emphasizing separation across well-defined functions and between front stage and backstage. When the separation was not possible, crucial functions were subordinated to the general manager of the hotel, who took active control of a series of activities that are usually delegated to lower levels of the structure. Says a manager

We organized the kitchen in a different way than Canada. There used to be five positions, and I have removed them (because they were unneeded). All the tensions between food and beverages and the restaurant are easier to solve if these two guys report to the same person. Before they used to pass the

problem to each other (without solving it), passing it between the servers and the kitchen and there was no contact between them. In other CorpCo hotels they are separated. This structure is much better, I can control what is going on much better, and more so for me since I have a great deal of experience in the kitchen. (F&B Director, male, Canadian, Montelimar Hotel)

A similar example is given by a manager who indicates that modifications in the distribution of power in the organization facilitate the work, by determining who was responsible for which task, and simultaneously reducing friction by clearly determining responsibility and accountability. She says:

A – For example, during the first few years we had a tendency to give responsibilities to divisions that were not the right ones, but perhaps because it wasn't done properly they gave it (the responsibility) to the wrong division

Q - Do you have an example?

A – To ask Public Relations to check a room, that is incorrect in terms of hierarchy or the functions, I have a job to do and I am getting paid for it, my job is to check the rooms and leave them in the best condition possible, PR can check guest services, the general service given to the customer, how the hotel looks, but we can't have two people responsible for the same thing because that leads to poor relations, always. Responsibility must always be given to one person, not to two. (...) Another thing that has improved in the last two years is the power structure, perhaps it was growing pains, that were visible when I first came here, now each one must perform his job but respecting the division of labor (niveles de mando), each one should mind his own business, know how to solve his problems, and that has been achieved.

Q- How did that [change] happen? Did it happen quickly or slowly?

A - No, it was slow, the managers have changed, they have a heavy influence on all that. When I joined, they changed almost all the management team, (...) and when the directives come from the managers everybody does it that way. (Housekeeping Manager, female, Cuban, Key Hotel)

Similarly, the notion that better results can be obtained when the responsibilities are clearly divided, and each individual knows what tasks s/he must perform, appears recurrently across functions.

This is not a criticism or anything, but they [Cuban hotels] did not have job descriptions. I had to start with that, with job descriptions. How can you request anything from anyone if they do not know what they have to do, if they do not know why they has been hired, what is their job, what are their duties, what are their responsibilities. And the hotel did not have that. (Marketing Manager, female, Mexican, Key Hotel)

(...)

We made many changes, including who controls the kitchen, the foodstuffs we buy, in other places the control systems were cumbersome, there were three guys to check with forty forms (...) and then when you checked costs you realized the system wasn't effective, here the controls are the responsibility of the chef, the big difference is that he is the one watching all the time (...) what rules is the eye of the boss who requests a strict control over the resources. (Finance Manager, male, Cuban, Withwind)

> Anyone in the system can fail, but we should remember we depend on each other, so when we have any problem we have to talk it over. We have to solve the problems together, but each one must know what he has to do, and to inform others of it, that is our style. We can't interfere with other people's work, that leads to good working relations, but I would not allow anyone to tell me how to do my job: we must respect each other's work. (Housekeeping Manager, female, Cuban, Nut Hotel)

Knowledge around structures creates ways to discriminate among functions and tasks and mechanisms to integrate pieces of work that would otherwise remain disperse. By setting boundaries and limits to the responsibilities of an actor (an individual, but also a group or a whole function), structures deeply shape the way work is performed and the results that can be obtained in an organization.

So far, we have explored three dimensions of knowledge: the first one, dealing with the physical infrastructure around which the activities of the organization take place. We then observed the steps that are taken to use these assets, and explored the need for integration of these steps: routines need to be integrated to other routines according to the nature of the task to be achieved. Later, we observed that the use of the assets and the routines to use them are bound by their context, defined as the responsibilities and the tasks created by the division of power and labor in the organization. Structures act as mechanisms to discriminate between members, and provide each one with a position in the organizational space. We now turn to the general objectives of the organization: one may do things, but why? What is it that the organization wants to achieve? And, furthermore, is it common knowledge, or is there confusion about the general objectives?

Understandings

Understandings involve the comprehension of the ultimate objectives of the organization (i.e., profitability, quality of service), its *raison d'être.* Understandings are reflected both in the narratives used to describe the organization and its goals and in the set of activities carried out daily in the organization. A successful four-star hotel in our sample combined a continuous emphasis on the importance of customer service with modifications to its operation so that the whole organization would reflect that goal. It was as if the organization was to achieve its goal through the constant reinforcement of the processes of sense-making of the members, in addition to the activities the members engaged in on a daily basis. The organization used narratives to create and consolidate a

sense of purpose in the organization, incorporating the visible consequences of that purpose and using vivid images and metaphors to create a connection between that purpose and the actions that every individual took in their everyday practices. ("Our objective is to serve customers well, therefore there should not be an unhappy customer." "We are here to turn a profit, and we cannot tolerate waste, shrinkage or theft.")

In that respect, this category unveils the sense made by members of the organization of their reality and the reality of the organization, and indicates whether a consensus exists or if, rather, different groups within the organization have different views of what is acceptable and desirable, and of the means available to attain these objectives. Says a manager:

> A -So I asked them (the employees) why on earth do you think that we are here? Why do you think the government has built this hotel? And for them, if this hotel is here is for customers and tourists to come, they didn't even mention that our objective was to be productive, to be profitable and to make money, that was a tough one [to teach them]. So step by step, you have to teach people something they have never seen in their lives. They understand because you speak the same language but how do you make them understand what you mean, why you have to turn off the light when you leave, why we have to make a profit, that the firm has to be profitable? I felt like a kindergarten teacher, like little kids. And then of course came the explanation of what we do here in this department (laughter) (Marketing manager, female, Mexican, Nut Hotel)

Incidents like the one described above are far from being isolated, and generated a great deal of astonishment from the managers of the organization, particularly the foreigners, and mostly at the beginning of their tenure. It appears that both partners at the corporate level assumed that the goals of each side were understood and were ready to be applied. The problem was multiplied by the lack of experience of a large number of employees and by some disagreement between the parent organizations in terms of goals and priorities. Each partner emphasized a series of overarching goals that involved general objectives instead of specific activities.

Patterns in understandings are stable and involve rather long periods. Consistent with influential research on strategies in organizations (Mintzberg, 1978; Mintzberg & Waters, 1985), only a few changes in understandings were observed in each organization during the period of observation. In the Montelimar hotel two periods were detected: the first was when the hotel tried to establish a reputation of quality and high standards with little regard to cost, and a second was when the organization, facing poor financial results,

emphasized cost containment and cost reduction programs as an operational priority. In both cases, the organization spent a great deal of time and energy refocusing the narratives and the activities so that they would reflect the new overarching goals that had been set for the organization. When the hotel was to be high quality, the service became almost exuberant and little effort was spared in operating as a high quality hotel. When cost become a priority, a coherent message emerged giving strong priority to austerity and frugality in every aspect of the operation of the organization, and the activities that were designed and enforced reflected that objective. The organization rapidly began standardizing procedures and rationalizing activities, so similar results could be obtained with fewer resources. Simultaneously, the managers became the mouthpieces and then the actors of the new strategy, informing everybody regularly of the need for cost containment and its importance for the survival of the organization.

As we can see, understandings includes the narratives used to explain why things are appropriate, which reveal implicit and perceived cause and effect relationships, and describe value judgments about the appropriateness and desirability of specific outcomes. Says one manager:

> A – One day I had a customer complaint, it was at the beginning, it was January, this fellow calls the reception: the air conditioning isn't working. For them (Cubans), if your air doesn't work in January it's no biggie, for them it is winter, they are cold and what do you need the air for anyway? We are cold, the customer is hot. So, how do you explain to the reception that, well, for them (Canadians), for us, here it is hot and we need the air. So what we have to do is give them more experiences so they know what is to be a customer. If you don't know what it is to be a customer, you will never know the importance of good service. (Front Desk Manager, female, Canadian, Withwind Hotel)

We have so far described the four categories of knowledge issued from our analysis. These categories describe the clusters of knowledge found in the organizations, the areas around which knowledge is applied. We summarize our four categories below with a question, reflecting its central theme.

Figure 3: Categories of knowledge

	Assets	Routines	Structures	Understandings
Main theme	What do we have?	How do we use what we have?	Who is responsible for what?	Why are we doing this?

The components of organizational knowledge.

As we have described so far, our first step when analyzing organizational knowledge was to wonder whether its application happened randomly or whether clusters of knowledge could be detected. In essence, we were trying to locate knowledge in the organization: does it appear regardless of time and place or are there regularities, and, if so, where are they? The hypothesis upon which this question is based is that knowledge tends to concentrate around specific areas of activities, instead of circulating freely in the organization: in purposeful organizations with commercial intentions, knowledge is seldom knowledge for its own sake. Rather, it is common to develop and refine knowledge about things of interest to the organization.

Using the methodology described in chapter four, we started our work with a content analysis, which revealed that four clusters of knowledge could be identified. These categories were labeled "assets," "routines," "structures," and "understandings"; knowledge occurs and develops around them. Each of these categories has two basic components. On one hand, we expect each one to have a dimension that encompasses the actions necessary for it to occur: assets are used, routines are designed, structures modified, and understandings shared through the everyday actions of the members of the organization. On the other hand, we expect a series of narratives to appear when that category is evoked in the interviews, as thoughts are translated into narratives. The interviewee can give a good account of the routines needed to serve a buffet table, of the current structure of the organization, of how to use a sharp knife to cut a turkey into pieces, or of the overall objective of the organization. Narratives, or verbal accounts of organizational behavior, and actions, observed or inferred, were expected to capture these dimensions for each of the four categories. In sum, we expected the two dimensions of knowledge evoked in our definitions to guide our reading of the data.

Activities and thoughts are thus represented in our four categories. But is the weight of each component similar for each category? To ask this question is to wonder whether thoughts and actions affect each of these categories similarly or not: do assets require more action than thought, as much action as thought, or more thought than action? Once we have found the answer to that initial question, we can move on to the next

category: is the relationship between action and thought the same for all the categories of knowledge? This analysis of the categories provides a comprehensive view of the relation between the two components of knowledge. The objective here was to identify dominant combinations of thought and activities for each category.

After cross-tabulating the categories issued from the taxonomy with the two components that constitute our definition of knowledge, we hypothesized that each category required a different combination of action and thought. To probe into this hypothesis, we used the paragraphs we had selected to create our first categorization and reviewed them to evaluate whether they had a high or a low component of "actions", and a high or a low component of "thoughts". This was done by assigning two additional tags to each paragraph, namely thoughts and actions, each of which could take two qualitative states, high or low. Accordingly, at the end of the categorization, each paragraph had three tags: the first one, "knowledge" (assets, routines, structures or understandings), another one, "actions" (either high or low), and the last one "thoughts".

Table 6: Example of Cross Tabulation of Categories

Original category	"Tagged" as	Example	Thoughts	Action
INADEQUATE INFRASTRUCTURE	ASSETS	The balconies are not built according to regulations, they are too small and tilted towards the inside of the building, so when it rains we get flooded.	LOW	LOW
MANUALS	ROUTINES	The manual says we are supposed to have four kinds of juices; it seems very simple; four star, four juices. I wonder what they give at a five star.	LOW	HIGH
PROCEDURES	ROUTINES	When a customer arrives, the steps are simple: say hello, check ID, take credit card, register him, assign a room, give him a tag, send him on his way	LOW	HIGH
LINES OF AUTHORITY UNCLEAR	STRUCTURE	When a customer complained, we didn't know whether it was the responsibility of Customer Relations or Front Desk, and that created problems	HIGH	LOW
UNCLEAR ACCOUNTABILITY	STRUCTURE	The food and beverage manager was responsible for the daily cost of food, but he could not control what was going on at the bars and snack-bars	HIGH	LOW
STRUCTURES	STRUCTURE	The chef and the restaurant now report to me, and that was the end of their petty fights	HIGH	LOW
INFRASTRUCTURE PROBLEMS	ASSETS	The ceramics on the floor are not good, when it rains they become a hockey ring and customers can hurt themselves	LOW	LOW
UNCLEAR STRUCTURE	STRUCTURE	Entertainment reports directly to the General Manager, that is because he worked for Club Med and they are the teacher's pets	HIGH	LOW
DEFINITION OF MISSION	UNDERSTAN DINGS	This hotel is here to make money, to be profitable. That way we can generate the dollars we need for Cuba, to buy medicines and oil to fight the embargo	HIGH	HIGH
STRATEGIC CHANGE	UNDERSTAN DINGS	We have to move from the high quality we were trying to give at the expense of cost to a cost-conscious operation. That means reducing some frivolous expenses we made recently	HIGH	HIGH
OTHER	OTHER		OTHER	OTHER

We then analyzed how "knowledge" (assets, routines, structures and understandings) interacted with "thoughts" and "actions". This was done by cross-tabulating the data. In essence, we were asking: of the paragraphs that we had previously classified as belonging to the category of assets, what percentage are now tagged as requiring low action and low narratives? High action and low narratives? Low action and high narratives? High action and high narratives? We asked similar questions for the other three categories. With that question, we were looking for a dominant mode to emerge for each category, as we had previously hypothesized. We found that the majority

of combinations in our matrix had indeed a dominant category, represented by the percentage in each of the cells of our matrix. We summarize our results below.

Figure 4: Categories of Knowledge according to their Basic Components

		THOUGHTS AND NARRATIVES	
		Low	High
ACTIVITIES	Low	Assets (n= 980, 70%)	Structures (n= 1101, 67%)
	High	Routines (n= 1621, 84%)	Understandings (n= 673, 65%)

N= 8750 (4375 for each variable), $p < .005$

Note: for each cell, n represents the number of paragraphs that received that particular combination (L-L, H-L, L-H, H-H). The percentages represent the weight of the dominant category; the dominant category itself is presented in each cell. See Annex 2 for a more detailed contingency table.

With this second categorization and the later cross tabulation, we highlight how the application of knowledge to each category emphasizes one particular combination of activities and narratives: while knowledge around assets favors low levels of activity and low levels of narrative, routines favor high levels of action and low levels of narrative. We conclude that the two components of knowledge evoked in our definition have an uneven impact on the categories, with the more abstract categories (structures and understandings) requiring higher levels of thought and narrative.

We see that as the category of knowledge becomes more abstract (i.e., as we move from asset to routines, from routines to structures and from structures to understandings), more effort and attention is needed to materialize knowledge, that is, to materialize knowledge into concrete collective actions. The degree of effort and attention needed for each category is directly related to its degree of concreteness: categories that are more concrete need less effort and attention, and more abstract categories need more. Between the two extremes, we find routines, which require high levels of action and low levels of narrative, and structures, which require high levels of narrative and low levels of action.

These results suggest that the effectiveness of the mechanisms used to manipulate knowledge (a concept that we will develop later in this work), will vary according to the type of category involved. Since each category emphasizes a different combination of thought and action, when a generic mechanism is used the results obtained are not as good

as when a specific mechanism is applied, i.e., when an "adequate" mechanism is chosen. The instruments needed to effectively manage a "simple" category (i.e., a category that requires low levels of activity and low levels of thought and narrative) are intrinsically different from the ones needed to manage a complex category, (i.e., one that requires high levels of activity, high levels of thought and narrative or both).

In the example below, the manager explains how she has to use a method that is specific to the category where she needs knowledge to appear.

> Learning has been structured that way: technical aspects first, dealt with by using appropriate procedures, in fact what we thought appropriate given the circumstances, and by teaching the standards that they should meet. More intangible aspects were inculcated by role-modeling, role-playing and repeating until the exercise became natural. It takes a long time, I am telling you. The idea behind all that was to make the employee proficient at the task. In Canada, you and everybody knows what is acceptable and what isn't, you know what is good business and what isn't, that is because you are a customer outside. Here's different, how do we teach them service, if they have never been customers in their entire life? How can I say to someone that works at the front desk when a guest is standing in front of him because they haven't got something they thought they should get, how do you deal with that as opposing to just deflecting it, or ignoring it, which is their way [of doing things], or staring at a void hoping it will just go away? I am trying to teach people what good service is. (Front Desk Manager, female, Canadian, Belltolls Hotel)

Having studied the relationship between the categories of knowledge and the basic components of knowledge, we wondered next whether these categories had a preferred sequence. Since the categories are connected to each other (routines indicate how to use the assets, structures designate responsibilities for the routines,...), we wondered whether these categories were developed simultaneously by the organizations, or if, rather, a sequence of events could be drawn.

Having explored the links between these categories in a static way, we were looking for a longitudinal connection among them, hypothesizing that some of them (the "simpler" ones) were the ones that served as platform for the more complex ones, and that knowledge mobilization in simpler categories was faster and easier than in more complex ones.

To answer this question, we selected the most successful organization of our sample, and observed how the categories of knowledge interacted with each other, paying particular attention to the sequence of events that lead to that situation. This was done by selecting the two most successful hotels in our sample (Hotels Nut and Withwind), and

dividing the sample according to time of the interviews. The first sub-sample represented all the paragraphs collected during that visit that discussed the issue of knowledge. This was repeated for the second hotel, and then repeated for the second visit. After finishing this temporal reordering of the data base, we proceeded to count the weight of each category as percentage of the total of paragraphs collected for that time during that interview. Table 7 presents a summary of the observations for these two hotels.

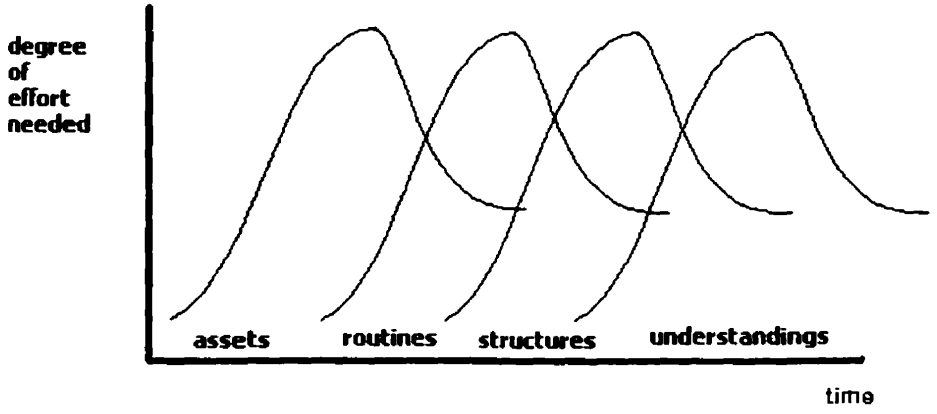
Table 7: Evolving Weight of Knowledge Categories.

Categories	Nut		Δ	Withwind		Δ
	1st visit	2nd visit		1st visit	2nd visit	
Assets	13	8	.05**	16	9	.07**
Routines	28	27	.01	28	22	.06**
Structure	35	32	.03	32	28	.04
Understandings	24	33	-.09**	24	41	.17**
N= (par., %)	*620, 100*	*1035,100*		*728,100*	*693,100*	

Note: Data presented as percentage of total of paragraphs. All columns add to 100%.
* p< .05, ** p<.01

We read that evidence as follows: when knowledge mobilization processes have succeeded, that is, when the organization has achieved a satisfactory standard of service, these categories appear embedded in a well-defined sequence, from the simpler categories to the more complex ones, as if each category was a prerequisite for the next one, in a sequence of increasing complexity. This sequence strongly suggests that the basis for satisfactory performance in service organizations is heavily dependent, in the following order, on the material roots (the assets), the steps taken to use the assets (the routines) and the manner in which authority and tasks are distributed in the organization (the structures), and finally by the ability to integrate sense-making with the activities performed in the organization. Everything points to the conclusion that the trajectory was marked by a transition from simpler categories to more complex ones. The sequence is presented graphically in Figure 5.

Figure 5: The Embeddedness of Categories of Knowledge



As modeled, the trajectory would start with knowledge around assets. An individual or group of individuals putting assets to use is the first step towards successful performance. But that performance is not complete until the group of individuals develops a method to use them; without that method, use of the assets remains chaotic and inefficient, as each individual must experiment anew and reinvent procedures that have already been developed. Routines emerge as mechanisms that prevent individuals from reinventing what is already known. As individuals and functions find acceptable ways to perform activities, a series of routines are created, routines that will shape the manner in which the work is performed.

The scope of these routines is influenced by the structure of the organization. Not all assets are of concern to everybody, and not all routines apply to everybody. Instead, the structure delimits which routines will be attached to which groups and individuals in the organization, just as the routines themselves determine which assets are to be manipulated and how. The structure of the organization acts as a powerful mechanism to discriminate between members and attach some of them to certain routines and certain assets. Although the final performance of the organization is of concern to all, the activities that an individual and a group must perform are well defined by the position they occupy in the organization, rendering them accountable and responsible for a small portion of them.

Understandings provide a frame that allows members to make sense of the other categories, and to evaluate whether they are adequate in a particular organizational

situation. A structure may be adequate for efficiency, but this is only useful if efficiency is accepted as a collective goal for the organization. However, when efficiency is adequate, the content of the other three categories will influence whether the organization achieves the overarching objectives set by this category.

