Knowledge Transfer: A Critical Strategic Asset in Multinational Firms; a Corporate View.

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Submitted to the Alfred P. Sloan School of Management in Partial Fulfillment of the Requirements for the Degree of

MASTER OF BUSINESS ADMINISTRATION

At the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
JUNE 1999

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ABSTRACT

This thesis examines the effectiveness of Knowledge Integration in a single multinational firm. Knowledge Integration is a concept that includes innovation, transfer and transformation of knowledge and much recent literature suggests that it is a key to competitive succcess, especially within multinational organizations.

The core of the thesis is a set of cases or descriptions of knowledge integration projects undertaken within the Beta corporation during the last 4 years. These descriptions were based on structured interviews within several managers within a single multinational company.
The cases are then analyzed in order to determine possible causes and effects of the integration of knowledge across geographically dispersed units, with a primary goal of determining how the corporate role can contribute to knowledge integration during the development of projects.

The framework for analyzing these cases, based on the KI literature, includes four different dimensions: Relations within the organizational structure, Organizational culture, Organizational environment, Resources & capabilities. The success of KI in each project is related to each of these dimensions in order to determine whether its existence within corporate and the business units will produce better outcomes in the projects.

Cross analysis of cases between the projects observed showed the patterns to emphasize in the framework of Knowledge Integration. The results of the analysis gave an interesting list of key task that corporate can perform to support Knowledge Integrations and obtain better outcomes in the projects. The task are: Provide infraestructure, Initiate the process, Structure the process, Motivate participants, Provide resources and Control progress.

Thesis Supervisor: Dr. Donald R. Lessard
Title: Deputy Dean, Epoch Foundation Professor of International Management

ACKNOWLEDGMENTS

To my parents Gloria and Mario for all the love, to my sisters Laura and Marceia and their families, they were always supporting my needs.

To my thesis advisor Don Lessard, that always gave me very good insights.
I would like to thanks especially to Andreas Gast, without him this thesis will never be finished.

To the faculty at Sloan who help me with their comments, thoughts and knowledge, specially Jan Klein, that gave me the opportunity to participate in her project.

To all the Sloan Fellows class of 99, including my friends Anita Bizzotto and Jill McCarthy.
To Martha Del Mazo, that supports me when I was overload.

To the people interviewed in Beta Company and specially Eduardo M. the manager who was involved in this project for their time. A big thank to someone I can not forget is Mr. Hector M. because he believes on me, I came to MIT.

Finally thanks to the person who was the most supportive, encouraging and caring person during this process and this year: Cynthia Ryan, something I will never forget.

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INTRODUCTION

"WE KNOW MORE THAT WE CAN EVER TELL" (Philosopher Michael Polany)

Knowledge management is a cutting edge in the world of business; there are for example hundreds of articles and books on organizational learning, Intellectual capital and virtual organizations. Many companies have created knowledge departments, to support large projects of knowledge management, therefore there are several new consulting and software companies developing information technology systems in knowledge management. Singularly some governments in advanced countries like Singapore are considering transforming themselves into knowledge economies.

What is knowledge as it exists within an organization? What it is for? How it can be more useful? What is its impact upon individual organizations and on the global economy?

"Knowledge is the capacity for effective action in a particular domain" (Peter Senge).

Successful organizations tend to be Learning Organizations; perhaps it may not have had a structured or formal process for learning, but is definitely some sort of embedded desire to learn that is part of the culture of the organization.

This thesis will concentrate on the process of Knowledge Integration that includes innovation, the transfer and transformation of knowledge within multinational organizations. In my opinion, knowledge transfer is one of the most critical strategic assets on multinational firms. Having a formal process of knowledge innovation and transformation enables a firm to acquire new knowledge and pass it on to those areas of the organization that can make optimal use of it.

An example is the existence of certain expertise in a person or group of people within the organization who can solve major problems in other areas of the firm. If the company is not aware of this asset, the firm will loose time to search for a solution and lose its competitive advantage of immediate action because while the company is reinventing the wheel.

This thesis will explain the framework in which the process of Knowledge Integration can take place. In doing so, it will provide insight about enable the process in a multinational organization, why it is important to transfer knowledge, and which are the most effective mechanisms to succeed. The thesis will show a present state of how a company is developing unstructured forms of Knowledge Integration. It will analyze certain cases and develop some generalizations. It will assess formal mechanisms in an organization for identifying knowledge assets and explain how corporations can implement strategic mechanisms to improve the process of Knowledge Integration. The thesis will further discuss how global dispersed teams are important components of the knowledge transfer network. This investigation will consider whether or not efforts that companies are using to identify and improve Knowledge Integration are effective and how to measure them, as well as why knowledge management should be part of the strategy of the firm.

If multinational firms do not have mechanisms to integrate knowledge quickly and efficiently through the organization, they will lose their competitive advantage. That means if a company innovates, but does not share or transform these innovations to its other units, the firm will be eventually loose its ability to innovate faster in the future and will be overcome by its competitors.

CHAPTER I. KNOWLEDGE CONCEPTS

This chapter will include important concepts of knowledge, as well as common terms used in this thesis. The first step is to apply the concepts of knowledge to understand them in the context of human beings, how we learn and how we transfer knowledge. Emphasizing, that is at the individual level where, the knowledge is created and resides. The second step is to include principles of knowledge and knowledge transfer in order to explain what it means in the company context. Third, is the concept of communities of practice to facilitate the process of knowledge integration. This chapter will provide the theoretical context used to build the framework in the next chapter.

1. DEFINITIONS OF KNOWLEDGE

- **Knowledge** (Thomas H. Davenport & Laurence Prusak, 1998)

Knowledge is a fluid mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of the knowers.

- **Learning and Information** (Paul Carlile, Wanda Orlikowsky and Peter Senge, 1999)

Learning is the enhancement of capacity for effective action.

Learning is the process of creating new knowledge.

Information is structured data that may help take effective action.

- **First Development of Knowledge**

Knowledge is an abstract notion that resides in an individual. There must exist a main vehicle to translate knowledge from one individual to another. This main instrument is the language.

According to Lois Bloom (1993). Language is the preeminent mode of expression in a society to embody and make public what is otherwise internal and private to the individual – the beliefs,

desires and feelings we have that are our intentional states. Languague makes these contents of mind public, in an expression, so that other persons know them.

A child intentionality drives the acquisition of languague. Children learn languague for acts of expression in this effort to make known to others their own thoughts and feelings, and for acts of interpretation in their effort to share the thoughts and feelings of other persons.

Sharing the contents of mind is not something that infants purposefully do as they set out on their language-learning careers. Instead the motivation of sharing is in the need that people have to sustain a sense of being in contact with other people and thereby locate themselves in a social world. Infants do not yet have a theory of mind, but they do have a start on acquiring a common sense theory about the world.