From our evidence, one may intuitively hypothesize a sequential evolutionary model in which organizations would solve the problems posed by the assets (discovering how to use them and finding new ways to do so), then move to routines that standardize performance and create efficiencies, then to a thorough division of responsibilities, and finally to an overarching understanding that explains what is to be achieved and how.

Our next objective was to describe the mechanisms used to develop the knowledge needed in each situation. While the sequential model presented above describes the movement from one category of knowledge to the next, it does not say much about the mechanisms used to mobilize the knowledge necessary for that transition. How, we wondered, did organizations learn to develop knowledge around their assets, their routines, their structures, and the understandings that guide the organization? What were the mechanisms and the processes at play in these situations?

To answer that question, it was necessary to understand the different paths that organizations could take to acquire new knowledge as they tried to improve their performance. Of interest here were the mechanisms used to acquire new knowledge, and the interaction between these mechanisms and the categories of knowledge we had found. We called that process knowledge mobilization, and discuss it below.

Mobilization of knowledge: transfer, creation, consolidation.

In our previous discussion, we revealed four categories of knowledge that represent the clusters around which knowledge appears and multiplies: assets, routines, structures and understandings. Knowledge, we argued, enables actions and narratives about actions; knowledge is knowledge about something. The fact that organizations know how to operate their machinery, or that an organization has found a structure that improves performance does not indicate which mechanisms have been used to create that

knowledge, nor does it indicate which activities have been carried out to apply that knowledge to a concrete activity. A comprehensive model of knowledge must thus include the processes used to develop new abilities, as well as any other process that may influence the durability and overall quality of the knowledge in each of the four categories.

It seems clear to us that knowledge is better understood as dynamic, managed process (Sanchez and Mahoney 1996), where organizations integrate (Grant, 1996a), codify, articulate (Nonaka, 1991, 1994) and accumulate knowledge (Singh and Zollo, 1998) as they try to adapt to their competitive landscape. Knowledge is mobilized when organizations actively seek to transform categories of knowledge (Nonaka, 1994), when they accumulate, articulate and codify knowledge from experience (Singh and Zollo, 1998), and when they recombine existing knowledge in novel ways (Henderson and Clark, 1990; Grant, 1996b; Sanchez and Mahoney, 1996). In all cases, knowledge management appears to be a central task for organizations and their managers, a task best described as a continuous, on-going process rather than as an infrequent activity, a central element of organizing rather than a peripheral one. Knowledge mobilization, understood as the mechanisms used by organizations to manage their knowledge and acquire new knowledge, is thus a central activity, particularly in cases where rapid improvements are necessary.

In addition to the considerations that apply generically to all organizations, we must consider any individual circumstances that apply specifically to our object of study, service organizations in international strategic alliances. *A priori*, there is no theoretical reason to believe that the processes of knowledge mobilization are any less important in alliances, which are partnerships between organizations whose main goals are to obtain results that are unattainable without the partnership. If anything, the existence of an alliance should increase, not decrease, the frequency and amount of knowledge being mobilized, as the partners actively work to achieve their goals. These processes are intensified in alliances that involve the presence of a third organization (the "child"), as the child and its managers try to raise the standards of the organization. In sum, use of knowledge in organizations can be described as a continuous process of knowledge mobilization, and it is with this concept in mind that we begin our discussion, in the context of strategic alliances.

Using the typology created in our literature review, we begin by distinguishing between two distinct dimensions of knowledge mobilization: knowledge creation and knowledge transfer. This division is realized simply by identifying the locus of creation as external in the former case and internal in the latter. Although in practice one expects these distinctions to be somehow blurred, as there is no perfect separation between knowledge created in the organization and knowledge transferred from other organizations, the division provides a useful tool to identify the origins of knowledge. We hypothesized that the mechanisms used to initiate each process would differ, as would the types of knowledge attached to each mode of mobilization. We also hypothesized that each mode of mobilization would be used differently according to the life-cycle of the organization, and that the intensity of the method would not be constant as organizations became more proficient or failed to do so.

To verify empirically that typology, we utilized a method similar to the one used for the categorization of knowledge. Using the same database, we created two categories of knowledge mobilization (transfer and creation), and we proceeded to code each paragraph. However, we rapidly discovered that a large number of paragraphs discussing knowledge mobilization did not correspond to either of these categories. Rather, they tended to discuss the difficulty of keeping a standard once that standard had been achieved for the first time. Thus, we created a category called "consolidation of knowledge," in the same way we had added categories previously. The results of these coding efforts are presented below.

Table 8: Categories of Knowledge Mobilization

Name of category	Examples of categories merged into it	Number of occurrences of category	Percentage
Transfer	Copying from parent, consulting from parent, doing the same than, learning from universities, ...	938	.35
Creation	Discovering, inventing, new procedures, new manuals, new ideas, ...	640	.285
Consolidation	Follow-up, going back to square one, forgetting, letting go, not following-up, ...	689	.36
Other		58	.02
	TOTAL (n=)	**2325**	100

The taxonomy thus created was utilized to study the processes of knowledge mobilization. Our discussion proceeds in stages: first, we discuss knowledge mobilization as a core activity for the organizations studied. This section confirms that knowledge management is not a peripheral activity, but rather, one of the central tasks of management and the essence of the improvements we witnessed in some of the organizations in our sample. We then focus on the circulation of knowledge between a parent organization and their children, followed by a discussion of knowledge created within the business unit without reference to the parents. Having reviewed each of these, we present a third dimension of knowledge mobilization, directly concerned with the activities implemented to insure the persistence of knowledge in the organization and the tendency of knowledge to dissipate. These three processes represent different dimensions of knowledge mobilization, which is, we argue, the central focus of organizational attention in our sample.

Knowledge Mobilization as a necessary activity

We already mentioned that the overarching goal of all the organizations studied was to attain international standards. The practical consequences of that decision were simple: it was considered in the organization's best competitive interest to perform at least as well as an average hotel of their category, providing comparable services, and, as a result charging similar prices to its clients and obtain similar results, as costs would be

equivalent. The implications of that decision were straightforward; from the very early stages, managers and workers saw the operating practices of these benchmark organizations (the "activities" or "routines") as methods that could be potentially emulated in the local organization. Given that all organization started from what we call "ground zero" (a notion we will develop with greater detail in chapter seven), a massive effort of knowledge mobilization was needed to build capabilities in each of the activities that were believed to contribute to increases in the performance of the organization, its efficiency and the satisfaction of its clients. Creating new organizational abilities and the knowledge that allowed them to appear was one of the most important tasks in which organizations and managers engaged, and the narratives of the managers reflected this priority.

A: In the beginning the foreign managers were teaching us everything, they gave us their know-how, at least it was that way for me, giving us a lot of information, showing us the tricks of the trade so things were done the best we could. (Public Relations Manager, female, Cuban, Nut Hotel)

Says another manager:

Q: How was the hotel when you arrived, at the very beginning?

A: The problem was simple: they didn't know anything, we had to start from scratch (...)

Q: Do you have an example?

A: Well yes, the Dutch Sauce, no one know how to make it (and you can't operate if you don't know that). So I took the least talented cook in the kitchen and I taught him how to make a good Dutch Sauce. Then, when he knew, I moved on to the next worst, and so on until everybody knew how to make a Dutch Sauce. Now they all know [how to make that sauce], and I have a lot of examples like this one. (Food & Beverages Manager, male, Spanish, Nut Hotel)

And also

A: When I got here, I had to start from the beginning, to answer the phone, how to sound nice over the phone, we taught them to be a little more professional, telling their names so the customer knows who he is talking to. It was very hard, they had their ways, their ways of doing things and it took a lot of effort. (Food & Beverages Manager, male, Chilean, Belltolls Hotel)

Where does this knowledge come from? As mentioned in our literature review, it is customary to trace the creation of new organizational abilities (e.g., being able to perform a new task, or integrating series of tasks which were previously dispersed) to two basic processes, transfer of knowledge ("Alpha managers said this is the way we should do it" "they came with the manuals and told us to do everything as explained there," "the Director (of Alpha) suggested we build a pier here so our customers do not have to haul their scuba diving gear") and creation of knowledge ("we sat down and realized that we

could sell the same room twice, if we clean it fast enough" "we invented new cocktails that are typically Cuban, more fun for the guest and half the price the others"). Together, they represent the main knowledge activities of the organizations studied.

Thanks to the characteristics of the organizations studied (low knowledge), their position in their environment (competitive industry with low switching costs and low brand loyalty), and the strategic choices they made (to compete on the basis of equal quality for a lower final price), knowledge mobilization became a necessary activity and the center of organizational attention. Having said this, and given that the parent companies seemed to be natural reservoirs of knowledge, readily accessible and with a vested interest in the success of the child, organizations turned to them to obtain this knowledge. Knowledge transfer quickly appeared as an obvious way to improve results in the organization.

Knowledge Transfer

Knowledge transfer involves the circulation of knowledge from either of the parents to the child organization or vice versa.[23] This process implies that the abilities that are needed by the receiving organization exist in the parent and that they are, within reasonable limits, transferable to the child.

> Their manager went to Spain not long ago, and she came with some manuals, nothing truly new but some new things on cleaning products, and new ways to organize the maids' carts, simple things but they can improve our work, just like how to start [cleaning] a room, what steps you have to take to make the room. Each thing has its theory, and even though sometimes we do things right we should never forget the theory behind it. (Housekeeping Manager, female, Cuban, Withwind Hotel)

Although in some cases the abilities can be completely generic and require very little adaptation to the receiving organization, in many cases the transfer of knowledge requires a certain degree of adaptation before the ability can be usefully implemented. Contrary to the idea of generic capabilities, defined as abilities to perform tasks unbounded to any specific organizations and ready to be moved where they are needed, the notion of

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23 Strictly speaking, any organization (a University, a consulting firm) can be the originator of a process of transfer of knowledge. However, since none of our organizations had external contacts outside their corporate relations, we limit our definition to the parents and the child organization.

transfer of knowledge implies a certain degree of adaptation and experimentation before the receiving organization can usefully utilize the knowledge owned by the sender.

In an industry where rapid expansion is a common strategy, organizations utilize transfer of knowledge as one important device to accelerate learning processes and rapidly obtain standards of quality comparable with corporate standards and cost of operations in line with profitable operations. In this respect, corporate manuals and standard procedures act as useful devices to facilitate transfer of knowledge from parent to child, ready to be applied when the need arises. Even if these manuals and operating procedures do not always or even often correspond to the realities of the local organization (a fact readily acknowledged by the corporations themselves and their local representatives), they serve as platforms and starting points for the processes of knowledge mobilization. However, when these manuals do correspond to the local realities, the results obtained by the local organization are rapid, significant, and visible to all its members. In particular, they are useful because they provide a stark contrast to the chaos and disorder that their absence brings: compared to the problems of not having any procedures or to the efforts needed to reinvent something that already exists, transfer of knowledge appears an efficient manner of obtaining satisfactory results, even if that knowledge is generic and only applies partially to the local reality.

> A: When I started [working here, at the beginning of operations] I tried to do my work the best I could, trying to control things as I could, but she [the foreign manager] taught me the work system as it was laid out in the corporate manuals of the corporation. (Housekeeping manager, female, Cuban, Key Hotel)

Although the transfer of knowledge may require adaptation before it can be usefully implemented, this need not be the case. Often, knowledge is transferred by merely mimicking what other organizations do, simply by benchmarking the processes or the activities without further adaptation, doing things in a certain way "because that is the way we do things here." This implies that in many cases the organization will not even consider that there are alternatives to what is being transferred; once the organization has decided to start the process, it will become the only alternative, excluding any other possibilities that may exist.

The imposition of new practices without regard to their usefulness is one of the characteristics of the transfer of knowledge at the early stages of operation, when managers are concerned with establishing a minimal standard of operation that "does not lose too much money and does not have customers rioting outside our doors." During the first few weeks of operation, transfer of knowledge appears as an imposition of new practices, methods, and standards that originate outside of the organization. The flow of knowledge at these early stages goes almost exclusively from the parents to the child, and in particular from the foreign partner, whose delegates in the organization act as a nexus between the two organizations. Talking about the first months of her accounting system, a manager tells us how the new system was imposed without her fully understanding its implications.

> Q: So when you arrived the director said, "This is my objective." Did he explain what his objective was?
>
> A: Yes, yes, they have always explained their objectives. They have always said... well, we want this and I didn't know what [it was] but I had the methodology to do it. Let's say, how to make a balance sheet for the hotel, technically I know how to do that on my computer. But what should be on it, for what purposes, what the director wants or what the corporation wants, what should be on that balance sheet was for them to decide. (Accounting Manager, female, Cuban, Key Hotel)

Although the parent organization appears to be a reservoir of usable knowledge and experience, the fact that there are two partners in the alliance complicates matters, since each partner may have different ways of doing things, which can reveal differences in corporate philosophies or simply disagreements on what competitive positioning an organization must adopt. In any event, transfer of knowledge in strategic alliances is not a simple activity: parents may have different standards and practices, some of which may not apply, or may produce inferior results. In addition to this problem, transfer may be limited to what is visible, excluding important yet invisible factors. The following quote illustrates some of the difficulties of transferring knowledge:

> What they [the employees] have learned, they have learned by doing. [They learn] from their experiences. We copied a series of ideas for a series of shows, a list of things, what we do is essentially what any other resort in the Mediterranean would do, they do a series of activities that are essentially the same, but every night we have a series of problems because our people are not well prepared, they are not prepared to do the entertainment at night. We are improving but we do not have enough time, it is painful. (Entertainment manager, male, Spanish, Nut Hotel)

As we see, mimicking what other organizations do (including the parent organization and its well-developed standard) does not always work because it copies visible practices without the knowledge that enabled them. Although, as the manager

indicates, it is easy to focus on what "any other resort would do," the to-do list will not guarantee successful performance, because many of the factors that allow the successful implementation of that "to do" list remain invisible to the mimicker or because they are so context-dependent that is impossible to transport them from one locale to another. Says a foreign manager

> Q: The method you mentioned, where does it come from? Did you bring it to this hotel?
>
> A: It came from my research, from other hotels. I was going to bring the best things from other hotels, but were are missing something (long silence) ..... there are a lot of things it is impossible to bring, and if not impossible, improbable. It is very difficult to bring the best from Club Med which has outstanding entertainment and recreation functions, they are well known for that. (Recreation Manager, male, Spanish, Nut Hotel)

Often, knowledge transferred from other organizations will not fit because the contexts of the organizations are different. In these cases, adapting knowledge is necessary. In the organizations in our sample, foreign mangers played the role of translators, acting as the nexus between the parent and the local organization and incorporating knowledge transfer into their everyday activities. Says a manager

> " (...) we have a list of lessons that the [foreign] managers should give [to the local employees]. We bring people from Spain, the only purpose of their trip is to lecture, to teach some courses, but by far the most important element is the management team, the managers that work directly in the units and functions and train their employees." (F&B manager, male, Spanish, Key Hotel)

Despite all the limitations presented, knowledge transfer is particularly important during the early stages of operation, when the quantity of knowledge needed is great, and the accumulated knowledge of the local organization is small and incomplete, particularly in the functional neighborhood. At this stage, massive efforts are made to improve the operations of each function, but especially those that have a foreign manager as director, who then acts as the liaison between the outside and the organization. Knowledge transfer is a powerful mechanism to improve practices, particularly when the local organization is overwhelmed by the immensity of the task: becoming a viable, competitive hotel in a saturated and competitive industry.

However, despite its usefulness, knowledge from either parent may not always be available or even appropriate for the situation, and adaptation of whatever is available may not suffice or be the best alternative. Discovering the problem, and realizing why and how

what the organization has is inadequate, brings a second discovery: no acceptable solution is available outside the organization. In these cases, the organization is forced to develop knowledge adapted to the situation it is facing, *from within*. The organization is creating new knowledge, innovating, without an external referent to act as a model.

Knowledge Creation

Knowledge creation involves the development of abilities at the organizational level, abilities to deal with specific needs that are not well met by the generic knowledge of either parent, or, in other words, pieces of knowledge that cannot be found outside the organization. Although the organizations in the sample may see efficiencies in transferring knowledge from the parent (quicker, less costly, less uncertain), often they realize their abilities are not well adapted to their needs, and can even become counterproductive when they do not take into account local differences and the limitations and potential of the resources available. ("CorpCo wants me to be a family resort. But nothing here is prepared for kids, and the place is not even safe for little ones"). Knowledge creation appears as a valid alternative when the costs and problems of transferring knowledge are greater than the perceived costs and problems of the alternative: developing the ability locally. Says a manager

> "[CorpCo's] manual says a four-star hotel must serve four juices in four different jars every morning. That may be OK in Canada, where the only thing you have to do is open the darn container and pour the liquid in the jar, but here we just don't have four kinds of juice, and if we do, it is too expensive. So we offer four juices, but one of them is orange, the other carrot, and the third one orange-carrot, and the fourth tropical punch, which is orange, carrot and I dunno, banana or whatever we have that day. But we make sure we have juices with and without sugar, so people who are watching their weight can drink the sugarless one. So what do you know? We have now six juices instead of four, but the basic flavors are the same." (F&B manager, male, Cuban, Hotel Caribbean)

Creation of knowledge, however, need not be a natural reaction to an unfavorable cost-benefit analysis. Although there are circumstances in which managers ask themselves whether the right solution is held at the corporate level, in many other situations there is not enough information to evaluate the alternatives, thus reducing the usefulness of the transfer as a knowledge acquisition mechanism. Furthermore, often the organization finds solutions to its own issues without regard to the fact that a better alternative exists abroad. By solving a pressing problem immediately, the organization increases the effort needed to transfer a better alternative residing outside.

Q- Why did you introduce these changes? How did you realize there was a need for change?

A- We saw the buyer had a hard time buying, I mean he had to fill out a manual report where he had to make a lot of calculations to get to some usable information (of patterns of consumption) to plot the trends for the next 20 or 25 days. It was too slow, too tedious, but then we saw we had all that information in the warehousing system, the only thing we had to do was to create a new table, an output that would add up the data and multiply it, we saw we could ask the system to calculate consumption and patterns of consumption. We only had to input the occupancy rates of the hotel at any future date and the period you wanted to cover with your purchase order, and now in a matter of 15 minutes you have the result, the purchase order for the future. It doesn't take any time, not even 24 hours, and it is much more reliable, you prevent mistakes. Ourselves, alone, we found that [system], they [company X] don't have it, they do it manually. (Finance & Accounting manager, male, Cuban, Caribbean hotel).

Similarly, another interviewee says:

A: As time was passing we became more demanding as far as controls went, and one has new ideas. For example the forms the maids have to fill out, I don't like CorpCo's model, so I invented one and now I can make a daily inventory of linen. (...) Now the comptroller can ask me without warning how many pieces of linen we have, how many tablecloths, how many we are using and how many are dirty, sheets, pillow cases, towels, and using my model I can tell him on the spot. (Housekeeping manager, female, Cuban, Montelimar Hotel)

In chapter seven we explore the processes in which organizations engage when they try to solve particular issues; at this point we concentrate on a definition of knowledge creation and on its practical consequences. We define knowledge creation as the development of abilities at the organizational level, within the context given by the physical infrastructure, the preexisting skills, both individual and organizational and the objectives of the organization, and when that knowledge does not come from an external organization. This definition enables us to explore the circumstances that lead to the creation of knowledge and the series of events that precede the emergence of a new ability.

So far we have explored the two central mechanisms used by organizations to develop new abilities. In essence, we have claimed that organizations can either obtain knowledge from external sources or they can create that knowledge from internal sources, mobilizing whatever resources are available at that particular time. We turn now to the events that occur once that knowledge has been acquired for the first time, and to the efforts that are needed for it to remain in the organization.

Knowledge Consolidation

Although the two dimensions of knowledge mobilization may be the core elements of knowledge management, they are not the only dimensions that require management

attention, as the organizations in our sample quickly found out. Despite their intuitive appeal and the evidence found in the literature review, the two processes described so far do not capture a complementary dimension of knowledge management that we call "consolidation." This category refers to the efforts that are needed to perform a series of tasks consistently after the activity has been performed for the first time. The idea underlying knowledge consolidation is that knowledge can dissipate rapidly, leaving the organization where it began, or even worse off. Keeping a piece of knowledge in the organization is not an automatic, smooth byproduct of knowledge mobilization; instead, it is an activity that requires considerable effort, and is not always successful. To maintain a standard once that standard has been reached is not a trivial task, and this category explores the mechanisms put into place to do so. ("If you do not follow-up, it is back to step 1", "you go on vacation, and when you are back, the standards are gone.")

Thanks to the processes of knowledge transfer and knowledge creation, organizations develop the knowledge necessary to achieve certain results, but neither of these processes implies that the organization will be able to attain that standard consistently. Maintenance of knowledge appears as a necessary, effortful and costly task that requires considerable attention from the organization and heavily influences the ability of the organization to develop complex abilities. In all the organizations studied, levels of performance attained are not easily replicated, and organizations appear to experience the need to pay significant attention to the maintenance of the knowledge they have created: with time, performance levels of specific activities decline significantly, and the organization must pay attention to them anew to achieve the performance level it had previously attained. ("Cost of food is a roller coaster, when you stop paying attention to it, voila! it is sky-high again." "When you look in another direction, your buffet table is all messed up, there is only one sauce where there should be two, and there is no more grated cheese, a real mess.")

Knowledge consolidation thus involves the preservation of the abilities created in the organization or transferred from other organizations. Maintenance of abilities appears to be particularly problematic in these service organizations, where "goods" cannot be stored and must be consumed shortly after production. While according to managers it is

relatively easy to achieve acceptable standards of operation, consolidation of these standards at a desired level is not a trivial matter. Even when acceptable levels of performance are reached, performance tends to vary following a cycle of poor results triggering intervention, stabilization at a desired level, decline, poor results and new intervention. Variation in performance tends to diminish, and the cycle is repeated until it stabilizes at a desired level. Says one manager:

> A: That is follow-up, and that can be annoying, it can give you a headache because the sauce that was supposed to be there since the beginning isn't there, and I know that it is supposed to be there and it was there since the beginning. It is the sauce, it is a saucer, and a little dish on top with a little spoon and a big spoon. Well, they are details, but that is the work we do. So, [they will do] the sauce in a different way, so you need to follow up and you need a structure for that. Within the structure you let them be creative, but the structure does not change. For me, that is the way I work, there is a constant follow-up. If not, they will change the pasta or they will put something that does not taste the same, and we need it to always be the same. If you are creative, if you improve things, I am not against it at all, but if you remove the only sauce there was, that is not what we want. In animation, for example, they will show up without some part [of the uniform], I keep telling them the uniform is the uniform, your tie, your pants of this color, if you leave them after a while they will change it. (...) That is why you have to implement a follow-up and a structure. (General Manager, French, male, Withwind Hotel)

> We calculate the daily cost of food and beverages, and as soon as a new manager starts, he starts well, and then there is a phase where you have to watch that closely, in the kitchen the cost depends on how closely you watch everything, that is fundamental, you have to see what goes out, what comes in, and you have to monitor that very closely, as soon as he stops checking that, his performance (cost of food in relation to quality) goes down. We have seen that with our Cuban chefs, we hire one of them and in two weeks the cost of food is sky-high, and only then it stabilizes, we haven't been lucky with them. (Resident manager, male, Cuban, Key)

Even when acceptable levels of performance are reached, performance tends to vary following a cycle of poor results triggering intervention, stabilization at a desired level, decline, poor results and new intervention. Variation in performance tends to diminish, and the cycle is repeated until it stabilizes at a desired level. In the next section we will examine the ways in which the category of knowledge and its process of mobilization influence the difficulty of consolidation and, as a result, the efforts required to consolidate the practice in the organization.

Interactions

So far, we have identified four categories of knowledge and three components of knowledge mobilization. We wonder now how all these categories interact with one

another. Is it sound to hypothesize that each category has a preferred mechanism of mobilization? That each category is different with regard to consolidation of knowledge? Do organizations, for example, transfer routines, or do they prefer to create them locally? Are understandings consolidated with less difficulty than structures, or is it the other way around? In the remainder of this chapter, we study the interactions between these categories and these processes, using the difficulty of consolidation to discriminate between categories. In this way we create the elements needed to model the degree of difficulty encountered by organizations when trying to consolidate knowledge according to the type of knowledge mobilized.

As a first step for the construction of the model, it is necessary to discriminate between categories of knowledge according to their standing vis-à-vis the process of mobilization. This is done by counting the number of occurrences of a phenomenon of interest (in this case, the genesis of a piece of knowledge) and linking it to the mechanism used by the organization to create it. The results, summarized in Figure 6, show that the simplest of our categories, assets, is strongly associated with local creation of knowledge, while the most complex one, understandings, is associated with transfer. The other two categories are strongly linked to neither transfer nor creation. We summarize the results in the matrix below.[24]

[24] For the sake of simplicity, we present the Contingency table and the Chi-squared texts on annex 2.

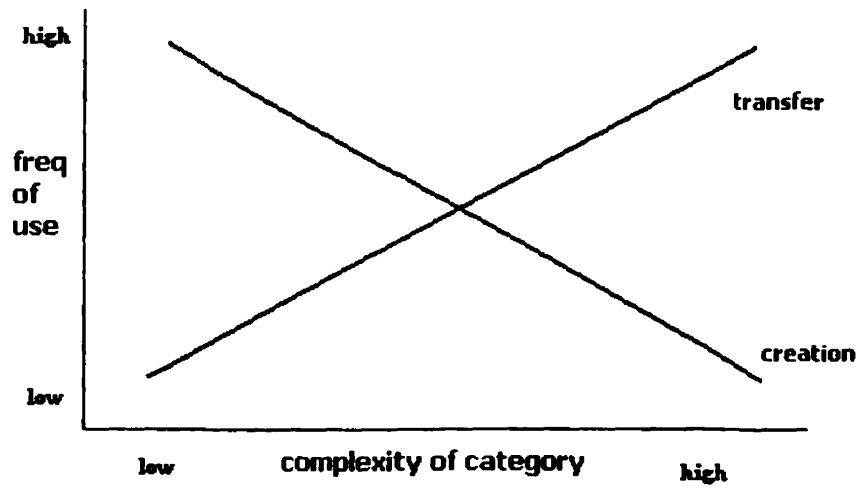
Figure 6 Categories of Knowledgdge and process of Mobilization

		Category of Knowledge			
		Assets	Routines	Structures	Understandings
Process of mobilization	Transfer n=938	LOW USE	MEDIUM USE	MEDIUM USE	HIGH USE
	Creation n=640	HIGH USE	MEDIUM USE	MEDIUM USE	LOW USE

Note: This contingency table is significant at p <.005. For sake of clarity we only present here the main results. However, supporting data, as well as the original contingency table, are presented on Annex 2.

From the results presented on Figure 6 , we can hypothesize within the same organization a relationship between categories of knowledge and processes of mobilization, where frequency of use of the mechanism of knowledge mobilization varies according to the complexity of the category. The relationship is presented in graph form in Figure 7.

Figure 7: Categories of Knowledge and Process of Mobilization: hypothesized relations



Having highlighted the connections between the categories in our typologies, we now turn to the difficulty of consolidation. We have stated that, once knowledge has been acquired, it requires considerable effort to maintain it within the organization: failure to consolidate knowledge leads to dissipation. Yet, we have not explored whether all categories are equally difficult to consolidate, nor whether there is a difference between them, as we hypothesized. To observe the connections between a specific category of knowledge and the difficulty of consolidation, we analyzed the difficulties organizations had encountered with dealing with each of the categories.

Results of this analysis are presented in Figure 8.

Figure 8: Categories of Knowledge and Consolidation of Knowledge.

	Category of Knowledge			
	Assets	Routines	Structures	Und'standing
Consolidation (n=689)	LOW USE	MEDIUM USE	MEDIUM USE	HIGH USE

Note: This contingency table is significant at $p < .005$. For sake of clarity we only present here the main results. However, supporting data, as well as the original contingency table, are presented on Annex 2.

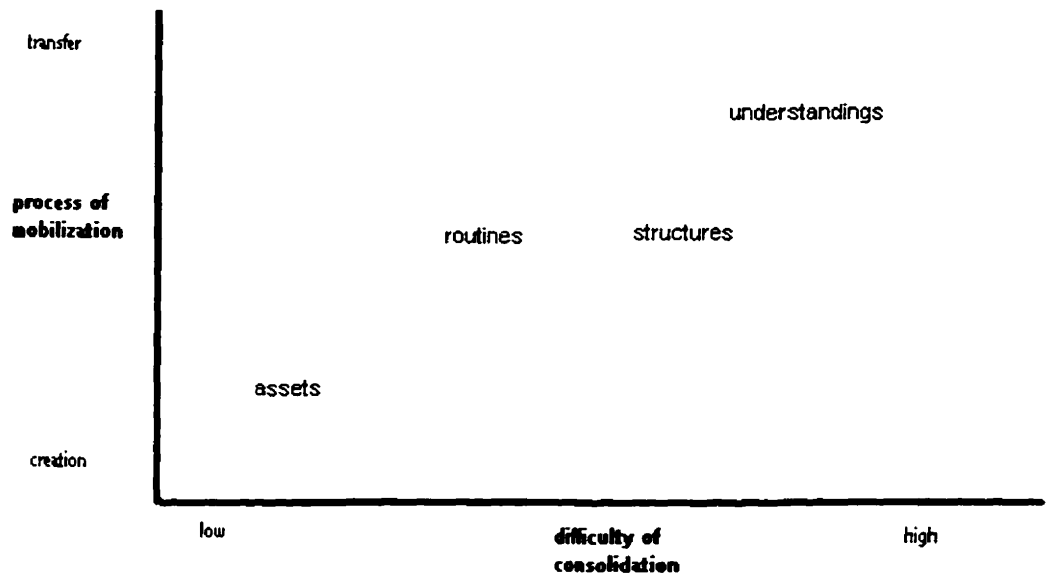
These results indicate that some categories are more difficult to consolidate than others, lending credence to the hypothesis that difficulty of consolidation varies sharply according to the category of knowledge being mobilized: while knowledge around assets tends to require low efforts to consolidate, understandings require a great deal more effort to maintain the knowledge *en place*. Routines and structures sit at the center of our continuum, being more difficult to consolidate than assets, but not as difficult as understandings, and not very different from one another.

In addition to the difficulty of consolidation, we observe a preferred method of knowledge mobilization for each category. Organizations prefer to use knowledge creation when dealing with knowledge about assets, and to transfer knowledge of understandings. The other two categories, structures and routines, are positioned in the center, without a marked preference for one mechanism or the other.

We can now integrate the findings presented in Figure 6 and Figure 8.

. This is done by displaying simultaneously each category of knowledge on two axes, process of mobilization and difficulty of consolidation. We observe that each category is positioned along an axis that goes from assets, positioned in the bottom left corner of the chart, to understandings, positioned in the top right corner of the chart. Routines and structures are positioned in the center. It is important to recall that this diagonal on the graph shows an evolution from the simplest category (the one that scored low on the two components of knowledge,) to the most complex one (the one that scored high on the two components of knowledge). Everything happens as if the nature of the category could directly influence the preferred mode of mobilization, as well as influence the difficulty of consolidation.

Figure 9: Difficulty of consolidation according to category of knowledge and mobilization process.



Taken alone, these findings do not clearly indicate whether understandings are intrinsically more difficult to consolidate, hence requiring more managerial effort to prevent their depreciation, or whether it is the process of transfer itself that requires more

effort to consolidate. We have found that organizations prefer to transfer understandings than to create them, but the causality is still unclear. Two contradictory hypotheses must be evaluated: either organizations use their external sources of knowledge (in this case the parent organizations) to obtain the categories of knowledge that are more difficult to create, or it is the category itself that is intrinsically difficult or easy to consolidate, regardless of the mode of mobilization of knowledge used by the organization. In the first case, we can explain the difficulty that organizations face consolidating understanding as the result of the mode of mobilization (as would be the case for any other category that was transferred), while in the second case we explain the difficulty of consolidation by the category itself (understandings are difficult to consolidate, assets are not).

Summary

In this chapter, we presented two distinct categorizations of knowledge. Our first categorization is a taxonomy of knowledge. This taxonomy shows that it is both possible and useful to decompose the application of knowledge according to the area of activity it influences. Knowledge does not flow randomly within and around the organization; instead, it clusters around four well-defined areas that are important to the performance of the organization. Mutually supporting and necessary for a successful performance, each of these clusters of knowledge is in fact one of the areas on which the efforts of knowledge mobilization are focused.

Our second categorization deals with the processes used by organizations to mobilize knowledge. This section discusses the origins of knowledge, and then the methods used to maintain it within the organization. These two categorizations are then integrated into a model linking each category of knowledge with the methods used to mobilize it, and the difficulty in consolidating it. Together, these taxonomies provide a sound basis to construct an evolutionary model of knowledge creation, a model that describes with detail the trajectories of the organizations studied from the early stages to proficiency. That evolutionary model is presented in Chapter seven.

Chapter 7: From incompetence to integration: the evolution of knowledge

Summary: In this chapter, we present and model an evolutionary view of knowledge mobilization. The model presented here is composed of four stages (ground zero, functional capabilities, organizational capabilities and networks of capabilities), tracking the evolution of the organization from incompetence to complete proficiency. We argue that this model captures the transitions successful organizations in our sample engaged in as they moved from the early stages of operation to higher levels of sophistication.

It is believed that strategic alliances are crucial elements in a firm's global strategy (Doz and Hamel 1998), since they leverage firm resources and decrease deployment time (Kogut 1988), while creating contractual efficiencies (Williamson 1975; Hennart 1991). Consequently, adequate use of alliances seems to increase the effectiveness of a company's strategy, especially when it has a global reach. While the emergence of alliances, and in particular international strategic alliances, may well have strategic justifications, their implementation is fraught with difficulty as attested by the high proportion of failures among strategic alliances, and by their short life expectancy (Gulati 1992).

It appears that international strategic alliances are good ideas that are difficult to implement and manage. But why is this the case? Although many factors can influence the success and survival of international strategic alliances, of interest for this thesis are the implementation problems related to creation of knowledge, and to application of knowledge to specific activities: in short, whether and how business units of strategic alliances acquire new knowledge, and how they use what they learn. In this chapter we discuss the ways in which the business units studied managed the categories of knowledge presented in chapter six. There, we presented the different processes used to mobilize knowledge; here, we focus on an evolutionary view of knowledge, as the organization moves from incompetence to proficiency.[25]

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[25] The notions of "incompetence" and "proficiency" are used with the sense described on chapter five. Since we were studying organizations which performed below international standards but wanted to reach them, we define incompetence as performance below standard, competence as performing on a par, and proficiency as performing above the international standard for an organization of similar category. We explore these distinctions later in the chapter.

The chapter is structured as follows: first, we present the components of a dynamic view of knowledge mobilization, by focusing on the events that precede it and emphasizing the effortful activities needed for the organization to be able to initiate the processes that eventually leads to an organizational capability.

Using these elements, we then model the evolution of knowledge from the early stages to the solution that is incorporated into the knowledge base of the organization. By focusing on the evolutionary path followed by a piece of knowledge from the early moments when a problem is triggered for the first time, we examine different alternatives that may impede the incorporation: problems can be ignored, solutions may not solve the problem, may not be found, or solutions may be forgotten.

We then examine the dominant methods of knowledge mobilization for each of the stages identified in our study. We claim that each stage has a preferred method of knowledge mobilization, giving strong credence to the hypothesis of an evolving weight of knowledge mobilization as the life cycle of the organization evolves.

In the second part of the chapter, we integrate the findings presented in chapter six and those from the first part of chapter seven, to present a dynamic view of knowledge. We construct a model that captures the different evolutionary stages of knowledge, from complete ignorance to high proficiency. In the final part of the chapter we highlight the most important conclusions and synthesize the findings presented.

The evolution of knowledge

In this section, we study the events preceding the process of knowledge mobilization. Rather than presenting that process as a natural event that needs not to be explained, we focus instead on a circumstance that enables the organization to look for solutions to everyday problems, and to accept that there is a problem at all. We begin our examination of the evolution of knowledge by focusing on the early stages of knowledge creation.

Early stages: antecedents of knowledge mobilization

By examining the early stages of knowledge mobilization and its antecedents, we are asking how solutions are created in an organizational context. Insofar as the organization is considered a purposeful social actor, it is not surprising to note that it is generally accepted that learning in organizations can be represented as the quest for an answer to a preexisting question. Ignorance breeds intrigue, and intrigue begs for an answer in the form of a solution that reflects a result that is deemed acceptable. This fascination with a problem prompts mobilization of resources, and the quest for an answer that represents a solution to that problem.

Often, thus, the process of knowledge mobilization is initiated when there is a sense of discomfort strong enough to prompt organizational attention to it. A customer is sent to an untidy room, the chef discovers he overspent his budget, expensive raw materials are stolen from a secure place, occupancy reaches record lows; in all these situations a solution is required and the organization may decide to focus its resources in them to find an answer. This does not imply that random events do not exist. Rather, we imply that, even though all organizations in our sample benefited from triggering events that could have been used to initiate knowledge mobilization, only a few of them were able to understand the significance (or lack thereof) of these events, and act upon them. Triggering events may well be evenly distributed, but the ability to assess correctly their consequences is not. Thus, a way to discriminate among organizations is to analyze their ability to detect triggering events, to sort them out, and to learn from the ones that represent a serious possibility for learning. In other terms, the process of knowledge mobilization is more frequent when there are mechanisms to interpret the triggers, and to try to find a solution to them.

We begin our examination of the evolution of knowledge by focusing on the early stages of knowledge creation.

Discomfort and triggering events

> We improved a lot; when we were beginners we had many problems (...) In the beginning we only had theory, nothing else, so everything emerged as things were happening to us, we had a problem, we made a mistake, well, this is the solution, and using these mistakes people were creating new systems, we

implemented new procedures that are good for us, that gave good results. (Front Desk Manager, female, Cuban, Nut Hotel)

As mentioned, a detailed examination of the antecedents of knowledge mobilization reveals the presence of a series of triggering events that act as initiators of a process which eventually leads to the development of new abilities. One of the most significant triggers of knowledge creation is a situation where the results obtained in a set of circumstances are inadequate and do not fulfill expectations of the organization or the customers. Of importance here is the factor that awakens the organization to the reality of the results: what is being done is not acceptable, and something else must replace it.

The locus of that factor can be external or internal, as we will see below.

A: We had many problems at the restaurants, it was supposed to be first come first served, but there were long lines and people would argue and be very upset, and it was awful to see these long lines in front of each restaurant. So, we decided to take reservations in the morning at the Public Relations office. That solved the problem at the point of sale, but it moved it to the Public Relations office, who could not do its work. And when people showed up at the restaurant, some got confused and went to the wrong restaurant. Then, we implemented the ticket system, you go to PR and they give you a ticket with the date, your room number, the number of people and the name of the restaurant. And now not only do we have happy customers, but in addition we can manage the capacity of the restaurant much better, by offering reservations at odd hours. (Public Relation Manager, female, Cuban, Nut Hotel)

Another manager, who discovered that bars frequently run out of popular drinks and customers do not get their favorite drinks and complain about it, says:

I dove into that issue. I walked and went straight to the workers and asked them: what is the problem? Is the problem that we do not have enough stock? Is it because orders aren't passed on time? Are they wrong? And who makes the order? Now we are talking to the supervisor, why is it wrong? The form is too complicated, and we make mistakes. So we all got together, we created a form that is still around, a form to restock the bars, every night when you close the bar you know how many bottles of each drink you need, and you count how many are left and then you make your order. (Quality control, male, Cuban, Caribbean Hotel, Non-Joint Venture)

Although powerful, external events are not the only triggers. In other cases, the driver is internal. A manager says:

A: We saw that the buyer had too much work buying goods, he had a manual registry and it was very laborious and inaccurate; his work was very tedious. And we realized that in the inventory system in the warehouse we had all the information we needed, so we programmed the system to tabulate these results; the only input we needed now was the expected occupancy for the period of interest. In a few minutes, he has the result, it is quicker and much more reliable, we avoid errors in the management of our stocks. (Finance Manager, Cuban, Caribbean Hotel, Non Joint-venture)

For a variety of reasons, triggering events may not lead to the construction of a valid problem; they are simply ignored. Problems may be constructed, but no solution may be available, either because the problem is intractable given the situation of the organization at that time ("our people do not speak good English. We are teaching them some survival English, but they will not be able to speak English any time soon, and we will have to live with that") or because the solution exists but it is inapplicable ("when it rains, the rooms get flooded because the balconies are tilted towards the inside. There is nothing we can do"). In either case, the organization acknowledges the problem but does not find a solution to it.

Triggering events are typically beyond the control of the organization; paying attention to them is not. However, the issue here is not whether someone in the organization detects the trigger (which is almost invariable the case, particularly for the individual in direct contact with the situation), but whether the consequences of the event are correctly assessed, and the right solutions are implemented.

> We received complaints that we did not have a gym. We bought the equipment, and now it is empty most of the time. (...) We could have used that money buying an ice-cream machine, and we would have saved a bundle and customers would be happier. (General Manager, Cuban, male, Key Hotel,)

We see that the organization can decide whether to pay attention to a triggering event, or to drop the matter, focusing its attention on more important, more pressing or more politically suitable alternatives. Regardless or urgency (and even of importance) powerful constituents can decide that something that was generally accepted as normal behavior is an aberration, and needs to be addressed immediately. ("When I arrived, I decided that everybody had to say please and thank you, even when talking to each other").

We see that before knowledge can mobilize, the organization passes through a process of discovery of the problem itself, and then through another process of searching for solutions. Triggering events are filtered by the organization, which decides trough negotiation and bargaining which one will be brought to light. When they are accepted by the organization, they become "problems" that the organization "realized" it had, problems for which it is necessary, even imperative, to find a solution.