In sum, the mental meanings in an infant´s intentional states are potentially expressible in language and are the reason why language is learned. Infants want to make them explicit and known to other persons so they can be shared. In fact, those first aspects of knowledge and culture that survive from one generation to another may well be those that are most readily shared between minds. Language is, in large part, responsible for determining this "sharability", as an instrument for getting things done in the world.

2. PRACTICAL EFFECT OF LANGUAGE

Words influence what other persons do, and speech is the "one indispensable instrument for creating the ties of the moment without which unified social actions are impossible. Words also have other effects, such as when they help in solving a problem or negotiating a complex set of directions (Lois Bloom, 1993).

Social and practical effects of language depend on what the speaker of the words wants, believes and feels about what the hearer of the words can and will do. An expression takes the private contents of wanting, believing and feeling and makes them available to others. There is a need in every person to socialize, to be part of a group that it makes people learn very fast to belong to a particular group.

- **Principles of knowledge sharability**

There are three principles of language development that can be directly applied to the knowledge transferability: 1) Relevance, 2) Discrepancy and 3) Elaboration.

- Principle of Relevance

What a person is feeling and thinking determines the relevance of the words that are being heard from other persons. If the person is not interested and motivated, or does not feel confortable for any reason, the training, expertise is getting is useless, there are not knowledge transferability.

In the oposite case, everthing the person is hearing or seeing will be interpretated and learned quickly. In the succesful learning scenario, the words have relevance because their target is already part of what the person has in mind.

- The second is the Principle of Discrepancy

What a person has in mind becomes increasingly discrepant from the data of perception and as a consequence, the person develops a capacity to learn what is discrepant and can be shared with other people for a common understanding. This makes people acquire new knowledge and the need to share it.

- Principle of Elaboration

Learning something makes a person acquire a more elaborated concept and increase its needs to know more about the concept learned, the mind will search for more elements and relations to express what the person knows about it.

3. KNOWLEDGE IN THE CORPORATE CONTEXT

New knowledge always begins with the individual. This knowledge is tranformed into organizational knowledge valuable to the company.

Nonaka and Takeuchi (1995) said that making personal knowledge available to others is the central activity of the knowledge-creating company. It takes place continuosly at all levels of the organization and it can take unexpected forms. Creating new knowledge is a much about ideals as it is about ideas.

- **Types of Knowledge**

- Explicit knowledge

This is formal and systematic, it can be easily communicated and shared between the same level of knowledge people. An example is a scientific formula or a computer program.

- Tacit knowledge

This is highly personal, difficult to formalize and, therefore, difficult to communicate to others. Tacit knowledge is also deeply rooted in action and in an individual's commitment to a specific context. Consists partly of technical skills, the kind of informal, difficult to-pin-down skills captured in the term "know-how". A year of experience develops a wealth of expertise in a person, but is often unable to articulate the scientific or technical principles behind what he knows. Tacit knowledge has an important cognitivie dimensions. It consists of mental models, beliefs and perspectives taked for granted that cannot easily be articulated.

- **Learning Organization** (Peter Senge,1990)

This involves places where people continually expand their capacity to create results they truly desire, where new and expensive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together.

Individuals can achiveve these ends, at the organizational level. Senge sugested the use of five "component technologies": 1) Systems thinking, 2) personal mastery, 3) Mental models, 4) Shared vision and, 5) Team learning.

- **Learning Organization** (David Garvin, 1993)

A learning organization is an organization skilled at creating, acquiring and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights.

- **Characteristics of a Learning Organization**

Learning organizations are skilled at five main activities: 1) Systematic problem solving, 2) Experimentation with new approaches, 3) Learning from their own experience and past history, 4) Learning from the experiences and best practices of others and transferring knowledge quickly and, 5) Efficiently throughout the organization.

Each is accompanied by a distinctive mind-set, tools, and patterns of behavior. Many companies practice these activities to some degree, but few are consistently successful at it because they rely largely on insolated examples and they do not take a systematic approach to learning.

- **There are three critical issues unresolved for effective implementation of a learning organization: 1) Meaning, 2) Management and 3) Measurment**

- Meaning

This involves, the need of a plausible, well-grounded definition of learning organization that must be actionable and easy to apply.

- Management

This entails, the need for clear guidelines for practice, filled with operational advice rather than high aspirations.

- Measurment

This involves, the need for better tools for assesing an organization´s rate and level of learning to ensure that gains have, in fact, been achieved.

- **Definition of Knowledge Management** (Carla O´Dell and C. Jackson Grayson, 1998)

Knowledge management is a conscious strategy of getting the right knowledge to the right people at the right time, and helping people share and put information into action in ways that strive to improve organizational performance.

For most organizations, knowledge management represents a continuation of efforts begun in other times with other names, all of which have likely yielded valuable learnings, examples are:

- Radical reengineering may have not delivered sustainable success, but it has delivered the mind-set of the process oriented organization. Process can be made explicit, and knowledge about how to make them work can be transferred.
- Totally quality management may have not always yielded major change, but it laid the foundation for a corporate-wide, systematic initiative for measurement and change and cross-functional teaming, all of which, are critical to the successful management of knowledge.

- **Knowledge as a corporate asset** (Thomas H. Davenport & Laurence Prusak, 1998)

Explicitly recognizing knowledge as a corporate asset is new, however, as is understanding the need to manage and invest it with the same care paid to getting value from other, more tangible assets. The need to make the most of organizational knowledge, to get as much value as possible from it, is greater now than in the past.

In their search for new efficiencies, global companies have outsourced much of the labor of manufacturing to countries where the cost of labor is relatively low. Clearly, the knowledge-based activities of developing products and processes are becoming the primary internal functions of firms and the ones with the greatest potential for providing competitive advantage.

Knowledge can provide a sustainable advantage. Eventually, competitors can usually match the quality and price of a market leader. By the time that happens, though, the knowledge-rich, knowledge-managed company will have moved on to a new level of quality, creativity or efficiency. Unlike material assets, knowledge assets increase with their use, ideas breed new ideas and shared knowledge stays with the giver while it enriches the receiver.

- **Barriers to Knowledge Management (Bain & Co, 1998)**

- Entering information to a knowledge management system may provide value to others in the future, but it certainly provides lost time today.

- Since you never know exactly what the other person, may need in the future, your efforts are likely to be replete with yield loss.

- Incentive systems that focus on local accountability may be in conflict with the global values inherent in a knowledge network.

- Cultural norms of personal achievement may not be consistent with the egalitarian underpinnings of knowledge sharing.

- Legal constraints may severely limit the exchange of proprietary information.

- An initial lack of success may condemn otherwise well-designed system, particularly since a critical mass of information may be essential to the usefulness of a system.