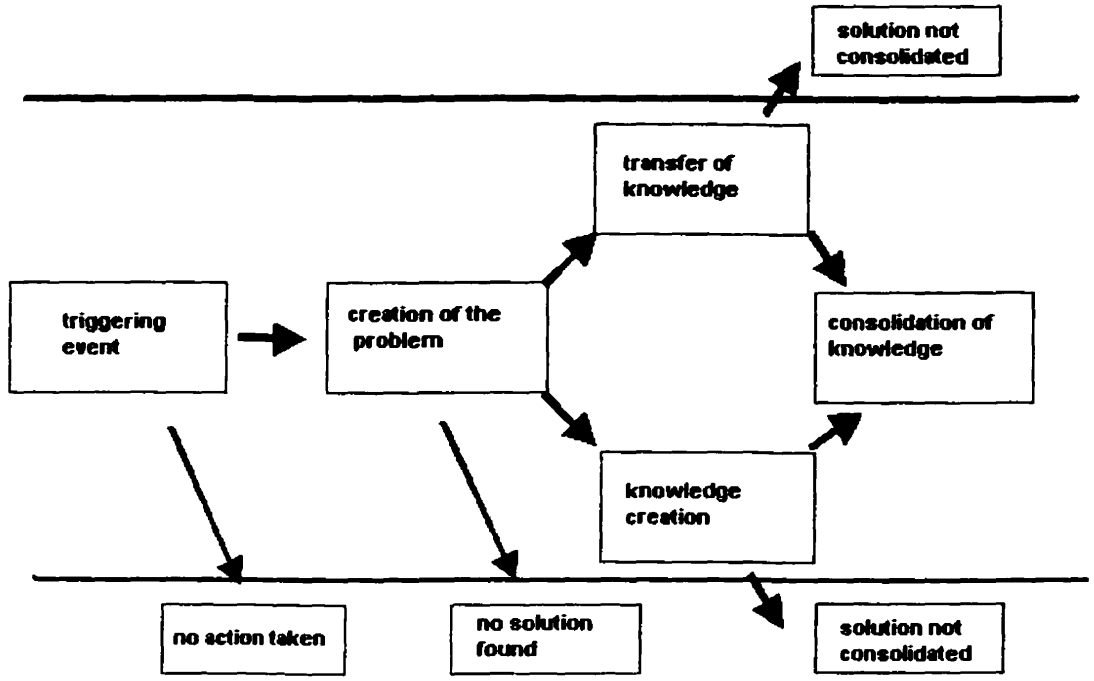
Later in the life of a problem

After having described how problems get created, we turn now to the construction of a solution to them. For that, we will link now the problems with the mechanisms of knowledge mobilization. As we argue in chapter six, the main components of knowledge mobilization are knowledge transfer and knowledge creation, which represent the core processes of knowledge management in the organizations studied; these are the mechanisms used to find solutions to the problems that appear in the organization.

A problem appears, it is recognized as such, and a solution is sought. Two different mechanisms can be put to work to find a solution: transfer of knowledge, where elements of the solution are found outside the boundaries of the organization; and knowledge creation, where the solution is developed inside. However, as we will see in our next section, finding a solution does not guarantee that it will remain with the organization for very long. Instead, it appears that organizations must engage in effortful activities to be able to consolidate their knowledge, that is, to prevent it from disappearing once a solution to a problem has been found.

Figure 10 describes the different stages we have described so far (triggering events, creation of problem, search for solution, consolidation of solution). The transition between stages, however, need not be automatic: it is quite possible that the organization does not take any action over that event, either because its relevance is perceived to be low, or because the relevance of the event is not perceived at all, or simply because nothing can be done at the time. When the triggering event prompts action, a problem is defined, and that very definition articulates the types of solution that will be found for it.

Figure 10: The process of knowledge mobilization



As soon as the problem is defined, the process of knowledge mobilization begins. According to the diagnostic made of the nature of the problem (and the location of the preferred solution), a method of knowledge mobilization is selected. At this stage, the organization may perceive that there is no solution to the problem (either because it does not exist, or simply because it is impossible to implement at that time). When this is the case, it is dropped and the organization learns to live with it and its consequences. Conversely, once a solution has been found, consolidation of the solution appears: either the organization is able to consolidate it, or it is not, and the solution will dissipate, prompting the reappearance of a new problem similar to the original one.

In sum, in this section we are modeling the evolution of knowledge from the early moments of the triggering event that initiates the search for a solution, to the later stages of knowledge consolidation, where the solution is finally incorporated into the knowledge base of the organization. This evolutionary model captures the micro-evolution of knowledge, that is, the creation of new knowledge at a very basic level, the problem and its solution.

Our next question deals with the three processes of knowledge mobilization. We have seen so far that the process of knowledge mobilization is chosen as a function of the location of the preferred solution. We wanted next to evaluate the evolving importance of each category of knowledge mobilization as time passes, and as the organizational capabilities increase. Specifically, we wondered whether each category of knowledge mobilization was equally important throughout the life cycle of the organization, or if, instead, each one was used predominantly at certain stages of its evolution. Implicit in a contingent view of knowledge mobilization mechanisms is the idea that not all methods of knowledge mobilization are equally important at all stages.

We present our findings in our next section.

Organization life-cycle and the evolution of knowledge.

In this section, we explore the connections between the life cycle of the organization and the evolution of knowledge. We recall that in the previous chapter we found four categories of knowledge that described the body of knowledge of the organization: knowledge in organizations is knowledge about something. Also, we found support for the hypothesis that each category of knowledge shows a preference for a mechanism of knowledge mobilization: while knowledge about assets was attached to knowledge creation rather than knowledge transfer, the category called understandings was instead linked to transfer.

These preferences, however, did not incorporate an evolutionary view, and it was impossible to tell whether the preference is equally important for all stages of the organizational life cycle or if there are preferred modes for each stage. To observe the degree to which each organization preferred one category to the other, we discriminated between organizations and positioned each one on a scale that reflected its proficiency, from incompetence to total proficiency. Our first step was to discriminate among organizations according to competence, and observe the characteristic of each organization at that time, as well as the importance of each mechanism of knowledge mobilization and of each category of knowledge. Since we had several observations for each organization, and some organization had evolved with time, we used the combination observation-

organization as the unit of analysis.[26] This first step allowed us to characterize each category, and to compare between categories.

To reflect the degree to which each hotel had attained its objectives of reaching a par with international standards, we used the three categories previously described: incompetence, competence and proficiency. As mentioned, each of these categories positions the organization vis-à-vis the industry standard. An organization below that standard will be classified as incompetent, an organization around par will be classified as competent, and an organization that exceeds the standard will be categorized as proficient. Since there is no "hard" indicator of quality that could be utilized to classify the hotels, our indicators are based on the perception of the expert panel.[27]

Once the categorization was done, we observed each dominant mode of knowledge mobilization for each organization and within each category. We then constructed an evolutionary model that reflects the transitions from one category to the next. We will discuss our model later in this chapter; here we briefly examine its constitutive elements.

Incompetence is characterized by the realization that there are gaps between what the organization delivers and what it would like to deliver. At this stage, there are many opportunities for triggering events to occur: the organization knows little, and it must solve problems on a constant basis. Fed by ignorance, discomfort appears and opportunities begin to emerge as organizations realize the state of affairs and members begin to wonder how they will address the issues they have just discovered ("the employees thought a five-star hotel was a two-star with more light-bulbs: they didn't even know how far behind they were").

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26 For example, we visited Montelimar twice, and Belltolls three times. Since we are using the visit as the unit of analysis, each visit could position the hotel at different points on the scale, as each one represents the hotel and its body of knowledge at the moment of our visit.

27 We have seen already that this does not create problems of reliability. It could, however, create problems if the hotels were too close to the edges of the categories, as there would be no precise way to categorize the hotel. Since this is not the case in our sample, the question remains rhetorical.

The narratives recorded in organizations in this category abound with stories of hectic and disorganized knowledge-related activities, most of them related to the ability to perform a simple task. During the time of incompetence, "everything was a problem, from the simplest activities to the most complicated, everything was a mess and took three times as long as it should have."

> I asked Andre (the foreign General Manager): don't we do anything right? He wants to change everything, and I have a hard time believing we don't do anything right here. Is that possible? How could it be that we have been operating for a while and we suddenly discover that everything has to be changed at once (Assistant Manager, male, Cuban, Montelimar Hotel)

While the organization discovers its possibilities and its gaps, the groundwork is being laid for future results. This takes form as a series of small yet tangible objectives in which the organizations are engaged. Knowledge does not present itself to managers as an abstract process but as a mechanism to improve practices or to create them when they do not exist: it appears as concrete solutions to specific problems.

> When customers arrived (for the first time) we didn't have drinking water. I mean, we had water running from the faucets but it was not drinkable. We had to organize this massive operative to make sure there were enough bottles of water in each room for customers to drink and brush their teeth, as we did not want anyone becoming ill because of the water. Then, we had to tell all the customers not to drink tap water, and to use the bottles. (General Manager, Spanish, male, Key Hotel)

The narratives used describe the organization and its efforts to achieve a goal are commonly presented as percentages of an ideal state ("we are 75% there") or distance to a goal ("we are half-way through"). These indicators are used to describe lack of abilities ("we can't control costs as we should"), and to point out things that could or should be done, but are not ("the employees don't know how to make a tomato sauce that tastes the same everyday").

The competent organizations, in contrast, have achieved or are soon to achieve a reasonable standard. They have manipulated knowledge adequately, they have created the capabilities that were necessary to perform satisfactorily, and are now trying to maintain that level of performance. In this stage, organizations less importance to knowledge creation and to knowledge transfer than they did previously.

Says a manager:

In my department, I did not have any trouble, the front desk adapted very quickly, and even housekeeping adapted very well to the change. Of course you can't just land and change everything at once: you must give them some time and see what they do, how they do its and how they can change so it is better.

Q – When you say follow-up, do you mean you have to watch what they do?

Yes, you have to make sure they do it.

Q – Why, what happens?

Well, it's, it's... normal. They are used to working in a certain way. Their attitude is... very difficult to change, they do it always the same way. So you show them something and you say: do it this way because it is much better, and you show them. If you do not follow up every day to see what they do, in a week they are back to the system they are used to, a system where things are easy. So, you have to follow up on their work, their training so you make sure they do it.

Q – Do you have any examples of this?

They, they.... it is small things, maybe the front desk, just taking messages, or answering the phone, making sure the guest receives the call. These are small things they do in a certain way, and sometimes they just forget, they go back to their system.

Organizations that have attained the level of proficiency can now improvise, and obtain satisfactory results when doing so. Also, at this stage we notice discomfort with the parent organizations, who are accused of being intrusive and disruptive and ignoring the local realities that make the organization unique. For these organizations, the presence of the parents is a nuisance rather than an aid, particularly when the parent tries to maintain the role it played previously.

The three categories are summarized in Figure 11, which highlights the dominant modes of knowledge mobilization for each category. The early stages of organizational activity are characterized by a strong presence of transfer of knowledge, as if the organization sought solutions from its corporate and foreign partners to initiate the learning processes needed to achieve its objectives. As this is done, the organization moves to a period of high knowledge creation, as if local ideas become important as the basic elements are set in place. At a later stage, the organization focuses on the consolidation of the knowledge developed in the first two stages. These findings lend credence to the hypothesis that organizations do not choose a knowledge mobilization method randomly; instead, they seem prefer one method to another according to the moment of their evolution.

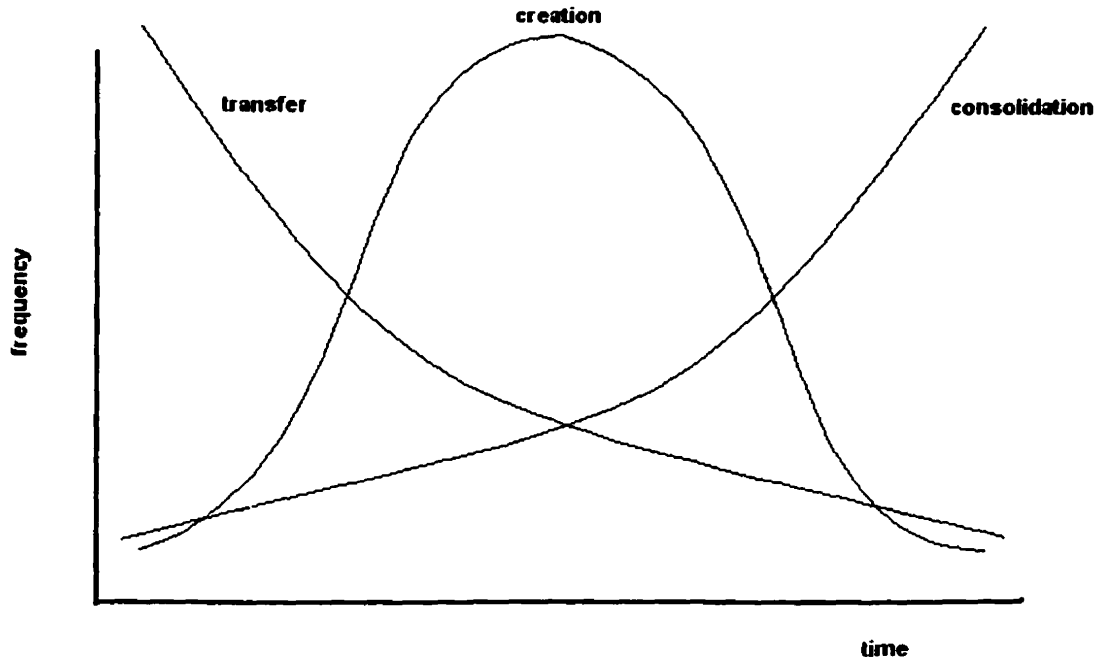
Figure 11: Categories of knowledge

Belltolls II Montelimar	Caribbean Belltolls Key	Nut Withwind
high transfer	low transfer	low transfer
low creation	high creation	low creation
low consolidation	low consolidation	high consolidation
incompetence	**competence**	**proficiency**

A pattern of evolution is inferred from the aggregation of all the transitions observed. We can assume that Nut Hotel, for example, had to pass through the first two stages to reach the third, and we can suppose that Montelimar Hotel could eventually move on from incompetence to reach the next category. We also know that the evolution can be linear, but that there is no immanent reason that would force the hotels to improve their standing; mediocre hotels can remain mediocre, and good ones can decline. Hotels can remain in their category for long periods, they can move forward, or they can go back.

We can hypothesize that organizations evolve from incompetence to proficiency, and that the organizations found in the last category had advanced through the first two stages. If this is the case, as our data strongly suggest, a quantitative study of the evolution of knowledge utilization should confirm the existence of distinctive behaviors for each method of knowledge mobilization, which should modify their magnitude and their relative importance according to the life cycle of the organization. The hypothesized relationship between knowledge, method of mobilization and degree of importance of each mode is presented in Figure 12.

Figure 12: The evolving weight of knowledge processes



Incorporating an evolutionary view to the analysis of each individual position strongly suggests that the importance of each of the three processes of knowledge mobilization evolves with time. As the organization becomes proficient, the usefulness of the previous kind reaches its limits, and a new type of knowledge mobilization is applied. In the initial stages of the life of the organization the influence of the parents for knowledge acquisition is important, given that the knowledge base of the organization is incomplete and fragmented, but that influence tends to diminish with time as the organizations develops mechanisms to create local knowledge, less generic and more adapted to the reality of the organization, much more so than the knowledge that the parent can provide. The trajectory seems clear: organizations use their parents in the early stages, and as they become more proficient, they rely more on their own abilities, eventually reaching a stage when they can transfer knowledge back to the parent, increasing its knowledge base with local experience. The three stages presented in Figure 12 can be understood as a continuum that organizations transit as they evolve and become proficient in their activities.

We have examined so far the evolving importance of mechanisms of knowledge mobilization, and have hypothesized that their importance will be modified in synch with

the evolution of the knowledge base of the organization. We can now describe and refine a model of the evolution of knowledge capturing all the elements presented so far.

A dynamic view of knowledge: from incompetence to integration.

After categorizing organizational knowledge and creating a model of the evolving importance of each category, we wished to construct an evolutionary view that would reflect how some organizations in our sample evolved from the early stages where they could barely cope with the basic requirements of a hotel to a later stage where much more complex activities were handled routinely, and finally to a situation where even complex, unscripted and unpredictable events were handled professionally, to the satisfaction of its customers and at a reasonable cost. In essence, the model we present in this chapter retraces that trajectory by describing the four stages which constitute it. We argue that each stage is an element of a process that organizations follow when they construct their abilities, from the simplest ones to the most complex, requiring the interaction of several individuals and groups in a highly coordinated manner. Using the methodology described in Chapter 4, we sought to collapse different events into meaningful categories reflecting the evolution of the organization over time. Four categories were identified: ground zero, functional neighborhood, organizational capabilities and network of capabilities. Each category is described below.

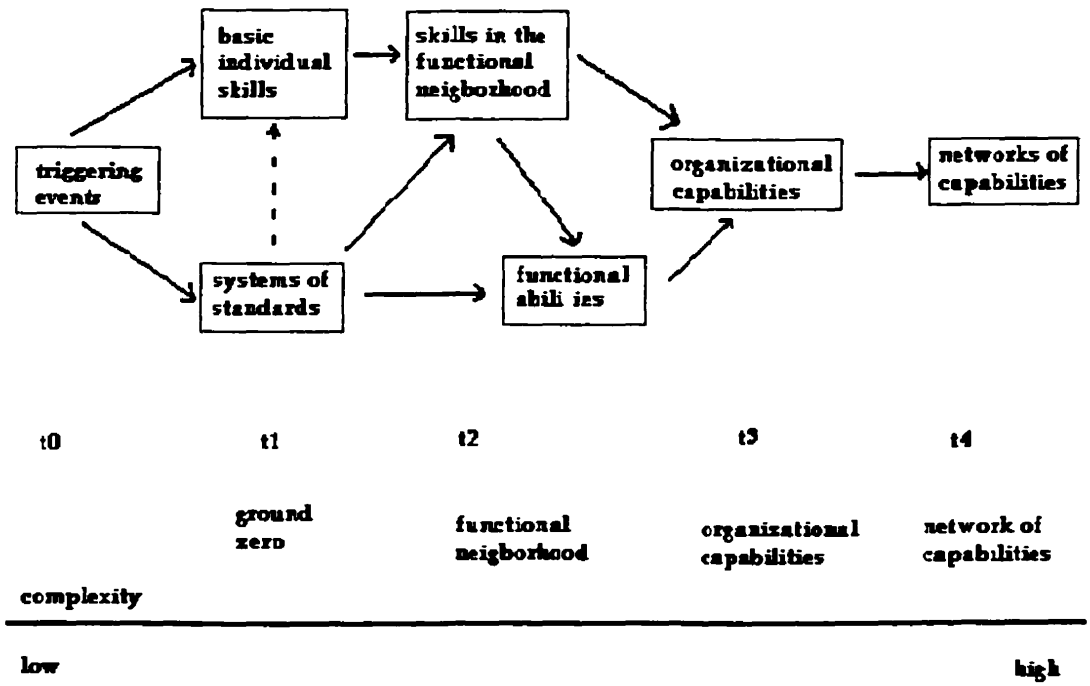
Our starting point is the triggering event and the discomfort it generates. In this early stages the organization discovers its environment, and in so doing, it begins the evaluation of the gap between its abilities and what is required to perform adequately. As the organization begins to bridge that gap, it enters our first stage, called ground zero. Here, the onus is on basic individual skills, understood as the elementary skills needed to perform a task. These individual abilities are the precursors to collective action. Simultaneously, systems of standards are developed. These standards order the performances of the members of the organization, and control their behavior by clearly indicating the boundaries of acceptable performances.

The second stage is called functional neighborhood, because it happens around the functional divisions of each organization. Activities in the functional neighborhood reflect

the first movements toward proficiency, as they are the beginnings of collective action: they transcend the actions of an individual. This movement has two components: on one hand, new skills are developed by individuals, who are who are slowly developing the ability to handle the tasks they have been assigned in their own function. On the other hand, these individual skills are integrated with the skills of other individuals in their area of activity, beginning to demonstrate an acceptable collective performance.

In the third stage we observe the emergence of organizational capabilities, defined as the inter-functional integration of tasks to achieve repeatedly a collective goal. At this stage, and for the first time, the organization is able to perform certain activities routinely, beyond the individual and his/her function. Our last stage, called networks of capabilities, represents the moment where the organization is able to deploy several capabilities in order to perform complex tasks, i.e., tasks that do not follow a precise script. The integrative model is presented below in Figure 13, and each of its components is discussed in detail.

Figure 13: The evolution of knowledge



Ground Zero: Elements of Knowledge

Our first stage, called "ground zero", represents the movements to initiate a transition between whatever little exists when the organization begins operations and a future, desired state of affairs where the organization can perform satisfactorily according to international standards. This first stage occurs after the organization deals with the discomfort it experienced when it discovered that the state of affairs did not meet expectations. If the starting point of the organization is ignorance about what is to be done and how, ground zero begins when the organization begins to realize how far it is from its objectives, aided by the presence of triggering events that contribute to the realization that some outcomes are not acceptable as they are:

> Then, we had to introduce them (the employees to their work), step by step, in all areas of the hotel. They say "I am a chef or I am a short-order cook", and you ask them to fix lunch and they don't even know how to mix a salad (Assistant Cook, Cuban, male, Withwind Hotel)

These initial movements of knowledge, and the tension that generates them, represent a required step to initiate learning in the organization, and reveal a great deal of discomfort which highlights the distance between the current and the desirable state of affairs. Says one employee

> When I worked for the Pacific Hotel, I learnt what I thought were the best practices, but as soon as I got here (to Hotel Withwind) I was assigned to our boutique restaurant, with luxurious silverware and specialized service, and managed by a Canadian company which is quite demanding, and particularly my previous boss, Pierre. It was really tough, and a great learning experience. There, I discovered that many things we used to do were wrong, with the service, I mean there was a very low standard of quality vis-a-vis my previous hotel
>
> Q: How did you see that the standard of quality was low?
>
> But of course, in the service itself, how to set the table, how to take the order, how to remove the dishes, the order of the menu. I worked for a hotel whose menu was changed whenever we had a chance, but many of the dishes that appeared on the menu were not available, that lasted three months, here I have to change the menu daily if a product is changed, or if it is not available (Assistant Chef, male, Cuban, Withwind)

Comments like this reveal the surprise and the discomfort that follow the discovery that what one is doing is incorrect or does not meet the standards of the organization. That discomfort is not limited to employees, nor is it limited to simple tasks. Says one manager:

> (At first) we imported the structure of Superb Hotel, and very quickly we realized that it did not work well here, perhaps it was because there were no foreigners among us, or maybe because our managers were not prepared for it. And we saw contradictions appearing at all levels, and our policies and

operating procedures (políticas de operación) were not implemented, and the same hierarchical level that decided on their implementation had to check to make sure they were actually applied. Then we decided to change the structure, to work differently so we would not drown in meetings that did not get the problems solved. (General Manager, male, Cuban, Caribbean hotel, Non Joint Venture)

Another manager refers to the "lack of references" to indicate the distance between what the foreign organization considered normal and local expectations. He says:

When we arrived here we made a few contacts to see the level of expertise of the people (hired by human resources to work in this hotel). And we were surprised, because what we didn't know, was that there was a that there was a lack of references. Ninety per cent of the employees had never left this province and of these, many not even their small town. The only hotel they knew was the Hotel Ronmo, and when we talked about a four-star or five-star hotel, they said, it must be like the Ronmo, but with many more light bulbs. There was no reference as far as customer service went, customer care, speed, courtesy, of the many things you need for a four- or five-star hotel. (...) Here they did not have any experience with hotels, no previous exposure. That was one of the biggest challenges we had, the human resources were virgin in the purest sense of the word. (F&B manager, male, Spanish, Key Hotel)

As noted previously, all the organizations we studied started "from scratch," either after significant revamping or inauguration. Of interest here are the steps taken by the organization and its members to initiate the processes of knowledge mobilization and to begin accumulating knowledge in the organization. Two main categories appeared to require immediate attention: individual skills and systems of standards.

Individual skills: "They are so far behind they think they are ahead".

The first step taken to initiate operations was related to the individual skills needed for each person to satisfactory fulfill his or her job. Although all the employees and managers had been selected for their abilities (scholastic, experience or both) and potential capacities, few had the skills required to perform the tasks assigned to them in their new context. After some hesitation, the onus was put on basic individual skills that were not directly related to the job assigned, but were considered prerequisites for future learning.

Q: OK, so if I understand correctly, what you did was to tell them the consequences of their actions, if your work is OK this is going to happen

A: That's right, yes, that is the main thing you have to teach before you can teach how to cook or anything else, you must explain what the word tourist means, what the word customer means, because they may not have the same concept of it we do. They cook because they get paid for it, and that's all, just for the money, but they have to understand what a tourist is. If you do not explain the basics of hospitality, what is correct and what isn't, for sure they will not understand anything at all. (Chef, Canadian, male, Nut Hotel)

In hotel Withwind, for example, a series of lectures were given on the notion of customer, the usefulness of marketing and the notion of profitability. In hotel Key, employees were taught the importance of customer service, and the necessity to treat customers according to what had been promised to them. In hotel Belltolls, managers gave lectures on the reasons that customers came to that particular hotel, and on the distinction between a business customer and a tourist. Noteworthy is the fact that, however important they may be, in none of these cases were these skills related to the jobs assigned to each individual. As a manager says

> In all cases, the first period sought to provide a common ground upon which to build more sophisticated individual skills. My managers indicated that without these skills (...) there was no possibility of improving results, or even of explaining why it was important to do so. Training had to start from the very beginning, how to walk, how to talk to a customer. I can't build a house from the roof, I can't teach a waiter how to cut a wild boar in pieces if he doesn't even know how to enter the scene without bumping into the customer. There is no way to teach how to light a French crepe if he doesn't know how to write down an order, or even how to smile at the customer. You have to start from the beginning, and it is only from there that you can begin. (F&B manager, male, Spanish, Voyage Key)

Previously, we quoted a comment that "they understand because you speak the same language, but how do you make them understand what you mean?" To make them understand what one means, one has to develop a set of symbols and ideas that are common to all the individuals and that can convey accurately the desired message. n this first phase, a set of common understandings was developed, a basic language so people would comprehend what it was meant when something was said. The onus here is put on the creation of a common language so communication among people becomes possible, leaving job-specific skills for a later period.

The emergence of systems of standards.

An important part of the understandings developed during the "ground zero" stage had to do with results, actual and expected. In fact, the common language developed through the basic skills quickly turned into an explanatory device to point out why what was being obtained at that particular time was not satisfactory. It is not knowledge for its own sake, but knowledge that indicates why what was being done is not adequate, and what levels of performance will be acceptable from that moment on.

Shortly after the initiation of the work on the "common ground," organizations developed systems of standards that indicated how performance was to be defined, and what instruments were used to measure it. Among the activities observed, the idea of standardization appeared as a crucial activity, one that attracted considerable managerial attention and effort, and one that profoundly structured the type of work that was performed in the organization.

> Michael will tell you more about that, Sarah will tell you about housekeeping, but we all used pictures, how one makes a bed in Canada, how you place the amenities, these are standards, it must be this way, how to place the towels. You have the pictures, and it has to be just the way it is in Canada, in the kitchen it is the same, if you have a cheesecake it must look this way, with the little jam and all, you have the pictures and all the standards you must obey, these are the procedures. We used a lot of training for that (...)
>
> Q: Did you have manuals for that, how to do things?
>
> A: Yes, and we had to adapt them, because there are certain things that can't be done, there are a bunch of things you have to change, it is different, it is just not the same. Certain things must be added, some others must be eliminated because there are things we just can't do here.
>
> Q: So you applied Canadian standards and then modified them?
>
> A: Yes, we modified them as we went along, we can't show them (the employees) something that cannot be done, it would be irrational, we adapted things as we went along. (Special Projects Manager, Canadian, female, Alpha Co.)

Similarly, another interviewee says:

> Q: You mentioned something interesting, you said something about standardization (...) can you tell me more about it?
>
> A: Yes, What I did.... let me give you an example, when people made a tomato sauce for lunch, and someone else made another one for supper, two different cooks, they used different ingredients and spices, and then the sauce did not have the same texture. So I made a recipe of tomato sauce standard that we can use in several dishes, spaghetti bolognaise, or chicken cacciatore, or perhaps an osso buco, it is a standard sauce. And if you make a large quantity of sauce, you have enough for two, maybe three days so you save time and you have a tomato sauce that is always the same. (Chef, Canadian, male, Nut Hotel)

Managers and employees in the organization speak about a first period when it was necessary to create "recipes" for action that indicated in detail what was to be done and how; this represents a first phase that managers considered indispensable, since it created the basis for later learning. Lack of basic knowledge –individual and organizational- appeared as an obvious barrier to learning more complex skills, and the solution proposed was to create a detailed system of procedures and instructions that would help the

employees organize their work. Acting as mechanisms to guide action, these procedures eliminate the need to wonder what to do in routine-like circumstances. Simultaneously, they limit the creativity of the individual and the group, as they purposefully force the individual to follow them and disregard any alternative he may imagine.

> I introduced quality measures to improve service, for example, how long it takes to check in a guest, how long it takes to deliver their bags, how long it takes to check in a group. To organize a system of work (sistema de trabajo) is my responsibility, I am the technology, the know-how, and I am being paid for that. (Quality Comptroller, Spanish, male, Key Hotel)

By constraining behavior and indicating adequate ways to achieve a task, these procedures have a dual purpose: they indicate both the methods to be applied to achieve results, and the results that are to be obtained with those methods. These interventions act as constraints that guide behavior in the organization and they represent the first step in the genesis of an organizational capability which may not be particularly creative or flexible, but is the first attempt to obtain a systematic, acceptable result. In the examples below, managers explain how they systematized work shortly after the initiation of operations:

> A: (...) Alpha was trying to create a quality standard, so when a product is done and is served, it must be done and served always in the same way. We created some specific dishes on the menu, and we had a meeting and we took a picture of that dish, and we declared that from that moment on, every time that dish was ordered it had to be that way, just like the picture.
>
> Q: Only dishes you created, you created from scratch?
>
> A: Some or them were from scratch, some of them were normal dishes that were already known.
>
> Q: Were they done for the first time here?
>
> A: No, well, I am talking about international dishes that had to be decorated in a certain way and we demanded (exigimos) they be done that way, for example every time a sandwich was served, it must have French fries, and the catsup and the mustard had to be on the table, that had to be always that way, and if it wasn't done that way, something was wrong and we had to call the waiter and tell him that it hadn't been done properly. Then, with time, everybody knew how the dishes had to be served and presented. (Assistant Chef, male, Cuban, Belltolls)

A similar view is shared by this interviewee:

> A: (...) A problem we had that affected costs was related to the size of the servings. They were too big, and there was a lot of wastage there, and here the raw materials are quite expensive, that was a lot of money that was going to the trash can. I had to reduce the serving size, that was a big fight, for them (the Cuban employees) a big serving is synonymous of good service, and a small one of bad service. They thought they had to give a big serving, and that is what they were giving. But there are some international standards for servings, for example, a filet mignon is 160 to 180 grams per person, white meat 140 grams. Now they have realized that, and we lower the costs and we still have decent quality. (Food & Beverage Manager, male, Canadian, Belltolls)

Conversely, the marketing manager explains the nonexistence of abilities as lack of "systems of work," that is, of mechanisms that connect and systematize tasks and activities. It is their absence that indicates the challenges the organization will face later, when the magnitude of the task is known.

Q: How was the marketing department when you came?

A: It wasn't a marketing department as I knew them, I don't know if what I know is good or bad, but that is the only thing I knew; I can't tell you if my school of thought is good because it is the only one I know.

Q: But can we say things were disorganized?

A: There was no system, there weren't any files or filing cabinet, I couldn't see how they worked, what they were doing at a given moment and what information they were basing themselves on because we didn't have any sources to support our work.

Q: You changed that, I suppose?

A: I arrived and I started to clean what was useless and try to know where we stood, they gave me two people that had never set foot in a hotel, they were theoreticians of the hospitality industry.

Q: They were not qualified. So what did you do, what things did you start implementing?

A: Well, first I started with the culture shock, I was taking for granted things that were obvious to me, like turning the light off when one leaves the room (...) (Marketing Manager, female, Mexican, Voyage Key)

But when they exist and when they are adequate to the situation, these systems of standards create efficiency. These are visible not only in the quality of the work performed, but also in the amount of effort needed to perform a series of tasks. Quality improves as variability from one iteration of the task to the next is reduced, and the amount of effort required to perform a task decreases as knowledge emerges under the form of a detailed system of standards.

A: So if I understand correctly, what you did was to make sure that the whole team did the work in a standard way, all the team, not just one cook...

Q: Yes, yes, and then all the cooks made the tomato sauce, or the vinaigrette or the garlic butter, or a brown sauce (roux). When you work for a hotel like this, it's like, five hundred or a thousand folks, it is always on a very large scale, you may not have the time to make the brown sauce (roux) you need. So you make a large quantity, and you are cool for four or five days. These are little things they have to learn, you get consistency in the product and you save a lot of time.. (Chef, Canadian, male, Nut Hotel)

Similarly,

A: (...) I do remember, when we opened I had to stay every day until 10 or 11pm, and now (two years later) I can go home at 6.00pm, maybe just a little later, but it is not the same story as at the beginning

when I hadn't found a real system for working, it was something that was being born, I had never participated in the birth of something as complex as this hotel, and I believe all functional areas had the same problem, when it functions you have to start improving things, fitting things until everything works as a system. It took me a few months, at the beginning, I worked under tremendous pressure, but now time lasts longer. There is a system now, each area knows what to do, without me telling them, and I am calm. Another thing that does not happen anymore is sudden death, I was surprised by sudden death all the time when someone called me and told me we had run out of flour or something else, now we have statistics, we have created the statistics and we know the daily consumption of almost everything (Purchasing Manager, male, Cuban, Belltolls)

As mentioned, systems of standards emerge as powerful mechanisms to improve practices, because they constrain and frame individual actions, limiting the range of options available at any given moment and reducing the uncertainty and the inefficiencies associated with having to think every time how to perform certain tasks. In addition, they improve results by reducing variability and eliminating useless tasks, hence increasing productivity. Finally, they serve as control mechanisms and are used as indicators to discriminate among performances and performers, indicating in a salient manner those that are not performing well (i.e., according to standard).

Q: How do you arrive at the better performance you mentioned?

A: We started budget meetings, we got together to discuss daily costs. When we started operations the budget was the responsibility of the F&B manager, and front line didn't know what was going on, that was not very motivating when you were doing a good job, or when you were not ... front line didn't know at all what was happening. (Resident Manager, male, Cuban, Nut Hotel)

Along with systems of standards, supervision and control act as powerful mechanisms to move the organization from ground zero and its discomfort to the period where remedial measures are taken and results begin to emerge. It appears that one of the roles of foreign managers is to detect the weaknesses and to instill the sense of discomfort in their functional neighborhoods, and when this is done, more traditional tasks can begin. But this is not a trivial task, as world views can be dramatically different, and the realities of foreigners and locals intractable, or seemingly so, leading to the belief by the locals that the actions of foreigners are motivated by crass political considerations ("the gringos want to control everything here, and they have no clue about the Cuban reality"), and by the foreigners that the locals are inept. ("it is quite difficult, they do not want to learn"). Says one manager:

Q: When the employees came, did you explain the work they had to do and how to do it?

A: Well, (before this hotel was finished) we went to the Hotel Ronmo and we taught for two months. The foreigners that came to open this hotel stayed two months teaching at Ronmo. We tried to show what we mean when we say "international hotel". But to convey that message without the adequate resources is quite hard. (...) It is just words, and to inculcate what a five-star hotel is to a person who has never set foot in one, how a five-star hotel works using only words is tough, very tough, very tough. (F&B manager, male, Spaniard, Key Hotel)

Slowly and with considerable effort the "message" is conveyed, which means that the members begin to understand each other, and to develop a common language. As the differences in viewpoints are resolved, or at least partially resolved, people in the organization start sharing common understandings, and begin to act upon them.

Some differences, however, seem irreconcilable or to require too much effort to solve. When this occurs, adherence to standards is mandated -and conformity rewarded- even if this implies that some employees will mimic practices without fully understanding their future consequences or their raisons d'être, or even without agreeing with them, causing frictions and open resistance. When the viewpoints are too far apart, the background needed to understand their rationales too great, or when it is urgent to implement new practices or obtain better results, procedures are implemented by fiat, without too many explanations or other considerations. In these circumstances, only results matter, and these are obtained by changing offending practices.

Q: If you look back one year and you make a chronology, what has changed since? In the mentalities, the practices, the work of your employees?

A: I am trying, ... given that I can't change their mentality because that takes years, I try to give them a method to do their work. That is fundamental. (Entertainment Manager, male, Spanish, Nut Hotel)

These systems of standards do not appear randomly. Instead, their genesis occurs in the functional neighborhood of the individual, where his or her job has a direct impact on results. Creating organizational knowledge starts with the individual in direct connection with his/her job, and with the group of individual performing a function in the organization, responsible for a well-defined series of tasks and the results they produce. To this we now turn.

The Functional Neighborhood.

As we described above, knowledge appears little by little, and results improve as individuals learn the basic tasks and become more proficient in them. The visible

consequences of that state of affairs are, by definition, one of the measures that indicate that knowledge mobilization has occurred. In addition to this visible side, the narratives of mangers, employees and customers start reflecting the growing ease that the organization experiences in handling tasks that were difficult or outright impossible in the first periods of operation.

Accordingly, the first efforts of knowledge mobilization gravitate around the specific activities assigned to each member, from the front desk clerk who handles the check-in efficiently, to the housekeeper who finally finishes her quota in the allocated time. These successful performances, which are specific applications of knowledge, are the first steps to collective proficiency. But they are still individual and limited to the vicinity of a specific task and a specific job; they do not connect to other members of the organization, and they are not systematically reproducible by others, not even those who work in the same functions. Functional performances cease to be incompetent, but become erratic; one day the service in the restaurant is impeccable, and the next, lousy, indifferent, or just sloppy. In the words of an early customer, "teething problems" occur, which are nothing but the movement from the inability to perform a task according to expected standards to reasonable performance, but not systematically. What was not possible becomes feasible, but not consistently, frustrating managers, customers and members of the organization: "why is it that we can't do this all the time?"

So, after the initial shock and discomfort that followed the discovery of differences between things that were "taken for granted" and reality, the organization begins a process of improving individual skills, but this time in the functional neighborhood of each individual. Although it is desirable to develop sophisticated skills, in the short term the imperative is more mundane: to obtain adequate results in each function and for every task, as quickly as possible. In this phase, individuals are taught the "basics," the "minimum," the "elements of running a hotel," but unlike the "ground zero", this time knowledge is developed in each functional area, around the job the person has been assigned: in the kitchen for the cook, with the computer for an accountant, in the rooms for a maid.

While in "ground zero" the emphasis was on the creation of a common language and shared understandings; now the objective is to improve results, and these are typically

tied to the activities each person engages in in their everyday work, as these are perceived to be the building blocks of what will later become an organizational capability. A maid is taught how to clean rooms, and the number of rooms she cleans is used to evaluate her performance, along with the quality of her work. A cook is taught how to prepare lunch for two hundred people, and how to calculate the cost per guest, and how to track costs on a regular basis to discover if he is overspending and blowing his budget. With the help of the systems of standards developed for each area, the skills relevant to each function are used simultaneously to define quality and to evaluate results.

Creation of individual skills is a precursor to the creation of new functional abilities; these skills are the starting points of organizational capabilities. However, involving individuals rather than a collective actor, skills are quite different from capabilities. While capabilities involve collective abilities resulting from the integration of individual performances, individual skills are its basic components; the elements that allow the capability to exist. The claim that "you cannot build a house from the roof" reflects the need to create a series of individual skills that are relevant to the tasks to be achieved, and the kinds of skills needed for that particular task depend upon the job to be performed and its position in the hierarchy, and upon the previous background of the individual and his or her talents. While for waiters it can be "how to smile at a customer," for accountants it can be knowing how to accurately measure the financial performance of the hotel.

Q – So when you arrived the Director said "this is my objective," did he explain what his objective was?

A – Yes, yes, they have always explained their objectives. They have always said..., well, we want this and I didn't know what (it was) but I had the methodology to do it. Let's say, how to make a balance sheet for the hotel, technically I know how to do that on my computer. But what should be on it, for what purposes, what the director wants or what the corporation wants, what should be on that balance sheet was for them to decide. (Accounting Manager, female, Cuban, Nut Hotel)

The need for these basic elements is captured by the comment of the Service manager:

Q: What did you teach them?

A: First things first. To some girls, we even had to explain how to .... how to use the bar utensils, the instruments, and the drinks, the different kinds of drinks and how to use each one. The whole bartending technique, that is what I taught them

Q: That is what you taught them, the basics?

A: That was the basics, and tell them what were the policies we were going to use in this (resort) , what they had to do, what tactics we were going to use. To give you an example, each bartender needed to memorize the cost of each drink, or keep a list; they had to know which drinks to serve and which drinks not to serve. One of the (cost-cutting) tactics is simple, when the customer does not indicate specifically what drink he wants, the bartender needs to be clever and give him what he knows is in our best interest to give him. But to be able to do that you need knowledge, you have to tell them this is an expensive whisky, be careful with this one, (you have to) serve this one with this one. That was a short while before starting operations, after that they had to learn from practical experience. (Customer Services Director, male, Cuban, Caribbean)

The common ground created in the first step is used as a platform to enable the creation of job-specific skills, constrained by the systems of standards previously created. Our two activities, creation of individual skills and systems of standards, enable the emergence of functional abilities, which are defined as the first collective task the individuals are responsible for. By collective task we mean a task that requires the successful integration of the work of two or more individuals.

Functional abilities emerge as individuals become more competent in their individual skills and begin the process of integrating their work with other people's: their work is not simply the decomposition of a task in a series of indivisible, minuscule steps that need to be achieved, but also (and especially) the integration of the task with the tasks performed by other individuals in the same function. It is not how well a waiter serves a bottle of wine, but how wine is served in the restaurant, regardless of the waiter. The functional abilities that emerge as a result of the integration and consolidation processes are intrinsically different from individual skills; they exist when it is the function (and not a subset of individuals, or just one person) that is able to perform certain tasks repeatedly.