4. KNOWLEDGE TRANSFER

- **Three ways to move knowledge** (Carlile, 1998)

There are three distinct ways in which knowledge created by one individual or group may benefit others: 1) Knowledge transfer, 2) Knowledge translation and 3) Knowledge transformation. The practice of effective knowledge management starts with understanding these ways.

- Knowledge Transfer

For knowledge to be exchanged through transfer, two people are needed who both already have similar knowledge and shared problems from which to understand each other. Based on this, they also need to share a common set of terms and constructs so that they can exchange information with low abmiguity.

- Knowledge Translation

Knowledge generation through information transfer does not work in settings where the context for understanding the information involved differs. When contexts differ, there is ambiguity between terms and meaning, and consequently, there is a need to translate. Such clarification requires two-way communcation so that translation occurs. Many terms are shared, but people remain unaware that their meanings are not shared.

- Knowledge Transformation

People involved are working from different existing knowledg bases and contexts. They usually also have distintic goals. They may even have some motiviation to understand each other, until something develops whereby they become aware that they are dependent on each other for a successful outcome. They enter another domain called shared problem space or learning field, highly dependent that may also require face-to-face communication. This is mutual learning, or the cocreation of new knowledge through a process of transformation.

- **Steps in the Knowledge Transfer Process (Carla O´Dell and C. Jackson Grayson, 1998)**

Managing knowledge and transferring best practices is simple in concept, but difficult in execution. Every knowledge transfer process should address the following steps.

Efforts in creating, identifying, collecting and organizing best practices and internal knowledge, in order to understand what they know and what it is. The process must explicitly address sharing and understanding of those practices by motivated precipients. Finally, the process involves adapt and apply those practices to new situations, to create new knowledge and start again.

- **Barriers to Internal Transfer (Carla O´Dell and C. Jackson Grayson, 1998)**

- Ignorance

Those who have the knowledge do not realize that others may find it useful. At the same time, those who could benefit from that knowledge have no idea that someone in the company already has it.

- No absorptive capacity

Even when employees are not ignorant of the knowledge or best practice, they lack the money, time and management resources to pursue and study it in sufficient detail to make it useful.

- The lack of preexisting relationships

People absorb knowledge and practice from other people and practice from other people they know, respect and often like. If two managers have no personal bond, no tie or no link that preestablishes trust, they are less likely to incorporate each other´s experiences into their own work.

- Lack of motivation

People may not perceive a clear business reason for pursuing the transfer of knowledge and best practices.

5. COMMUNITIES OF PRACTICE (Etienne Wenger, 1998)

- **Community of Practice defines itself along three dimensions:**

- What is it?

Its joint enterprise as understood and continually renegotiated by its members.

- How does it function?

The relationships of mutual engagement that bind members together into a social entity.

- What capability does it has produced?

The shared repertoire of communal resources (e.g., routines, sensibilities, artifacts, vocabulary, styles) that members have developed over time.

- **Communities of Practice in Organizations**

These exist at various levels in organizations.

- Within businesses

Communities of practice arise as people address recurring sets of problems together.

- Across business units

Important knowledge is often distributed in different business units. People who work in cross-functional teams form communities of practice to keep in contact with their peers in various part of the company and maintaitn their expertise.

- Across company boundaries

Some cases communities of practice become useful by crossing organizational boundaries. In fast-moving industries for example, engineers who work for suppliers and buyers alike may form a community of practice to stay ahead with constant technological changes.

- **People belong to communities of practice at the same time as they belong to other organizational structures.**

- A community of practice is different from a business or functional unit in that it defines itself in the doing, as members develop among themselves their own understanding of their practice.

- A community of practice is different from a team in that the shared learning and interest of its members are what keeps it together. It does not appear the minute a project is started and it does not disappear when the task is completed.

- A community of practice is different from a network in the sense that it is about something; it is not just a set of relationships.

- **The importance to Organizations**

Communities of practice become crucial to organizations that recognize knowledge as a key asset.

- They fulfill a number of functions with respect to the creation, accumulation and diffusion of knowledge in an organization.

- They are nodes for the exchange and the interpretation of information.

- They can retain knowledge in living ways. Unlike a database or a manual, they preserve the tacit aspects of knowledge that formal systems cannot capture. They are ideal for initiating newcomers into a practice.

- They can steward competencies to keep the organization at the cutting edge.

- They provide home for identities. They are not as temporary as teams, and unlike business units, they are organized around what matters to their members. They structure an organization´s learning potential in two ways: 1) Through the knowledge they develop at their core and 2) Through interactions at their boundaries.

CHAPTER II. FRAMEWORK

1. Aspects of the project

Starting from the point that the definition of Knowledge Integration is a process of the organization to coordinate people, to innovate, transfer or transform knowledge into a competitive advantage, the Knowledge Integration capability is a strategic asset of the organization. Basic issues are how to enable the process in a Multinational Firm with geographical dispersed business units in which there is descentralized knowledge and how the corporate function can influence the process.

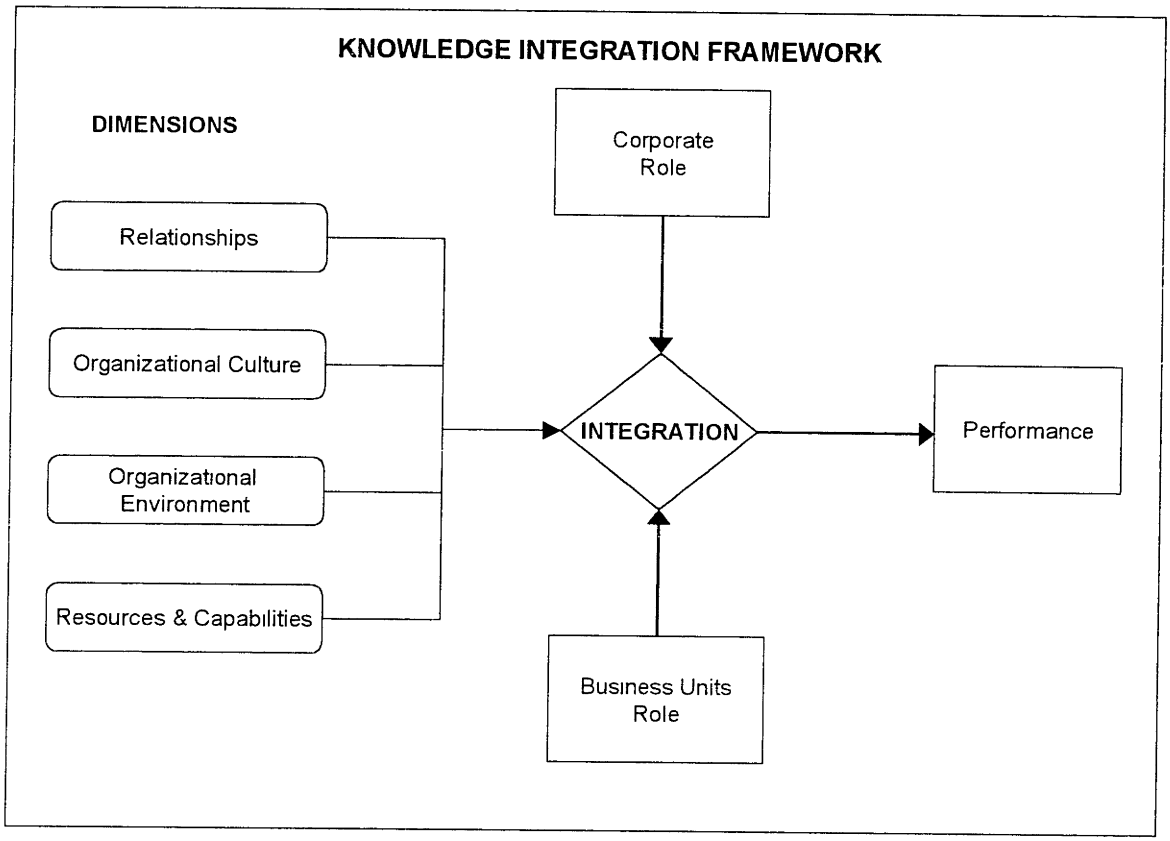
There are conditions where an organization could create an environment to improve the process of transferring knowledge. There are various propositions and maps, including different conditions and contexts where companies can enable this process. Transfer is not the only factor where you can observe this process; this includes innovation and transformation of knowledge.