When consistency within the function is being achieved, a collective ability in the functional area appears: the results obtained are not directly linked to the actions of a single individual, but to the work of a group of people. Says a manager:

We began (training employees) by teaching them how to walk, how to behave, how to smile, how to open the door for the customer, how to help a lady with the chair when she is going to sit down, then a period began when we started demanding they apply what they had learned, we began teaching... what is wine, what is it made of, why vineyards differ, (...) what is the difference between a cognac and a brandy, we raised the bar of professional competence a little, how to manage sales, when you serve coffee to a customer you may suggest "Sir, would you like some cognac with that?" It is a way to increase sales, to sell more. The third phase was more selective, it focused on managers and we explained cost management, personnel management how to improve their efficiency, cleanliness, hygiene, safety, I mean, that was much more specialized. (Food and Beverages Manager, male, Spanish, Nut Hotel)

Evidence of the creation of functional abilities is not limited to narratives. On the contrary, the emergence of capabilities has strong impact on the activities of the function, and on the collective results obtained when performing a task. To observe the concrete consequences of functional abilities beyond narratives, we sought information aggregated at the functional level that could trace the evolution of the function over a period of time: we wanted to observe the consequences of behavior using an indicator that could track its results independent of the opinion of the narrator.

For the reasons discussed in chapter five, average daily cost of food per guest is a useful indicator of the evolution of the Food and Beverage division, and more precisely, of its efficiency. The potential variability of the indicator, and the fact that tourists in resorts can consume as much food as they desire, make controlling the function an essential element of success. In addition to these cost considerations, it is generally accepted that a significant part of the evaluation tourist make of the hotel has to do with the quality, quantity, and variety of food and beverages available to them.[28]

It is customary for hotels, and in particular for all-inclusive resorts, to track carefully the results of food and beverages operations. Two types of indicators are used: quality of the food served and cost per guest per unit of time. The former is usually controlled with feed-back surveys, where guests are asked to evaluate the food, the beverages, and the service they get. In addition to these surveys, managers usually eat at the restaurants and check different points of services during the day, and although one might expect them to receive more attention than the average customer, these visits help reinforce the impression managers have of the service provided and its quality. Cost, on the other hand, is controlled by calculating the cost of inputs used, plus all relevant expenses, divided by the number of guests. Waste and shrinkage are incorporated into the figures, but indirect costs such as silverware, laundry and furniture are not. This indicator is of interest not only because it gives a meaningful way to measure the results of the department, but also because it requires heavy involvement from a large number of

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28 An impressionistic indicator of this are the quality surveys distributed to guests by the management of the hotel and by the corporations. Invariably, significant parts of the survey are spent on Food and Beverages, and all of its components (Bars, restaurants, snacks, etc.)

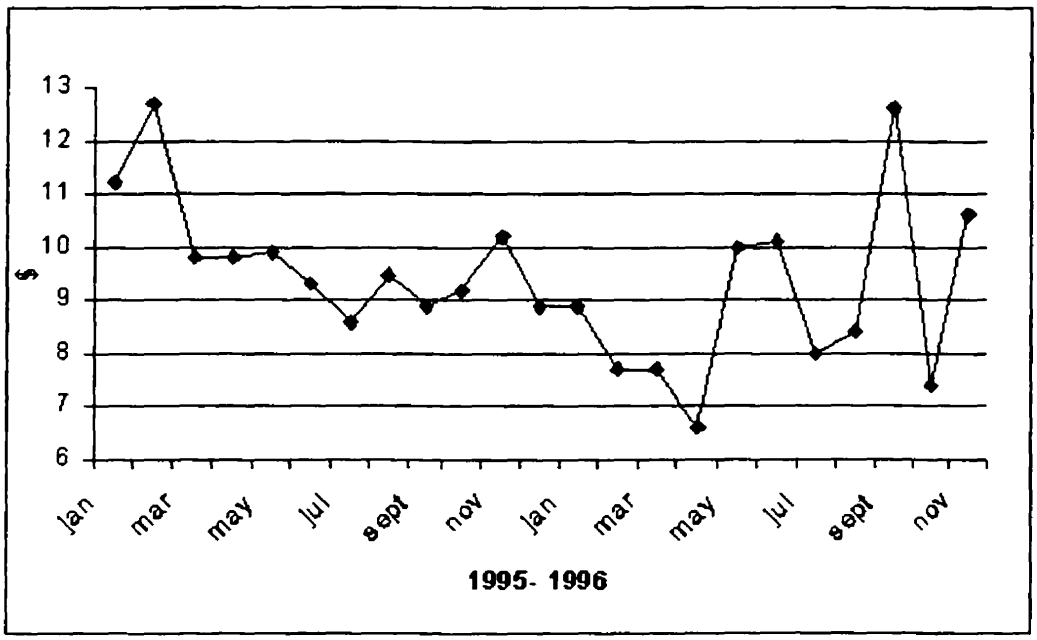
individuals. While some important decisions are typically made by the manager or assistant manager, the implementation of these decisions occurs organizationally, involving so many individuals that it is impractical or impossible for the managers to personally verify them. For example, it is customary for the chef to order the menus s/he wishes to use in the near future and calculate their costs. A decision to serve expensive items such as lobster, shrimp or sirloin impact directly on the daily cost of food per guest. But the contrary need not be true: serving pasta, rice or some other inexpensive item can be plagued by inefficient implementation and wastage, increasing the cost of food per guest. This is also true for the bars, where the cost of the raw materials is relatively expensive and there are many possibilities for shrinkage or waste, as bars tend to be removed from the center of operations of the hotel, leaving the employees a large degree of autonomy. In sum, cost of food per guest per unit of time captures very well the behavior of the function.

In Figure 14 we observe the results of 15 months of operation in the F&B function of Hotel Withwind. Although the quality of the food served is not captured by this measure, our interviews indicated that, at the very least, the quality could be considered equivalent throughout the period, in spite of a considerable (50%) reduction in costs. The first trend we observed started in February 1995 and lasted for about 14 months, where cost of food per guests declined as quality remained constant. The drop is not insignificant: in April 1996, each guests consumed seven dollars' worth of food and beverages per day, compared to the twelve to thirteen dollars' worth per individual a little over a year earlier. The function appeared to have found mechanisms to create new knowledge that allowed it to operate more efficiently and to obtain similar results with fewer resources. However, the trend ended in May 1996 when the manager quits his job to return to his country. The consequences were dire: cost of food became erratic, evolved wildly and returned to the peak it had attained in the early days of operation.

Our explanation for this variability lies in the lack of consolidation of the knowlege: although knowledge had been created in the functional neighborhood, as the results would attest, it hadn't been consolidated in the function and remained the sole property of the individual who occupied the job of the manager, who could obtain the desired results through personal involvement in all details of operation. Here, the

difference between individual knowledge and organizational knowledge becomes apparent: although the function was able to perform adequately and obtain reasonable standards, the absence of the manager caused the return to ignorance and poor results.

Figure 14: Cost of food per tourist per day. Hotel Montelimar

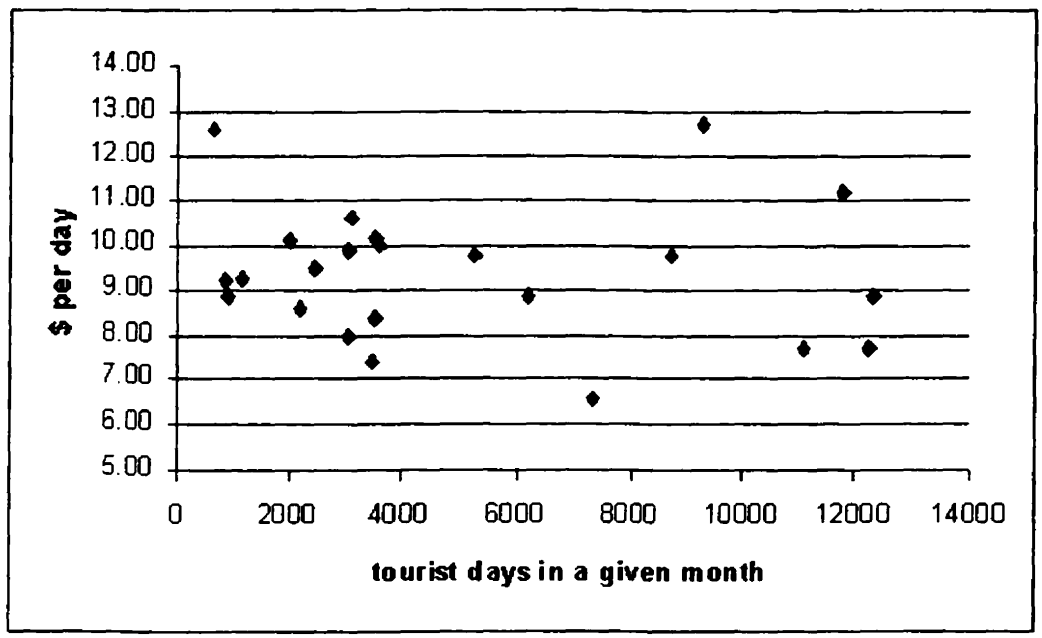


With this data in hand, we wanted to test the hypothesis that reduction in cost of food per guest was due to economies of scale. If that were the case, the average cost of a meal would be reduced as the number of meals served in a unit of time increased. Months of higher occupancy would show the lowest average cost of food per guest, as the organization could optimize its processes to efficiently provide meals to everybody. According to our data, this hypothesis must be rejected, as the two variables have negative correlation coefficient of –11. This suggests that large volumes are associated with poorer results; it appears as if F&B could handle a small numbers of tourists but not high levels of occupancy where professional operation is required.

This interpretation is strengthened by the fact that the dispersion in cost at low numbers of tourist days (between 2000 and 6000 per month) is lower than the dispersion at high numbers (between 7000 and 13000). The graphic representation of the data shows the lack of correlation between these two variables: cost does not seem to down with volume,

or at least in a very strange way. For about 16 months (from February 1995 to April 1996) cost goes down regularly, but starting in May 1996, cost increases significantly and becomes erratic.

Figure 14: Correlation between Cost of food per day and number of tourist/days in a given month. Hotel Montelimar 1995-1996



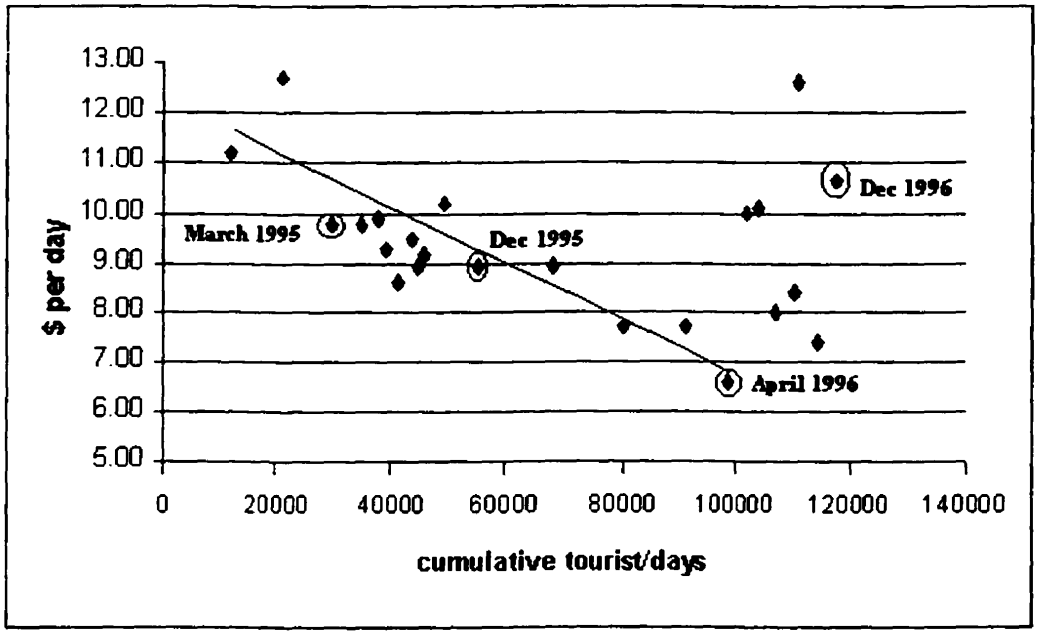
Next, we examined whether we could verify the presence of learning effects. These tend to drive unit costs down as the cumulative volume increases: it is not only a matter of how many units are produced in any given unit of time, but how many were produced before. Underlying the notion of learning effects is the idea that organizations become more efficient in their processes as time goes by, and that they can keep that efficiency as long as the basic technological components of their processes are not altered in a significant way.

To test whether the data supported the hypothesis of cumulative learning effects, we plotted the cumulative number of tourists days and the cost of food per day. The results, shown in

Figure 15, reveal that learning effects seem to play an uneven role in the cost efficiencies we detect on the graph. Our first observation, in January 1995, starts with

11000 tourist days accumulated (tdas). By February 1995, our second data point, the total has nearly doubled (21000 tdas), but the cost has increased from $11.00 to $13.00. In March 1995, volume has increased to 29000 tdas, and cost has gone down to about $10.00. Almost ten months later, in December 1995, tdas have increased to 55000, almost double the figure of March 1995, and cost has decreased about 10%, to $9.00. Then, in four months, volume doubles again (to about 98.000tdas) and cost decreases to less than $7.00, for a reduction of about 23%. Finally, cost escalates again, to reach about $10.50 in December 1996.

Figure 15: Accumulated tourist days. Hotel Montelimar



We can attribute these variations to the processes of knowledge mobilization discussed previously: although there were significant changes in the four categories of knowledge at the functional level, consolidation of that knowledge could not be achieved, and as soon as the chef left (in April 1996), the function returned to a previous level of performance. In this case of failed knowledge consolidation, we observe knowledge creation and transfer in the functional task, but the inability of the function to "keep" that knowledge and to maintain the results it had previously achieved.

This lack of consolidation, however, need not be systematic. In other cases, the organization achieves results and maintains that satisfactory performance over long periods of time. This is particularly visible in our next example, where a Cuban chef speaks of how the knowledge he has developed will remain; he has codified what he has seen and people will be able to imitate it without great difficulty. Contrast our earlier results with the following account:

Q: How has the work changed (since the beginning)? What are the differences, in the... results?

A: Now I can plan my work, if the lunch guy is ill I won't have a problem in the kitchen because anybody is capable of doing his job. I don't have to worry about what happens in the kitchen because anyone can solve the problem. (...) If you have a difficulty, there isn't a single problem because anyone can do the job.

Q: You said that all the people that work with you learned to do several things, many things, and you say that you learned to do things. In these two years, what kind of things have you learned that you didn't know before?

A: Well, just imagine, I have always been fond of the kitchen work, but I had never studied (to be a chef), you can just imagine how much I have learned to be able to manage this kitchen. It was a lot and that is not everything, not at all, because I have still a lot to learn, but the preparation I have has made all the difference, it's inestimable all the things I have learned that I didn't know I was going to learn. And I have recipes for everything (tengo todo en recetas), I haven't forgotten anything. The day the company ceases to exist, nothing will happen because everything is written down, everything is done and structures, well written, and I have many books as well that have helped me to improve my knowledge of this job, because when you are in a kitchen you have never finished, you can do new things every day. That is the beauty of a kitchen.

(...) Q: And didn't you do new things before?

A: Yes, but I did not have the knowledge I have now that allows me to do it, what I did before was to learn, when you have enough knowledge you can create because you can think. There is still a lot I have to learn because I haven't left (Cuba), I haven't seen other hotels in other countries, I don't have that vision. In that sense one needs knowledge, all those people (the foreigners) have spent time in many hotels abroad, and in one way or another that teaches you things that I haven't seen, that helps you create more, it helps you to see (things). (Assistant Cook, male, Cuban, Withwind Hotel)

When consolidation is achieved, the system of standards and the rigid patterns of behavior that were adequate in the early stages reach their limits. This is particularly visible in situations when the task has been mastered to the point where new ideas emerge, distinct from standard procedures to require significant changes, and promising enough to be granted consideration. At this stage, the existence of inflexible systems of rules and procedures (or routines) can block new possibilities: new ideas may be better, but they are not applied because they are new, hence untested. Says a housekeeping manager:

At the beginning my work was too schematic, CorpCo insisted, managers said that everything had to be done according to the manual, and I had an idea to improve the way we did the bed, to give better service, we found a better way with one of the maids. Well, we couldn't implement it because everything was so schematic, everything was done by the book (Housekeeping manager, female, Cuban, Montelimar)

As the need for more flexibility is being felt by the most capable people, the organization moves to a stage where flexibility is possible for individuals and entire functions. That flexibility is seen as a powerful device that empowers the employee to utilize a well known script when the events are predictable, and to introduce changes when the existing routines are inadequate, or when the predicted consequences of the application of the existing routines are not desirable.

Q- Is it common to adapt (as Hotel Withwind does) the entertainment activities according to the type of customer you have at that particular moment?

A: Well, in Villa T. they have another system. I have friends there and I ask them, what are you guys going to do today? And they tell me, we have no idea, we'll see. That means they do not have a plan, they're making it up as they go along. But you can have a plan and you say: this week this is what we will do, but if I see there is something that's not going to work, I change it, I say: today we were supposed to do this show, but it not going to work because of the type of customers we have, so we change it on the fly, this has been discussed with my team already. (Entertainment & Recreational Activities, female, Cuban, Withwind Hotel)

The flexibility to modify a task that looked inflexible is a considerable gain over the rigid scripts that prevail during the early stages of operation. However, the limits of this new liberty are rapidly reached, as organizational members begin to discover the need to integrate their activities with other functions and with the rest of the organization. When that limit is reached, the new task of integrating the activities of all the functions appears. Says a manager:

A: We are very careful when we train people (...) When new guys arrive, I tell them here is where you are going to work, this is how you clean the air conditioner, you turn it off like this, if it is malfunctioning, you call this number so they can fix it, this is where this chair goes, here the garbage can, and there the TV, here is the plug for 220 volts, and here the 110, if you need to order tea or coffee or anything, you call this number; I do not let them loose, we give them a chance, and when they evolve in their job, we allow them to introduce things that they see as beneficial to the company. We are very careful when training people. (Housekeeping Manager, female, Cuban, Belltolls Hotel)

In spite of the usefulness of knowledge mobilization (and more specifically, knowledge consolidation) within the function, there are limits to what can be achieved in its vicinity. Although the performance of the organization is composed of the results of a series of activities only loosely connected to one another (housekeeping has only a very

weak effect on the performance of F&B, and reservations a weak impact on housekeeping), the results the organization are collective in nature, and can only be meaningfully evaluated as the result of collective action, that is, of a series of integrated processes with a common result. We explore the ability to integrate disconnected functional abilities in the next section.

Integrating functional abilities: organizational capabilities

In the previous stage, dispersed abilities, until then essentially individual, were consolidated within the function In the third stage of our model, the emphasis is put not simply on how well each function handles its work, but on how the overall work is handled by the organization, and how the organization recreates work as the need arises. In this stage we witness the reunion of functional skills at the organizational level, just as the function associated individual skills at a collective level; the dispersed abilities found in each function are linked, and work becomes an organizational activity. Simultaneously, standards of performance become multidimensional, as the notion of satisfactory results is further removed from the function (as it was previously removed from the individual) and placed on the organization. In doing this, the collective nature of the work being performed in the organization begins to be captured, a more customer oriented approach is taken; the customer experience, quite different from the perspective an employee may have, is included to a large extent in this approach.

> What has been really hard is to get the workers to see the customer as the fundamental link for us; if a customer has a problem it is the employee's problem too; if you see a customer who has a problem any worker has to find a solution to it, whether it is a problem of maintenance if you are a maintenance worker, or housekeeping, or service or anything. What is needed isto work together to solve the problem. That requires a great effort; it is a goal I want to achieve, that we are all trying to achieve, but it is the single activity that has cost me the most effort so far, because people only look at their responsibilities, but we know that a problem is a problem for everybody" (Resident Manager, male, Cuban, Key Hotel)

Another manager says

> In all the areas of the hotel we had the same thing, when we opened we were awful and slowly we had to improve things, we had to embed things until they really function as a system. That took me a few months, but it is my impression that I am not working now as I did before. In the beginning, I worked under tremendous pressure, and now I have the time to do things, I am more relaxed. This is because we have an organization, each person knows in this department area what he has to do without me telling him. I am sitting here with you and I am quite calm because I know things are working out there, that is something that has changed for me. (Purchasing Manager, male, Cuban, Belltolls)

This phase is characterized by a heavy emphasis on working together, or "team work," and on defining work in collective terms, beyond the reach of an individual or a single function, and necessitating cross-functional coordination and cooperation, or, in other words, the integration of tasks that had been seen until then as essentially independent. For example, running the hotel through a period of full occupancy efficiently and to the satisfaction of the customers requires abilities that go well beyond what a single function could achieve. This is intuitive: however brilliant the entertainment is, it cannot alone cover for deficient food or untidy rooms: it is only by achieving reasonable standards at all levels and by integrating them that the organization can obtain satisfactory collective results.