Based on the work of Carla O´Dell and C. Jackson Grayson Jr. and an MIT study on Managing Global Knowledge Development in Multinational Firms, a framework about how this process works has been created by the present writer.

To map the process of Knowledge Integration, four dimensions in the process may be identified:

- Relations in the organizational structure
- Organizational Culture
- Organizational Environment
- Resources & Capabilities.

If the dimensions exist in major or lower grade, you will be creating the context where the corporate role can work to facilitate the process between and within business units. After this step the performance of the process needs to be measured.


KNOWLEDGE INTEGRATION FRAMEWORK
DIMENSIONS
Relationships
Organizational Culture
Organizational Environment
Resources & Capabilities
Corporate Role
INTEGRATION
Performance
Business Units Role

2. Dimensions

Dimensions, which are the enablers of the knowledge integration exists in the projects as important protagonists, but these also can be the inhibitors or have nothing to do with the specific cases.

- **Relations in the organizational structure**

This dimension can be defined as the level of activity where an effective process of knowledge integration is being made.

Formal organizational structures includes departments, functions, business units, organizational levels (e.g. who are the managers and the workers), teams and communities of practice formed due the project needs. How the people in those structures interact between each other?

- Relationships (e.g. in the business environment with the managers and the team members)
- Cooperation and Collaboration
- Management Support
- Ability to work in teams
- Sense of purpose

- **Organizational Culture** (Davenport, 1998)

This dimension includes the values, norms, habits and attitude of the people.

- Trust
- Motivation
- Alignment and Commitment
- Culture of Innovation
- Shared Vision (Senge, 1990)
- Leadership

- **Organizational Environment**

This enabler will include all factors that can shape the environment where people are working when a project begins:

- Opportunities at the organizational level (e.g. M&A activities and Strategic vs. operational project).
- Risk and uncertainties that can give the environment a sense of chaos or challenge people.
- Common Language (Davenport, 1998)
- Pressure (Milliken, Frances J., 1987)
- The existence of safe environment (Schein, 1993): opportunities for training and practice, support and encouragement, opportunities at the people level (getting promoted), coaching (mentoring) and rewards
- Norms that legitimize making errors
- Norms that reward innovative thinking

- **Resources and Capabilities**

This dimension includes any kind of resource that might contribute to the success of the project.

- Monetary resources dedicated to training, traveling, incentives and getting together
- Resource distribution (e.g. more for traveling than for technology)
- Technology: networks, telecommunication, software, hardware, GroupWare, production technology
- Systems and procedures support
- Individual Skills (Schein, 1993)
- Existence of facilities (e.g. meeting rooms, cafeterias, talk rooms and open forums)
- Project management know-how

3. The Corporate Role and the Business Units Role

Effectiveness of the Role of headquarters.

- Relationships between corporate and business units
- Types of knowledge to transfer
- Knowledge exchange

4. Performance

The most important factor to define if the project dimensions enable knowledge transfer is to consider the outcomes of the project.

- Increase in individual skills such as creativity
- Knowledge acquisition, experience (Schein, 1993)
- Group capabilities – team learning
- Confidence
- Project success
- Project scope (e.g. does this project help in future knowledge transfer?)

CHAPTER III. EXPLANATION OF FIELD RESEARCH PROCESS

This chapter address the steps of how the process of field research was made and why the real cases selected are relevant to the study of the theories exposed in chapter I. At the end of this chapter a brief description of the most relevant cases selected from the interviews to demonstrate the patterns and hypotesis in this thesis and the reasons and the reasons of why the cases were selected.

1. Steps of building a case study

In order to construct a theory of knowledge integration in multinational firms based in case study research, the process of building theory from a case study research from Kathleen M. Eisenhardt was followed. The following are descriptions of each steps of the process that lead to the conclusions about the process of knowledge integration.

- **Getting Started**

The relevance of the topic and the theories that people are developing to try to identify a value proposition in knowledge management were the reasons this topic was choosen.

This thesis is focus on one aspect of knowledge management, which is the process of knowledge integration.

As a result of my work experience in multinational firms and at the same time leverage the posibility of working in conjuction with the MIT study on Managing Global Knowledge Development in Multinational Firms. Some initial questions rise about how the process is being made and how important knowledge integration is for multinational companies. Interview research was used to try to assess a specific problem and framework in the multinational Beta Company. Beta was selected because it is a successful multinational company based in emerging markets, its main global competitors are based in more economic stable countries, the intent was to observe that Beta real competitive advantages was their strength in the learning process.

- **Selecting cases**

The purpose of the interviews at Beta was, where to identify projects that involved cooperation between various business units in different countries into the entire range of functional areas that leverage innovations in product, processes and practices, with the following characteristics[1].

A. The goal of the project was to develop an innovation. Innovations are new or significantly modified products and services, technical and organizational systems, as well as technical, administrative and operations processes. This includes non-standardized task solutions for which the project team had to develop a significant amount of task knowledge.

B. The project team consisted of two or more full time members.

C. The team members either cooperated with people in other locations, or could have done so beneficially. Cooperation means:

- The use of resources (e.g., funds, people, technical, market and customer knowledge, components, machines and other equipment, software and services) or
- Divided functional or managerial responsibility during the project or
- The use of intangible forms of support (e.g., leadership support and management).

D. The project was primarily executed outside units that mainly coordinated activities between a group of units (for instance, it was not primarily executed at corporate or divisional headquarters).

E. The project started in 1995 or later. The start of the project is the first date on which resources were formally committed to the project. This includes projects that at the moment are still in process.

F. The project is beyond the initiation stage; innovation development activities are in progress or completed.

G. The project is similar to other projects in different business units that emerge for similar needs even where they do not cooperate from the units or departments.

The respondents to the interviews were selected based on three characteristics:

- Directors or managers who can describe several projects that might be interesting to explore and who provide background and further contacts
- Managers who participate actively in most of the project
- Team leaders of the project

The cases were selected on the basis of the most interesting examples that demonstrate success or failure in knowledge integration. These cases serve to introduce some of the patterns and generalizations to benchmark with the MIT study of global knowledge management.

- **Crafting Instruments and Protocols**

To collect the evidence of the cases a standard interview guide with 12 questions was used:

- There were 5 personal interviews of people in different departments in the corporate offices of Beta.
- There were 9 conference call interviews with people from other departments in the corporate offices.
- There were 3 conference call interviews with the country managers of three of the business units

While the interviews were in process, a collection of different literature was selected to be use in this thesis.

- **Entering the Field**

The interviews where made in the presence of a manager of Beta company, were compared notes, after every session was an effective process of review. Interchange of opinions over the interpretation of the interviews and how write down the data was also a helpful process. Interchange of information about the books and articles relevant to the study was an effective review of the collected literature.

With the literature found and comments that during the interviews were considered relevant, a framework was constructed to describe the case data.

- **Analyzing Data**

The most interesting cases were selected for examination based on the following.

- The outcomes of the project and the relevance of the project for the competitive advantage of the company.

- The sense of learning experience that people had.

- Collaboration, culture and environment between the business units and the corporate that made possible or inhibited the process.

Using the framework described in chapter II, the data was collected looking for patterns that can be used to come up with more accurate hypotheses and with this criteria 8 cases were selected.

After the selection of cases, a brief description of every case was included and redefinition of the framework based on the cases was made until an accurate information can be explained in each case. At the end of this process the cases that could be benchmark between the same dimensions were easier to use.

- **Searching for Cross-Case Patterns**

As its mentioned before, the reason to framework the information of each case is to look for different patterns that can be compared between each case.

There was a comparison between similar cases that Andreas Gast, 1999 is using in his thesis that belong to other companies.

- **Shaping Hypotheses**

During the process of benchmarking of the cases some modification were made to the issues that affected the process of knowledge integration. There were some concepts in the framework that emerged and relationships between different variables that were not noticed before and shaped in different ways the hypotheses.

- **Enfolding Literature**

Based on the cases, the variables that gave justification of the theories of the dimensions were observed and the literature selected was used to explain them.

Different theories in different books and articles were used to compare what was different and what was similar to the cases.

- **Reaching Closure**

At the end, to come up with conclusions, the phase of benchmarking between cross-cases was the key. The most relevant patterns emerged to explain why the learning and collaboration make a competitive advantage in a company.

2. Brief description of the cases

Business Unit	Functional Area	Name of the Project	Description
Corporate	Human Resources	Global Human Resources Strategy	Corporate HR decided to benchmark its functions and come up with a new strategy more appropiate to the continuing geographical growth of Beta. They break up the strategy in 6 major projects where the human resources directors of the business units became the leaders
		RELEVANCE OF THE CASE	The break dow of a main task in small projects giving the opportunity to the team to each of one take leadership and feel more comittment
Business Unit of Country 4	Energy	Transformation of a plant energy	New requirements of a less costly type of energy in the plants of Country 4 They ask for help of the corporate energy department There was a bidding process with external companies and the corporate technical department to win the conversion project The corporate department won the project and through interesting relatioships made the project in less time and with less budget
		RELEVANCE OF THE CASE	Ability to communicate at the same level with different business units to transfer knowledge and the environment of competitivenes created for the achievements
Corporate	Planning	Due Dilligence	This process of reseach how much a company is worth is being doing frecuently due the high activity of M&A in the industry and the company. But there is another reason why Beta company is doing it, to promote a learning experience between a select group of people
		RELEVANCE OF THE CASE	The pressure of the time to get a very important task in a new environment with a new team speed up the process of learning
Home based Business Unit	Plant Operations	High Development Organization	This project started as a pilot where the idea was to come up with a different structure without bosses and different culture of shared information to meet the goals previously set by the workers
		RELEVANCE OF THE CASE	Achievements of the plant after the implementation of a new culture and how this new system is translated to other business units
Corporate	Purchasing	Global Trader	Integration of the global process of purchasing without the participation of a third party. To deal with the suppliers teams with certain expertise were formed and they are rotating globally.
		RELEVANCE OF THE CASE	The increase of skills due the diversity in the team and the rotation of the people in the team that makes more interaction and collaboration between the global dispersed teams
Corporate	Contrallor	Tax forecasting system	Each business unit use to have their own fiscal projections and the corporate decide to integrate it. The proposal was due in a annual meeting and was well accepted, but to continue sucessfully the key is the kind of relationships build during frequent face to face meeting specially from the corporate going to visit the business units
		RELEVANCE OF THE CASE	Relationships created during time give more collaboration in the project, building trust is the key
Home based Business Unit	Business Unit of Country 2	Plant Automatization	Innovation developed by an external company was acquired by the Busines Unit 2 to be applied in the Home based Business Unit and to stop being transfer to the competition.
		RELEVANCE OF THE CASE	Buying new technology is not enough, the implementation process in the business units can become very diffictul because the culture and relationships made are negative
Corporate	Audit Department	Integral Operation	The project idea was to get a methodology where blue collar workers can identify key variables to the performance of the company. A mechanism to get people the sense of business.
		RELEVANCE OF THE CASE	Way to approach the people and convince them that they own the project make the collaboration and learning experience increase

[1] Characteristics taken from the MIT study on Managing Global Knowledge Development in Multinational Firms

CHAPTER IV. ANALYSIS OF CASES

1. DESCRIPTION OF THE COMPANY

For pourposes of confidentiallity of the study, the name of Beta is used to refer the multinational company interviewed in this process and to explain the observations discussed in the thesis.

The following explanation of the history and organizational structure of Beta will provide the context to locate the company in its important role in its industry.

- **History**

Beta is a manufacturing company based in an emerging market and has been growing through acquisitions in several markets in the past two decades, it grew from being a regional company to being, one of the leaders in its industry at the international level.