The development of organizational capabilities is visible in the results generated by the operation of the unit observed, in this case the hotel and the service it provides to its customers. Says one manager:

> The greatest difference between when we opened and now (three years later) is that service now is much more agile, and much more efficient. Agile in the sense of quick, and more precise too, and efficient because it costs us less money to do what we are doing, we need less people, and they are expensive, we waste less raw materials, because we allowed people... because we have improved the systems that allow people to work better, before we used to have sixty people, of which four were waiters, now we have sixty people and only two waiters, and it is the same for all the hotels. (F&B Director, Canadian, male, Belltolls hotel.)

Another manager says:

> (...) Today what the customer wants is not a luxurious service, when they want that they go to a luxurious place, what they are buying here is quick, quality service (...) if a customer asks for a burger, they want the burger in a reasonable amount of time for a burger, and well prepared, well presented and warm enough, if the burger takes half an hour they start to get restless, the customer is unhappy and then he does not want the burger any longer and goes to another restaurant. That's why I think it is good for the hotel to give fast service and good quality, the faster the better.
>
> Q: And how did you achieve that?
>
> A: Everything depends on the organization (mise en place) you have, a cook needs good organization to provide good service, but that means that the waiter has to hand in the order as soon as he can, so the cook can start with his organization, and essentially cook the dish, in essence everything has to be prepared, French fries here, decoration here, and there goes the dish, and the faster you give the service the better. But if there is a delay because the waiter is giving poor service, because he has too many tables, and he does not have time to bring the dishes on time, service goes down the drain, that's why you need to have well trained personnel in a given area, and all the conditions created so there is no delay, a well-honed organization. (Assistant Chef, male, Cuban, Belltolls Hotel)

Skills in the functional area need to be integrated in a total package for the hotel to provide an adequate service; failure to create links between functional abilities limits what the organization can achieve. When abilities in the functional neighborhood are integrated, better results are observed, particularly when one uses multidimensional indicators, either impressionistic (i.e., customer surveys) or much more quantitative (i.e., cost per guest).

> For the last year or so, what has improved is the follow-up of problems, I mean when someone informs us that there is a problem and makes sure the problem is solved; in the beginning they gave the information but they did not follow up, they did not care whether the problem was solved or not, because the hotel doesn't have only one problem, but one must follow up the problem oneself (and make sure it is solved). (Public Relations Manager, female, Cuban, Nut hotel)

To observe the integration of functional abilities in a collective ability, we needed an indicator that could capture the overall results of the organization and not simply of one function. Following the same logic we used to trace the evolution of performance at the functional level in Hotel Withwind, we constructed a productivity index indicating how many employees were needed to operate the hotel at a given month of the year for Hotel Montelimar.

This index was developed using two indicators of overall productivity of the hotels: number of tourist/days per unit of time, in this case per month, and overall number of paid employees working on the hotel per unit of time. These encompassing indicators are both meaningful and complete, capturing in a simple way the results of the whole organization. Simplicity aside, these indicators have the advantage of being easily transported across hotels and countries, as well as being quite robust with regard to variations in factors such as salaries or value of currencies, which become irrelevant when what is measured is the activity, and not its cost. In fact, it can be argued that these indicators, as well as the indices of productivity constructed from them, are useful tools to trace productivity and the evidence of learning across organizations, provided they operate in the same segment of the industry. The crucial element of productivity is the size of the hotel, but since all of the organizations studied are medium sized, this issue does not affect the reliability of the index in this particular case.

As mentioned, the indicator is constructed by dividing the number of tourist days delivered on a particular month by the number of employees needed to serve them. This

graph (see Figure 16) indicates the number of tourist days "served" by each employee on that particular month. High indicators mean that the organization was able to reach high levels of productivity, and changes, positive and negative, imply modifications in the overall productivity. While changes per se do not indicate the sources of productivity gains, these can be traced back to the processes of knowledge mobilization presented in this work.

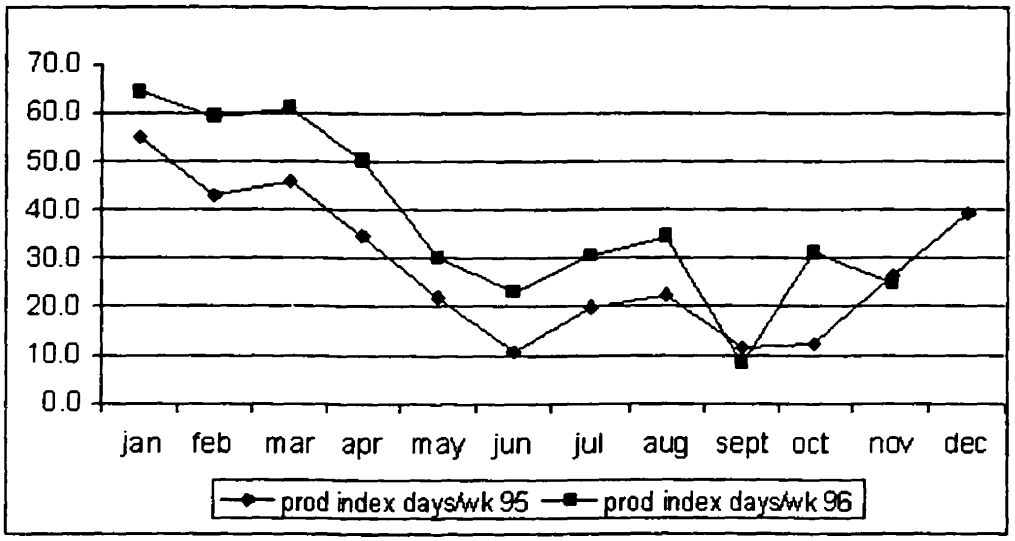
In the case of Withwind Hotel, we notice a clear decline in productivity as the high season (January to March) gives way to the low season (May to August). This decline is a natural consequence of the phenomena of economies of scale intrinsic to the hotel and simply indicates that, at lower capacities, a comparatively larger number of employees are needed to provide services to a low number of guests. This "natural" drop in productivity is the consequence of a series of incompressible tasks that need to be done to keep the hotel in operating condition. However, there is more to it than this. Although there are strong seasonal effects that must be incorporated into the analysis, it is noteworthy that the differences between year 1995 and 1996 are marked and significant, giving credence to the hypothesis that knowledge has been accumulated through the period. We can observe a significant improvement on the index for almost all of 1996, except for September and November 1996, where particularly bad months forced the hotel to operate with unusually low occupation levels.

This indicator confirms the presence of knowledge accumulation in the organization: over a two year period, each month with the exception of one outlier (Sept 96) has a higher level of productivity than the equivalent month of the previous year. This gives support to the hypothesis that, with time and increasing volume, the hotel was able to modify processes and operating practices to obtain better results, i.e., to employ a lower number of employees per tourist day.

In these cases, following our reading of these processes, we can claim the organization shows significant improvements in its productivity indicators as it integrates functional tasks developed in previous stages. Thus, the results observed are the consequences of the emergence of organizational capabilities. In short, it is because there

were modifications in the knowledge base of the firm through three distinct stages that the organization could increase its productivity, as attested by our data.

Figure 16: Productivity index (tourist days/workers) Withwind hotel 1995-1996



We have seen so far how organizations move from the basic individual skills to the organizational capability. In our next section we will explore the last element of our model: the organization as a network of capabilities.

The organization as a network of capabilities.

So far we have presented the idea that the organizations in our sample move from incompetence to proficiency through a series of steps that include the generation of basic skills at the individual level, then to functional skills, both individual and collective, and then the integration of multiple skills at the organizational level. Now we examine the last stage of our model.

This final stage, the network of capabilities, was only observed in successful organizations, and was in fact what discriminated between successful organizations and those with inferior results. To observe this stage we ranked the organizations according to their performance, and explored the differences between those considered excellent and

those considered good. What was that difference? What were the causes of that difference? We noticed a high degree of integration of organizational capabilities in the proficient organizations of our sample, enabling these organizations to handle much more complex tasks (i.e., tasks that require coordination of several functions and abilities, either simultaneously or sequentially in unscripted ways).

The network of capabilities connects and integrates capabilities in a novel way. When a network of capabilities exist, that is, when the capabilities of the organization are interconnected and linkages exist, the organization is capable of handling non-routine events with high levels of complexity without disruptions. Highly complex events are those that require coordination of several functions, in novel or unsystematic ways (e.g., a customer gets hurt, someone suspects theft of expensive raw materials, a large group arrives unannounced). The most successful organization we studied, for example, was able to sell rooms twice the same day, of course without letting its customers know and without allowing any encounter between them, by creating an ad hoc, yet tightly integrated coordination between different functions, which normally would work without much interaction.

> We closed the day with 463 rooms occupied. Nobody could understand that (...). How can that be if the hotel only has 458 rooms? (...) we had a flight that left Cuba at 3:00 in the morning. Many guests paid $6 to keep the room until departure time, which was 12:00 midnight. Of course that was an occupied room, so I created another room and that was a paid room. That room, as soon as the guests left, the maids...we had five, six maids, chambermaids living in those days... that night they cleaned the rooms, so the rooms when the clients arrived at six, were ready.
>
> Q: Without them knowing there was an overlap there.
>
> A: Of course. That created a double occupancy, it was paid for twice, that same room. And we have twelve suites over there, and at a certain point we had to use eight or nine of those living rooms as rooms. Of course that was eight, nine additional rooms. They really didn't understand that. It did take some time for the reception staff to realize they could do that. How come you've only got 458 rooms in total in the hotel and 440 is the maximum? But then they realized we can close with 102, 105% occupancy if you can sell that room twice. That's because you've been able to sell it, clean it and sell it again. (Housekeeping manager, female, Denmark, Nut Hotel)

Conversely, the unsuccessful organizations in our sample had not reached the point where organizational capabilities were integrated to each other in a network. Although many of them had good functional abilities, and organizational capabilities that were comparable to the most successful hotels, the overall results were consistently inferior when multiple indicators were used. Although the functions handled their tasks

adequately, they could not integrate these functions so as to produce a desired output. A similar thing occurred with organizational capabilities: normal tasks that required simple integration of capabilities were performed adequately, but non-routine events or sudden fluctuations in activities that changed the nature of the tasks to be performed (e.g., heavy rains, sudden changes in occupancy, arrival of groups of citizens of countries who had never visited the hotel before) introduced sharp declines in quality and efficiency. It is as if the good organizations remained within the realms of scripted work but were unable to handle novel activities, whereas the excellent ones were capable of innovation in the way their knowledge is linked and organized; in other words, they were capable of innovation in the network of capabilities.

Table 9. Evolutionary stages of Knowledge Application

	Ground zero		**Functional neighborhood**		**Org'l capabilities**	**Network of capabilities**
	Basic skills	**Systems of standards**	**Functional skills**	**Functional abilities**		
Archetypical situation	Waiters are taught the order of a standard meal (Soup, salad, main course, dessert, coffee)	Standards (cleanness, number of rooms, speed per room) are developed for each maid.	Accounting and Finance employees learn a method to calculate daily cost of food per guest	Food and Beverages controls variability of cost of food per guest around a desired target without loss of quality	Hotel operates at full occupancy to the satisfaction of three "mystery shoppers," sent by one large client, who certify the hotel is comparable to others in its category but in different locations	Large group of unexpected tourists, overbooked in their hotel, arrive Marketing calculates prices and secures deal with tour operator abroad, front desk calculates space availability, housekeeping cleans rooms, F&B prepares food for guests, entertainment improvises reception and activities.
Other examples	English lessons for waiters. Computer lessons for accountants.	Cooks are evaluated by the "yield" of the goods used. Size of servings are specified.	Procurement begins anticipating needs of other functions rather than buying what is immediately needed.	Entertainment creates programs according to citizenship of guests.	Hotel "closes" sectors of the building according to occupancy, assigning guests to certain areas to reduce operating costs.	Hotel begins segmenting its clientele, and aggressively targeting some segments (senior citizens) in addition to its regular clientele.

We summarize the findings and the categories used in this chapter on Table 9.

Summary

In this Chapter we presented an evolutionary model of knowledge that captures the stages and the transitions experienced by organizations in our sample. At a very general level, we hypothesized that the effectiveness of knowledge mobilization depended upon the nature of knowledge itself (the type of knowledge being mobilized) and the organizational context. In sum, we used a contingent view of knowledge, in which parent organizations and the business unit itself creates and manages knowledge according to organizational needs and preexisting capabilities.

The model we presented here claims that organizations go through four distinct stages, each one corresponding to more complex and more integrative abilities, from the basic individual skills to the highly integrated capabilities requiring integration of many individual, functional and organizational capabilities in an unscripted way. The central argument is that abilities in the organization correspond to the accumulation of knowledge and its application to specific tasks. As knowledge accumulates, the organization is able to handle new and more complex tasks, complex because they require subtler integration of many different functions in novel ways.

In addition to the theoretical usefulness of understanding knowledge as an evolutionary process, this model can be fruitfully married with the findings presented in chapter six, particularly the difficulty experienced by all organizations in consolidating knowledge, that is, accumulating knowledge instead of seeing it vanish. Although the model presents a trajectory that organizations may follow as they move from one stage to another, the notion of consolidation of knowledge indicates that transition is not automatic; considerable effort is required to move the organization from one stage to the next.

As mentioned previously, the processes we describe here were present in all organizations in our sample, but their speed, magnitude and quantity differ markedly. The effectiveness of each process (e.g., to what extent the efforts to mobilize knowledge are successful) are a major factor in distinguishing between successful organizations and unsuccessful ones in our sample. Although the gap between what it is observed, and what is desired is a necessary first step for developing new abilities, it is by no means a

sufficient condition for new knowledge to appear. Instead, the ability to solve the dilemmas of knowledge mobilization is what distinguishes successful organizations from unsuccessful ones in our sample. In other words, while the categories of knowledge described appear to affect all the organizations similarly, and the processes that enable knowledge mobilization are similar, the ability to successfully build the knowledge base of the firm (e.g., to create a repertoire of tasks the organization is able to perform) is a powerful explanation of success, because increments in the knowledge base allow the organization to move to a different stage, qualitatively different from the previous one and intrinsically more complex. This could imply that the duration of each stage (how long it takes for the organization to move to the next level) appears to be contingent on the ability to manage the processes of knowledge creation, transfer and mobilization. In other words, managing knowledge makes a difference.

Chapter 8: Conclusions and suggestions for future work

> If correct [our framework suggests that] ... identifying new opportunities and organizing effectively and efficiently to embrace them are generally more fundamental to private wealth creation than is strategizing, if by strategizing one means engaging in business conduct that keeps competitors off balance, raises rivals' costs, and excludes new entrants. (Teece, Pisano & Shuen, 1997)

Summary: This chapter presents the conclusions of the thesis, and reviews the main contributions of this work to the field of strategic management. We then present some limitations of the thesis. We examine the limitations inherent to the definitions used, to the method chosen, and to the industry selected. We conclude with suggestions for future research.

Conclusions

An influential volume on the "fundamental issues in strategy" argues that there are five essential questions that define the field of inquiry we call "strategic management," orienting the research efforts of scholars working in that field. These simple yet fundamental questions are: (a) why do firms differ? (b) how do they behave? (c) how are policy outcomes affected by the policy processes? (d) what are the functions of headquarters unit in the multi-business firm? (e) what determines the international success or failure of firms? (Rumelt, Schendel, & Teece, 1994). We believe that this thesis addresses, directly or indirectly, the first, second, third, and fifth questions, and contributes to the on-going conversation in our field by providing an original model of the dynamics of knowledge in international strategic alliances.

This thesis builds on the simple yet powerful notion of organizational knowledge and its organizational consequences; firms know, and they do things with their knowledge. The field of strategic management is beginning to explore this notion; after years of study of the environment and the position the organization should take in it to obtain an advantage over its rivals, it is currently fashionable to attribute the causes of competitive advantage to the resources of the organization, and in particular to the intriguing concept of organizational capabilities. The argument is simple: it is what organizations know how to do, and not what they have (or how they are positioned in an environment) that makes a difference.

The processes and activities needed to create knowledge are important to the researcher interested in the organizational dimensions of firm behavior, particularly from the perspective of a still unbuilt theory of competitive advantage. Reframing the questions of Rumelt et al. (1994), we can wonder what firms know, why they know, how they learn, and how that knowledge and learning affect their results in the marketplace. Yet, despite the relevance of these questions, the answers remain elusive, and few studies have ever attempted to open the "black box" of knowledge to understand the processes that fuel knowledge mobilization and the ones that impede it. As Doz and Prahalad put it, "[the organizational learning literature] holds tantalizing promises for the MNCs management scholars (...) More research is needed on both organizational learning processes in general and their application to MNCs". (Doz & Prahalad, 1994):515.

Here we focused our attention on the mechanisms used by strategic alliances to develop capabilities in the local organization, and on the modes of knowledge mobilization, seeking to answer some questions central to the study of knowledge management: how do organizations develop knowledge resources? How do they mobilize knowledge across organizational boundaries, and how do they ensure that the knowledge they create remains in the organization and does not dissipate, or at the very least not too quickly? What are the dynamics of knowledge in organizations and how do they evolve as companies to become proficient in their core activities? These phenomena are made more relevant by the fact that the strategic leeway of hotels is quite limited by the fact that to a large extent, the strategy of the organization is very much reified by the infrastructure built before the hotel could serve its first guest. The designers of the infrastructure commit deeply the organization to a course of action with a limited ***marge de manoeuvre***.[29] There is little strategy in hotels because strategy is built into physical infrastructure of the hotel. Yet, when observing these organizations, we found considerable variance in their performance, and more specifically in the magnitude and speed at which they had acquired knowledge. Accordingly, this is a thesis on how organizations develop new knowledge in situations of relative strategic stability.

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[29] Thanks to Henry Mintzberg for this idea.

During our field-work and the analysis of our data, we came across some noteworthy regularities that can contribute to the understanding of knowledge in organizations. Most of these have been presented in detail in the body of the thesis, either individually or as patterns, and shall not be repeated here. Instead, we highlight here some salient findings, the ones that we believe can make a meaningful contribution to the literature of strategic management.

Contributions

Business schools, research centers and scholars in general have recently witnessed a strong interest in knowledge within and around organizations, probably fueled by the widespread idea that we have entered (or will soon enter) an era where knowledge becomes the most important factor in an increasingly integrated, "global" economy. We are entering a "knowledge" economy, and although the meaning of that phrase is unclear to many, the general sentiment is that intelligence and creativity will be duly rewarded, perhaps much more so than in the past. Yet, all economies are knowledge economies. In the purest sense of the word, economic activities involve the allocation of scarce resources to productive ends, with the clear objective of obtaining the most with the least possible. Knowledge always plays a role when economic agents allocate resources or manage these resources in the hopes of obtaining better results. Knowledge may be limited, unavailable or incomplete, but it is always there.

Despite the overwhelming excitement about knowledge in the economy and in business firms, empirical studies of knowledge tend to be disappointing. It is not uncommon to see pieces of research that study knowledge exclusively by examining its consequences. They pay little or no attention to the antecedents of knowledge and of the preconditions that make it possible, nor do they study the processes that are at its genesis. This "black box" approach treats knowledge as if it was a tangible resource without regard to its unique characteristics, making only a cursory (and *a priori* unproblematic) connection between knowledge and action.

Using the resource-based and knowledge-based views of the firm, we claim in this thesis that the roots of organizational effectiveness need to be traced to the actions of the

organization, and that these actions can only be understood by making reference to the knowledge that makes them possible. When we observe an organization that performs adequately (or that learns to perform better than it used to), we should look for an explanation in the organization itself: how did it get done? How did the organization, the social actor, achieve that result? What combination of material resources and individual and collective skills were applied, how and why? At a very general level, observing the results of organization action, particularly when they are satisfactory, calls for an exploration of the actions that made these results possible. But observing actions is not enough, for it is also the genesis of these actions and the ability to create new actions when the usefulness of the present ones decline, which determines to a large extent what the organization can do. We should thus add to the study of performance and actions that allow that performance, the knowledge that made these actions possible in the first place. We believe it is more sensible - as well as theoretically sounder - to study organizational knowledge, the processes that create it, and the application of knowledge to products and services, all together in the same research movement. We also believe that only the connections between these elements can give a comprehensive view of performance. We are convinced that knowledge, the actions it enables, and the consequences of these actions are linked, and should be treated as inseparable components of an integrated process, particularly when observing organizations that are trying to develop a competitive position.

To contribute to the scholarly discussion on firm advantage and knowledge resources, we focused in our research on the processes of knowledge mobilization, or, more precisely, on some questions that these processes led us to ask. We wondered: why is it that certain organizations learn to perform satisfactorily, while others do not? We decided to observe the genesis of knowledge in strategic alliances using the method that seemed the most appropriate to the task: a longitudinal observation of very similar organizations, all starting from complete ignorance, all competing in the same industry. Having "naturally" reduced the variability among organizations, often a concern for qualitative researchers, we focused on the two main components of knowledge: actions (things done within and around the organization by its members and groups of members) and narratives ("texts" or verbal accounts of behavior, documented or narrated to us during our interviews and conversations). We observed how, over time, organizations paid

attention to different issues, how they selected the issues that they wished to pay attention to, and how they sought to find solutions for these issues, ignoring the ones that had not been selected. We then observed how organizations, and how people within them, developed the ability to carry out new activities, how these abilities translated into action, and how the narratives used by organizational members to describe their reality evolved as knowledge was modified.