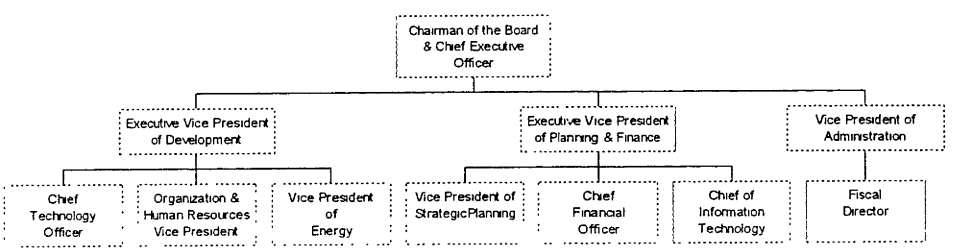
The processes of merger and acquisitions has been part of the Beta strategy to survive in a challenging environment. Due to acquisition processes, company personnel had to learn new procedures and technologies, adapt to new cultures, and learn new capabilities in a very changing environment during the growth process, which is still very intense.

- **Organizational Structure**

Beta is basically structured to perform in two main areas:

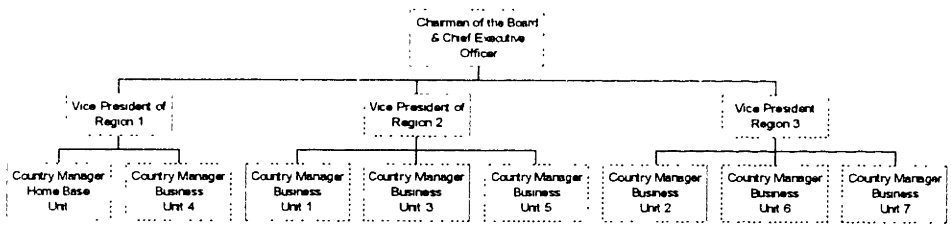
a) Corporate division, which includes three areas: Planning and finance, development and adminstration.

Beta Organizational Structure
Corporate Divisions



b) Business units, which include: All operations that were acquired in a strategy of geographic diversification but also incudes the country base that run operations in the major market where the firm was founded.

Beta Organizational Structure
Business Units

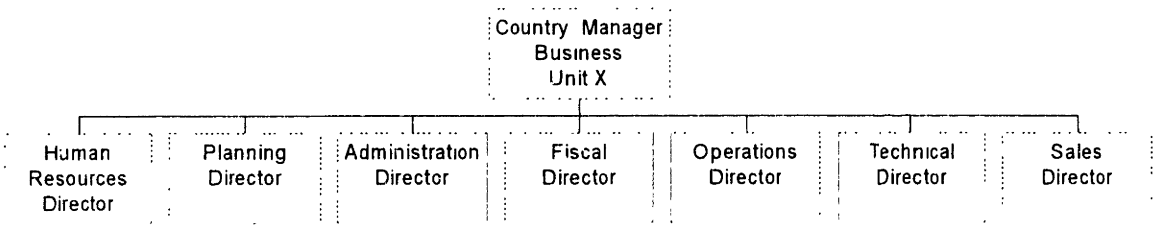


Country Base 1 will be used to reference the most important business unit for the company in terms of size and sales. This business unit is based in the same country as the corporate headquarters. Also, the Countries from 1 to 7 were numbered in order of % sales from the total sales of Beta, that means Country 1 is the business units who sells more of all international business units. Country 1 will be business unit 1 and so on. Country base is the main business unit.

As a part of its fast growth, Beta experienced two major reorganizations in the past 5 years to integrate the acquisitions of new companies into the organization. The last reorganization occured last October 1998, the previous organizational structure will be used to explain the projects and their processes. The corporate division includes all other areas of the organization structure that is not business units.

The following diagram describe how a business unit is typically structured in its functions.

Typicall Organizational Structure of the Countries



- **Information Technology**

One important characteric of Beta is that the company was honored as one of the 25 outstanding users of network technology worldwide by Computerworld magazine. Also it was selected by Industry Week magazine as one of the World's 100 best managed companies. The investment in infrastructure of telecommunications and information technology has been a Beta priority in the successful integration of the newly acquired companies.

Every Beta employee all over the world has access to a computer with GroupWare software that is used mainly as an e-mail and database information, in other cases as a repository of information of many collaboration processes within the company. This is not the only way the personnel communicate with the other units. There is a variety of different services available. Telephones are connected in an internal network that by dialing the area code of the country and the extension you can reach everyone in the global organization. There are also videoconference rooms in each country as well as other software and information systems available to facilitate the sharing of information.

This investment is considered to be one of the competitive advantages of Beta. This information technology will be a constant resource in the framework in these particular cases, but that the lack of this capability affect the process of knowledge integration in other cases.

2. DESCRIPTION OF THE CASES

In this part, I will be describing the situations I consider more interesting of all the interviews that showed the existance or not of the dimensions to Knowledge Integration. This section of each case will include contains valuable explanations about the context when the project started and the project objective to set up the base where the situation was developed.

CASE 1.

Business Unit: Corporate

Functional Area that started the initiative: Human Resources in Corporate

Project: Global Human Resources Strategy

Time: The initiative started on 1997

- **Conditions at project start**

Beta has being acquiring companies in different countries to achieve its strategic goals of geographic diversification. Due the fast growth the internal organizational structure of the company has been changing its structure to provide more flexibility.

Originally, Beta had several operations in one country; with only one human resource department. Then the company acquired two other companies in other countries and decided to separate the country base operations in corporate and home based operation and each country in Business Units, each corporate and countries with their own human resources department. Beta continues to acquire companies in different countries and keeping the human resources in each new business unit.

While the human resources departments in the business units depended highly on Corporate as their company was being acquired, they quickly re-gained independence thereafter. In consequence, they maintained a high degree of autonomy over defining their procedures and standards. Procedures were developed and standardized locally with regard to local requirements, independent of the needs and conditions in other parts of the firm, even though the procedures were quite similar in their purposes (e.g., hiring personnel). Not surprisingly, there was then little firm-wide coherence in regard to HR procedures, and few firm-wide HR systems or

standard operating procedures were put in place. For instance, there were no formal procedures to manage internal communication. E.g. Personal evaluation were different in each country, Participation of M&A people came only from the Corporate offices, Opportunities to have jobs in other countries were mainly for people in the Corporate, etc.

Since the HR departments in the business units could operate autonomously without being pushed to integrate their activities with other parts of the firm, they maintained few direct relations to each other. Communication flowed primarily in one direction from the corporate HR department to them. Partly due to variation in the quality of communication during the acquisition process, departments in some countries had somewhat better relations to Corporate HR than others. However, the focus on local needs was so strong overall that the units had rejected several initiatives that corporate HR had proposed and launched before.

In sum, the organizational context in which the Global HR Strategy Project was launched was a "multinational" one, in which local units addressed local needs with local practices, communicated and integrated little of their activities among each other. They also interacted mostly directly with Corporate HR in cases where firm-wide action was required.

- **Objective**

The human resources department in Corporate found that their responsibilities had to evolve from being a classical service department: Hiring New People by requirement of other departments, Compensation, Participation in Mergers and Acquisitions, etc. Corporate Human Resource Department decided to change its focus to create an integral strategy for the whole group to support strong practices of Beta in the changing organization. The goal was to remove part of the fragmentation and localization of efforts that had characterized HR in the firm as a consequence of its post-merger integration strategy. The project was divided in 6 subprojects headed by the directors of each Business Unit and one of them for the corporate.

CASE 2.

Business Unit: Business Unit 4

Functional Area that started the initiative: Department of Energy in the Corporate

Project: Transformation of Energy of a Business Unit Plant

Time: Project started in 1996

- **Conditions at project start**

The manufacturing process of the plants requires a huge amount of energy and is one of the main sources of the production process. Every country can use different type of energy (e.g. coal, petroleum, electricity, steam, etc) to run the plant mainly due to the price and environmental conditions prevailing on the country. If one condition changes the plant should be considered to convert the type of energy used to maintain a competitive cost structure. These conditions can be economical, political, environmental, etc.

This situation happened in one of the business units of the firm and the corporate Energy department decided to convert the plant to maintain cost effectiveness. The need of the project was identified when one of the conditions in the country changed the government added more tax to the type of energy that Business Unit 4 was using in its plants.

To decide who was going to build the plant, the corporate Energy department decided to offer the project to external companies who will bid against the corporate Technical department in equal circumstances to get the project. The Energy department at the beginning found the Corporation not open to make a tender bid of an internal department against external companies because they are not profit centers and never before they have to compete to gain a contract. Other important thing to mention is that the Technical department was not its core business to convert an energy plant, although they participate in the maintenance and installation of energy plants before, but never alone. The tender external companies where highly recognized in their business for being the best specialist in construction of Energy Plants and were also international firms one of the countries where the plant will be converted and one of a high developed country.

The Energy department distributed the same information to all the tenders without giving any advantage to the internal department.

Every company and the internal department made an offer of how much will cost the conversion of the plant and how much time will take to convert it. The corporate Energy department compared the bids and got the best offer to the corporate Technical Department. The corporate Technical Department then asked for help to the technical department of Business Unit 2 that already was using this type of energy to operate the plants.

- **Objective**

The objective of the project was to transform the original type of energy used in a plant to another type that in that country was cheaper. At the same time leave the capacity to return to the current type of energy in case that other conditions change in the country.

CASE 3.

Business Unit: Corporate

Functional Area that started the initiative: Planning

Project: Due Diligence

Time: Continuously

- **Conditions at project start**

The strategy of geographic diversification of Beta is due trough acquisitions world-wide, the acquisitions involve a process called Due Diligence (DD) where a team go to the country and the company you want to acquire and investigate information crucial to the process of acquisition.

A DD process is always one of the priorities of the Corporate because its an strategic decision to acquire a company, the Business Units know about the project when the Corporate call to ask the country manager to select people to do it. The main process output is the learning experience of participate in the process and will be applied by the team members when they return to their home countries.

There is cross-functional team formed in each DD process: Between 12 or 15 people, depending of the size of the company, the importance of the deal, the time assigned to do it and the availability of human resources due to other Due Diligence processes. The team could have never met before, because they come from different Business Units and the Corporate. There is also a sense of urgency because normally the team has a week to do the tasks, if the team is lucky can have at most two weeks but sometimes they would have 3 or 4 days.

- **Objective**

The main objective is to try to find out the real value of the company. There are two reasons why this process is made: - To know better the company that you made an offer to buy or that you already bid for and see if its worth the value. The team can detect opportunity areas, strengths, synergies etc. and capitalized in the future.

- Learning: To know best practices of the company, even if Beta already know that they will not be ending buying the company, they are willing to do the process to learn best practices

CASE 4.

Business Unit: Business Units in Country 2 and 4.

Functional Area that started the initiative: Home based Business Unit

Project: High Development Organization

Time: Started in 1989 until now implementing in other plants in the business units 2 and 4 of Beta.

- **Conditions at project start**

The project began in one of the new plants of Beta in the home country. There were only new employees. That means Beta could try to create a new culture in the plant, they did not have to fight to impose a new culture over other that was in place before. Beta hired the best technical people or selected it from the other plants, also the managers were sent with a new mentality of doing things different and with the approval of the top-level management to try something new. The idea was to create a socio-technical scheme were all workers of the plant could participate in a very direct way to achieve the objectives of the plant.

An external consultant firm introduced the scheme, they helped to form the teams, and they gave the guidelines about what should be the responsibilities of the team. They create the first steps and they diagnose the status of the plant to measure the development of the project. There are monthly meetings with all the workers in the plant. The workers have to present in each meeting to the whole personnel of the plant the results of their work. There are also teams at the management level and they have to do the same. The mission of the plant was defined in a period of 3 month of meetings with all the workers, the plant began to produce in 1991 and in 1994 it won the national quality award.

Now there are several initiatives in different plants of Beta with the same project but they have started because the people who participate as leaders in the first project has been move to other operations in other business units.

- **Objective**

The idea was to take out the boss of the work teams in the plant and make the plant produce in a more collaborative and effective way giving the workers all the possible information.

CASE 5.

Business Unit: Corporate

Functional Area that started the initiative: Corporate Purchasing

Project: Global Trader

Time: Since 1997

- **Conditions at project start**

The Purchasing department was the first department of all functions in Beta to initiate in 1995 an integration project with the idea of getting together (face to face) and find synergies. The CEO of Beta who inaugurated the first event supported this initiative. These events are held every year and have been the key to increase the relationships between the purchasing departments of all the business units and the corporate.

With the geographic diversification, there was an office for corporate purchasing that was functioning as a separate company from Beta. The purchasing departments of the business units sometimes asked for supplies to this company or sometimes they used the services of the corporate purchasing department or sometimes they were buying on their own, but there were no standardization and formal procedures to do it. When the corporate department had a request sometimes they had to call the separate company and get their needs.

Beta decided that to change the process you have to eliminate the separate company and ask for all the supplies in just one more efficient way.

- **Objective**

Integrate all the process of purchasing without the participation of a third party. Then Beta can summarize all the global needs and look for economies of scale, they will have more purchasing power, the process will be more transparent and fast for the business units, and the image will get better.

CASE 6.

Business Unit: Corporate

Functional Area that started the initiative: Corporate Tax Department

Project: Tax Forecasting System

Time: Two years, since 1997. The standardization process took one year

- **Conditions at project start**

Every tax department of each business unit use to make their own projections about the fiscal payments. Each tax department of each business unit had their own conventions and the knowledge about the best way to do it in that particular country. They were some savings for the company, but sometimes the procedure causes problems to consolidate information and other times there were no savings at all.