The qualitative, longitudinal methodology chosen, along with the definition of knowledge, allowed us to create a textured model of the dynamics of knowledge in international strategic alliances. As some of the organizations moved from incompetence to proficiency, we could observe and model the transitions that faced the organizations, and the decisions that were taken to create, transfer and consolidate knowledge. Our results capture, we believe, the complexities, trade-offs and nuances of the processes of knowledge management, and reintroduce some of the necessary detail lost in simpler models. In our opinion, the findings can be generalized with confidence to service organization and to strategic alliances, and they can serve as a basis for further work by helping to refine extant theories and by providing a platform for other researchers who may wish to extend, confirm or contradict our findings.

No research is done in isolation, and the results of any research effort, however original, must be read in the context in which they were created. Regardless of the felicitousness or lack thereof of this thesis, we believe we contribute to the conversation about organizational knowledge in many ways. First, we provide a textured account of knowledge mobilization, and constructing a comprehensive model of knowledge evolution. In that respect, our work links knowledge processes to other evolutionary activities within and around organizations. With all the limitations due to the specificity of our research site and our methodology (which we will discuss below), we defend here a contingent, evolutionary view of knowledge.

Inspired by the findings of our analysis, we affirm that it is not knowledge that leads to advantage, but knowledge in context: according to the position of the organization in its environment and to the stage of evolution of the organization, some types of knowledge will be preferred to others. But given that different types of knowledge tend to

work better with different mechanisms of manipulation (depending on timing and evolutionary moment of the organization) some mechanisms of knowledge manipulation should be preferred to others, particularly if one is concerned about the results of the organization.

In addition to this consideration, our contribution is increased by the unexpected finding that organizations need considerable effort to consolidate their knowledge, that is, to continue performing at a level previously attained. While this finding does not seem particularly revolutionary, it is nevertheless surprising to note that little attention has been paid in the literature to it. We know now that it is not enough to learn, one has to learn and to keep, and keeping involves other processes than simply codifying knowledge. But why is this so? Although a detailed analysis of that phenomenon was beyond the scope of this work, we can hypothesize that turn-over of employees may influence negatively consolidation of knowledge: sometimes knowledgeable people do not stay long enough for their individual knowledge to become organizational.

We review these two contributions below.

Towards a contingent, evolutionary view of knowledge management

We began our work by presenting two taxonomies. The first one was a taxonomy of knowledge in the organization, and the second one, a taxonomy of modes of knowledge mobilization. Both were used as platforms to model the dynamics of knowledge, which are the constitutive elements of a contingency model of knowledge, describing the stages organizations go through as they move from the early stages of operation to proficiency.

One dimension of that model highlights the changing usefulness of knowledge: it is not knowledge itself that is valuable, but the adequate knowledge in the context of the organization, and, as we claimed above, in its evolutionary stage. We can move away now from very simple models that present knowledge as a valuable thing for the organization (or, conversely, lack of knowledge as a problem) and develop richer models that incorporate the relation between the organization and its environment as an element that influences the usefulness of a piece of knowledge, be it a capability, or a skill.

The second dimension of this theory is the need for an evolutionary view of organizational knowledge: as organizations move through evolutionary stages, the quality of knowledge that must be mobilized changes, and with it the processes that are needed to manipulate that knowledge. While in their early stages, organizations need to create or transfer knowledge; later they must consolidate the knowledge they have acquired. The consequences are clear: according to the position of the organization in its environment and to the stage of evolution of the organization, some mechanisms of knowledge manipulation will be preferred to others, and their results will depend upon timing and circumstances. In sum, the effectiveness of knowledge management strongly influences the final performance of the organization.

Enough evidence is presented to claim that we should adopt a contingent view of knowledge, where, rather than knowledge alone, it is *adequate* knowledge (i.e., knowledge that is appropriate for its context and is available at the right time) that explains advantage. This contingent, evolutionary view reinforces the notion that knowledge mobilization is a central activity of any organization rather than a peripheral one: knowledge mobilization processes are not a mere by-product of organizational evolution; rather, they are its very causes, and one important factor in determining whether the organization will become proficient or not. As an interesting consequence, preventing knowledge depreciation is essential, as we will see below.

The difficulty of knowledge consolidation

Our findings present a little-studied dimension of organizational knowledge: the need for constant reinforcement of knowledge already acquired. Not only is acquiring knowledge difficult and effortful; keeping the knowledge one has acquired also seems to be a non-trivial task. Nevertheless, the idea that consolidation of knowledge in the organization is an effortful process whose results are not guaranteed goes against prevailing notions of economies of scale and, more precisely, of learning curves, which imply organizations increase the efficiency of a process over time as the cumulative volume of outputs increases. Although our findings do not invalidate the notion of learning curve, they show that profiting from them requires much more effort than

previously thought, especially in situations where the people who hold a large part of the myriad details that are needed to operate an organization turn-over very quickly. Knowledge consolidation appears as an important factor in the management of knowledge. But why is it so?

It seems obvious that, regardless of industry, there is more to operations that just manuals, routines or other forms of prescribed behaviors: in every organization there is people, and people are the carriers of knowledge. Normal operation in the organization is much more than a collection of discrete events that can be catalogued in a manual and taught to newcomers; in fact, it is about a great number of little details not particularly complex in isolation, but overwhelming when one aggregate them. Organizations have a hard time keeping standards they have reached previously, and consolidating that knowledge in the organization is an effortful activity fraught with difficulty, although not necessarily because the tasks to be consolidated are complicated; instead, even simple tasks require a great deal of effort to be kept, especially when there is large number of them. This is an interesting addition to the literature of knowledge: it is not that knowledge is particularly complex or even "tacit" that makes it difficult to consolidate; it is merely that there is too much of it for anyone to embrace it quickly. Operating a hotel is not particularly difficult; it is quite intricate, nevertheless.

Our finding about the difficulty of consolidation is counter-intuitive, as many studies tend to assume that once something has been learned by an organization, the organization retains this knowledge for a long period without great effort. We show that maintenance of knowledge is a rather effortful activity, and that it contributes to the successful evolution of the organization. While some researchers have already presented findings about depreciation of organizational knowledge (Darr et al., 1995; Argote et al., 1990), little is known about the mechanisms that contribute to that depreciation of knowledge, and those used to lock knowledge into the organization. Ignoring some of these insightful findings, many studies still conceptualize knowledge and learning as linear, cumulative processes, even if, as Argote claims, "knowledge acquired through production depreciates quickly". A reexamination of the persistence of knowledge could be useful to determine under what circumstances knowledge depreciates, and cannot be

used as a basis for future knowledge. According to our model, when knowledge is not consolidated, the organization cannot move to the next level of complexity, and can only handle tasks that have the level of complexity of its current position.

Limitations and Generalizability

Despite the fact that the service sector is now the largest employer of most developed economies, and that the tourism industry is one of the largest world industries, measured in monetary terms, little is known about this sector and its particular characteristics. This is expressed by Barley and Tolbert (1997:408), who state that, "there is almost no research on how service jobs differ from industrial jobs, and even less information on how service jobs differ from each other". In addition to its possible generalizability to learning alliances, this study provides insights for four different domains of study: the dynamics of knowledge, the service sector, machine bureaucracies, and the tourism industry.

The limitations of this study are no different that those generically attributed to qualitative studies, and, for the sake of brevity, will not be discussed yet again. Although the unusual arrangement of our sample, the length and depth of our study and the reasonable number of interviews increase the robustness of our findings, the generalizability of the study has to be addressed carefully, as is the case with most qualitative studies. Yet, we believe our findings to be quite robust and generalizable; we will expose our arguments below.

It could be argued that the major barrier to generalization is the unusual country, the unusual situation of the industry, and the unusual type of strategic alliance. Cuba is a socialist country in a capitalist world, and that creates pressures that are both intense and quite different from the ones that firms must face in the rest of the world. If true, this could be a limitation of the study. Second, it is unusual to find an industry that moves from a very marginal position to become the major currency earner of a country in a matter of years. The amount of energy invested by Cuban authorities, managers and employees was considerable, and it is possible to wonder whether the same processes would take

place in another industry less vital for the host country. Are the country and the industry peculiar beyond generalization? We address these issues below.

These limitations are not necessarily as worrisome as they may initially sound.[30] First, there is nothing truly socialist about the industry and the firms studied, other than at the very symbolic level: these organizations are in the business of running a profitable operation, something that can only be done when costs are contained, when hotels are full and when customers are happy; hardly a socialist context. The hotels we studied, just like the vast majority of organizations in the industry, are owned by large conglomerates whose main objective is profitability and return on assets, and they are operated on a truly capitalist basis: returns matter. While the country may be socialist, the operations of the hotels are quite capitalist, and the pressures managers face are quite similar to other hotels in other parts of the world.

Second, the organizations (and the industry by aggregation) are what Mintzberg (1979) called machine bureaucracies, and these tend to abound in "our world of organizations". If this is so (and there is ample evidence that, in spite of increasing calls for more flexible organizations, the bureaucracy still is an important organizational form), then the findings here can likely be generalized with ease to any industry composed of large, rigid organizations, whose main preoccupations are procedures and industry standards and whose environments do not change very quickly.

The third objection has to do with the nature of the strategic alliances studied. Although alliances are quite common nowadays, the generic concept of strategic alliance hides a myriad of motivations to enter a partnership with another company, particularly in foreign markets. Nevertheless, it is generally believed alliances work best when there are complementarities between firms entering the alliance. Although some research has shown that complementarity of distinctive competencies does not necessarily lead to improved performance (Hill and Hellrieger 1994:603), there is still a strong belief that complementary knowledge produces superior results than redundancy (Inkpen & Beamish,

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[30] Thanks to Henry Mintzberg for vehemently pointing this out during the revision of the final draft.

1997). As such there is an incentive to enter a strategic alliance when neither firm possess the knowledge base of the other, nor they understand their routines, while assuming that a combination of the knowledge of both partners will produce better results than going alone (Kogut 1988). Recent work on strategic alliances has used the distinction between exploitation and exploration (March, 1991) to categorize alliances by their motivation. Exploitation refers to situations where a firm decides to elaborate and deepen existing resources and capabilities. Conversely, organizations explore when they try to create new resources and new capabilities. That distinction can be used for strategic alliances. Alliances where partners have strong exploration intents can be called learning alliances; their explicit objective is to reduce the ignorance of both partners about a particular situation. Alliances where partners seek exploitation are called business alliances, and alliances where both exploitation and exploration are pursued are called hybrid alliances (Koza and Lewin, 2000).

Although the organizations studied here (and in particular the parent corporations and their stakeholders) were keen on being profitable as quickly as possible, we still believe that they had a strong learning component; and as a consequence they can be considered learning alliances. The complementarity was clear: foreigners did know how to manage hotels in general but not beach resorts (Alpha) or resorts in Latin America (Voyage), and the local firm had reasonable assets, but did not know how to manage them (CorpCo), or at the very least not to the satisfaction of sophisticated foreign customers. In the case of Voyage Nut and Voyage Key, both parents needed to learn how to raise funds, build a hotel and operate it successfully, while developing a beautiful but underdeveloped site. Companies and hotels studied (CorpCo-Alpha and CorpCo-Voyage) needed to learn from each other and together. In that sense, the findings presented here can apply to other organizations in similar situations of learning alliances, particularly in situations where "reducing information asymmetry among the parents" is important. (Koza and Lewin, 2000) These, we believe, are fine cases of learning alliances; both alliances were trying to learn.

Having said this, it must be made clear that the main objective of a qualitative study is not to generalize, but to find alternative ways to understand organizational mechanisms

and processes that are not well captured by quantitative, cross-sectional methods of inquiry. Qualitative studies are believed to be ideal in situations where more finely grained theories are needed, or simply when the theories available are not good enough to explain the phenomena of interest. In these situations, qualitative studies can help move away from simple explanations and help develop useful models of behavior, insightful because they provide a better understanding of the phenomena at hand.

As is the case with any piece of research, definitions matter. Our definition of knowledge must be borne in mind when evaluating our findings, as we have only studied what we decided we would study: in the social sciences, one is limited by one's own understanding and definition of one's object of study. Although our method of circumscribing the operationalization issues created by the concept of knowledge is quite common in the literature, it is not without risks, and it seems sensible to acknowledge them. First, defining knowledge by its consequences, by organizational performances and narratives, rather than by what the collective actor truly knows, limits what can be found by the researcher, as it emphasizes what exists, as opposed to potential knowledge that does not materialize for lack of an opportunity, or any other latent form of knowledge that is simply not made explicit in a material way.

It is clear to us that knowing and saying, compared with knowing and doing are not necessarily the same thing. Inside that difference may lie important elements of knowledge, particularly those related to power, to culture and other behaviors that may impede a flow of knowledge, or the application of knowledge. By pointing out that there are several things that are known by an actor even if the actor cannot verbally articulate it ("we know more than what we can say"), several researchers (Nonaka, 1994; Polanyi, 1967) have highlighted the importance of knowledge that is unspoken (and often unspeakable), and it would be insightful to incorporate these ideas into a study of knowledge. Yet, how is one to study knowledge in organizations other than by the traces it leaves and the words used to talk about it? We hoped for two things: first, that unspoken and unspeakable were not synonymous, and that certain things that were not said could be articulated when probed with the correct methods; and second, that unspoken knowledge, at the very least, would inspire actions, and that talking about actions would allow the actor

to think about things s/he never thought about before. The duality of our definition of knowledge, composed of concrete actions and abstract thoughts, helped minimize the risks of assuming that all we see (or hear) is all there is.

Although we tried to minimize the limitation imposed by our definition and our methodology by returning to the sites several times, conducting multiple interviews and by trying to uncover in the narratives and the texts analyzed the dimensions of unarticulated knowledge, the bias, at least potentially, exists and must be acknowledged. However, we feel this is no more of a limitation than any other alternative definitions of knowledge, but still maintains the considerable advantage of eliminating the need for concepts as "organizational minds" (Sandelands and Stablein 1987:136 cited by Walsh & Ungson, 1991), or "mental constructs" (Hedlund 1994), concepts that are insightful but rather difficult to observe, to operationalize and to test. Our definition of knowledge, parsimonious yet complete, allowed us to study phenomena of interest, and enabled the researcher to observe patterns of behavior in the organizations, an explicit objective of the study.

Future research

The findings presented in this thesis can be "exploited" or "extended" (March 1991) by other researchers wishing to explore the theory and practice of knowledge in organizations. For those who would like to "exploit", we can note that the organizations we studied had a rather stable environment in terms of the body of knowledge or "dominant designs" (Utterback & Suárez, 1991) existing in the industry. The central problem of our organizations was to catch up with the leaders and in many cases not even the leaders but the direct competitors. This meant achieving the standards of the international hotel industry, standards that are explicit, well defined, well understood and not particularly difficult to reach.

Despite the complexities that exist in any activity that requires a high degree of close personal attention, hospitality management is not a high-tech endeavor, which is precisely why countries like Cuba, Costa Rica and Guatemala, among many others, have invested considerably in tourism as a way out of underdevelopment. Even accounting for

an excess of optimism, intuitively one would expect the problems to be amplified as technology (in the broad sense of the word) becomes more complex. Low-tech industries can have a hard time dealing with knowledge, but it is not as difficult as it is for high-tech industries. Of course, this intuitive proposition need not be true; it is quite conceivable that organizations pay more attention to knowledge issues when they anticipate that they could be problematic, and take them for granted when they believe they will be easy to solve. A natural extension of this work is to replicate this study in other domains, more dynamic, more complex or both.

But our findings can be used to explore. For example, beyond the low-tech/high-tech divide, we have issues of industry life cycle. Would the results be similar had the industry been in a phase of shakeout, with competing designs and no standards to compare to? Shakeouts are common in many industries, and the hospitality industry witnessed one when companies like the "Club Mediterannee" launched its "all-inclusive" concept, now a standard practice but radical at the time. Are the mechanisms used to circulate knowledge the same, regardless of the state of the industry? Intuitively, the interaction between changes in the environment of the organization and the value of its body of knowledge presents interesting theoretical problems. What happens, for example, when there are changes in the environment that radically alter the value of the resources and skills the organization has developed? How do capabilities leading to "creative destruction" (Schumpeter, 1934) appear, and how do they circulate in the organization?

Of similar concern is the value of the capabilities being created. We have treated knowledge-based resources as if they would all produce sustainable competitive advantage, or, in other words, as if they all had value. But this need not be the case, as organizations may be developing the wrong capabilities and circulating knowledge and creating skills in activities that the market will not reward, just as the proverbial road to hell is paved with good intentions. Some organizations in our sample became proficient, but proficient and profitable are not synonymous, nor are they equivalent in a competitive market.

We have emphasized throughout our work the connection between competitive advantage and knowledge resources, but we have used a proxy for competitive advantage:

the subjective evaluation of hotels by a panel of experts. Although it seems clear that an excellent hotel has a better chance to obtain an above average return on investment than a mediocre one, this is by no means automatic; neither is the relation between knowledge creation and advantage in a competitive market. We have here assumed that it is, and left the study of the connections to others. Clearly, the notion of capabilities and the knowledge used to create them need to be linked to the environment of the organization in a more systematic way, and that has not been captured by this study, which took only the first step toward understanding that relation.

To conclude, we can add that we only research what we do not know, and hope that in the end we will find knowledge, or at the very least an understanding of what we did not know when we began. This was a long, tortuous journey, but we are pleased with the results. We sincerely wish that those who are interested by the issues we studied here will find in this work at least a new idea, an insightful idea, and a sound idea. And, as the French joke goes, we would certainly like these ideas to be the same.

Annex 1 Selected economic data from hotels.

Table 10 Withwind Hotel: Estimated productivity index at time of opening.

230 rooms

Occupancy rate, in percentage of available rooms	Number of employees	Number occupied rooms at that level of occupancy rate	Productivity index per employee (column 1/ column 2)	Number of employees per room (column 2 / column 3)
15	102	30	0.15	3.40
20	113	40	0.18	2.83
25	122	50	0.20	2.44
30	130	60	0.23	2.17
35	136	70	0.26	1.94
40	145	80	0.28	1.81
45	147	90	0.31	1.63
50	150	100	0.33	1.50
53	152	106	0.35	1.43
55	154	110	0.36	1.40
60	158	120	0.38	1.32
63	162	126	0.39	1.29
66	164	132	0.40	1.24
70	166	140	0.42	1.19
73	168	146	0.43	1.15
76	171	152	0.44	1.13
80	175	160	0.46	1.09
85	179	170	0.47	1.05
90	185	180	0.49	1.03
95	190	190	0.50	1.00
100	196	200	0.51	0.98

Table 11 Montelimar Hotel: Productivity indexes for second and third year of activity.

		Average revenue per touris	Number of Workers	Number of tourist/days	Productivity index: days per worker	Productivity index: revenue per worker	Cost of food per touris/day
'95	Jan	38.06	215	11789	54.8	5.65	11.20
	Feb	40.18	216	9298	43.0	5.38	12.70
	Mar	43.90	190	8708	45.8	4.33	9.80
	Apr	36.13	151	5226	34.6	4.18	9.80
	May	34.69	140	3085	22.0	4.04	9.90
	Jun	33.21	110	1168	10.6	3.31	9.30
	Jul	32.86	110	2193	19.9	3.35	8.60
	Aug	34.58	109	2452	22.5	3.15	9.50
	Sept	37.54	81	929	11.5	2.16	8.90
	Oct	34.79	71	876	12.3	2.04	9.20
	Nov	35.26	134	3522	26.3	3.80	10.20
	Dec	42.32	157	6172	39.3	3.71	8.90
'96	Jan	43.87	192	12345	64.3	4.38	8.90
	Feb	45.41	207	12266	59.3	4.56	7.70
	Mar	47.31	182	11100	61.0	3.85	7.70
	Apr	36.90	146	7337	50.3	3.96	6.60
	May	36.94	119	3593	30.2	3.22	10.00
	Jun	35.85	87	2010	23.1	2.43	10.10
	Jul	29.90	100	3061	30.6	3.34	8.00
	Aug	32.93	103	3543	34.4	3.13	8.40
	Sept	36.00	79	655	8.3	2.19	12.60
	Oct	33.55	112	3495	31.2	3.34	7.41
	Nov	41.27	125	3095	24.8	3.03	10.63
	Dec						

Annex 2 Details of selected tables.

Table 12: Categories of knowledge according to their basic components: Observed values.

		Thoughts and narratives: low	Thoughts and narratives: high		
Actions: low		Assets =980	Structures= 1101	2081	4375
Actions: high		Routines= 1621	Understandings =673	2294	
		2601	1774		
			4375	n=	8750

p-value < .005

Table 13: Observed values for cross-tabulation of Category of Knowledge and Process of Mobilization..

		Category of Knowledge N=4987			
		Assets .35	Routines .21	Structures .24	U'staings .20
Process of mobilization n=2325	Transfer N=938	227	214	195	302
	Creation N=640	326	151	93	70
	Consolidation N=689	140	116	183	250
	Other N=58	17	23	11	7

chi2 359.9
df 9
p <.005

Annex 3 Customer complaints.

The original document was posted on the web at url=http://www.daveorme.u-net.com/letter1.html, by a disgruntled customer of a vacation in Cuba.

Please. Just read these letters and decide for yourself if we have been fairly treated.

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