Every year there is a meeting with all the tax departments of all the business units. The proposal of a tax forecast system began 2 years ago in an annual reunion of the tax departments. The corporate tax department proposes in the global meeting: Standardization of formats and coordination to update the information with all the business units each month.

- **Objective**

To design a new information system that get consolidated information of all business units, and provide the other tax departments with a vehicle to update every month the information and get feedback within all the business units.

CASE 7.

Business Unit: Country based Business Unit

Functional Area that started the initiative: Business Unit 2

Project: Plant automation.

Time: Project started in 1994.

- **Conditions at project start**

After the first major acquisition in a foreign country, Beta discovered a new software company in the country where Beta just acquired the plant; the company had been developed an innovative system of production.

The IT corporate department evaluate the software and the just acquired Business Unit 2 decided to acquire the company, to get the rights of development and to hire the person who has the expertise in the development.

The decision of buy was made due the competitive advantages that the software represented in the market and to stop the expertise being transfer to the competition.

In the process of integration of the first acquisition they implemented the software in that country as standard and the implementation was transparent,

After that in 1994, Beta started implementing it in the Home Business Unit, but they had to adapt and change the software. After 1995, a project of implementation in all plants of all the business units of the company started. And the IT department started to implement it one by one. The main problem was an infrastructure problem of each particular country to implement the software. There is a new initiative over the project that started in 1998 that includes all the production areas of the business units to automation of all the steps in the process of the plants. The people with the expertise in the IT department has a high rotation level, so the company is loosing people with experience in development or implementation very often.

- **Objective**

The project consists in include all the process of automation of production, delivering system and commercialization of the product in a standard system. Goals were to achieve quality and competitive advantage in the service to the customer.

CASE 8.

Business Unit: Corporate

Functional Area that started the initiative: Corporate Audit Department

Project: Integral Operation

Time: Started in 1995 until now

- **Conditions at project start**

The project started in a small plant in one of the smallest business units of Beta. It was a pilot project in other plant in the main business unit. The project consists in create an architecture of implementation with a series of pyramids of variables in the plant that affect the business. These variables are assigned to the workers. There is a group of people call Change Agents to provoke a chain reaction in the pyramid; these are managers and coordinators in a team. Normally to get in this process the first person that has to convince is the manager of the plant and the corporate audit department approach the manager

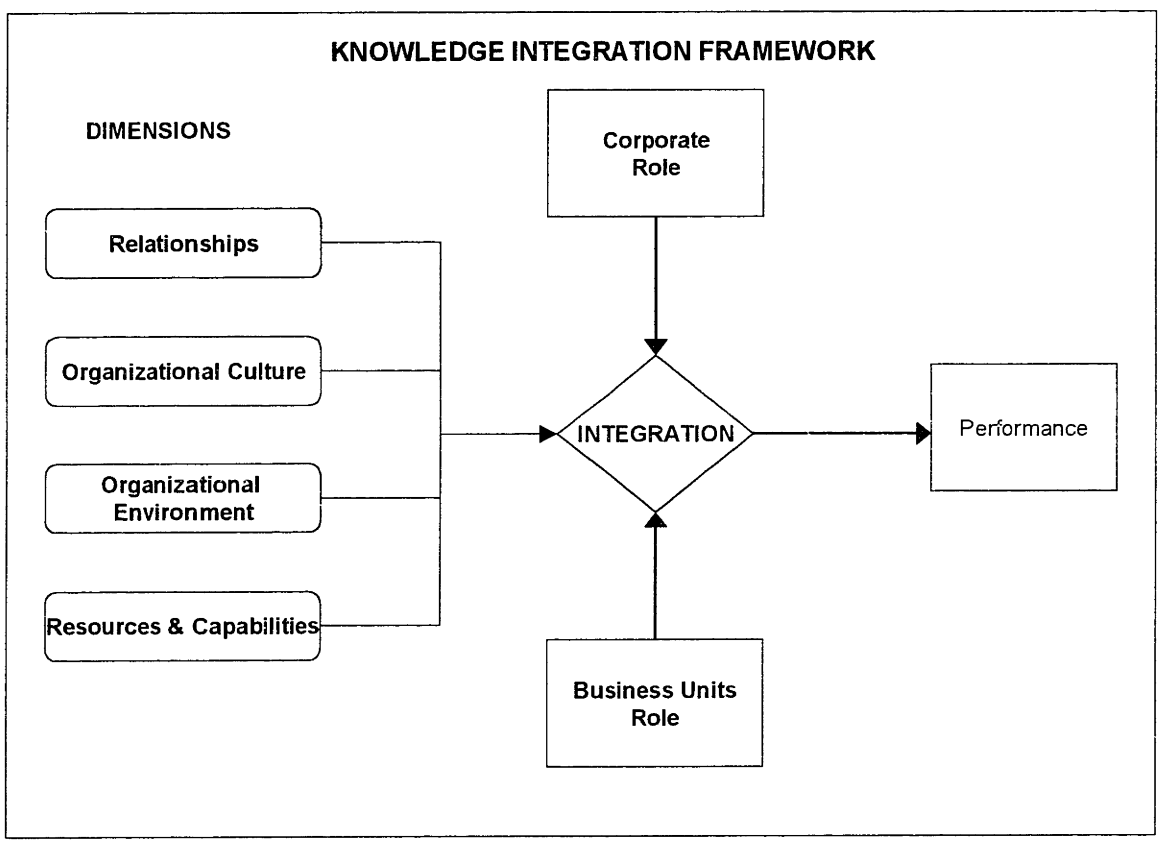
- **Objective**

Purpose of the project is that operation blue collar workers get a methodology to define their own critical variables that impact the business, tie them to cost and control them to anticipate problems. Control has to be managed in a prevention mode. The project is an administrative mechanism to make people get sense of the business.

CHAPTER V. EXPLANATION OF DIMENSIONS AND CORPORATE ROLES

1. Description of Dimensions and Corporate role into each real case

This chapter contains the explanation of each case about assessment in terms of the four dimensions that enables the Knowledge Integration Process: Relationships, Organizational culture, Organizational environment and Resources & capabilities. It also discusses the role and influence that corporate headquarters and business units played in the projects and how this affected the processes. Basically, the reader will find a real description about the first part of the framework exposed in chapter II.



CASE 1

Project: Global Human Resources Strategy

DIMENSIONS

- **Relationships**

The expectations for **cooperation** between units were low, mostly because there were other initiatives before where projects were proposed and rejected by the other units. Also, as mentioned before, the Business Units used to follow the rules of each country without taking standardization of procedures into account. In sum, the units thus did not have much experience with collaboration to build on. However, there was a tacit matrix subordination of the business units to the Corporate Human Resource department, which helped to get the lead of Corporate to start the process change and propose the projects. Therefore, the leader from Corporate proposed the change in processes and explained in a global meeting to all the Human Resources directors the problems that were caused by having different HR standards in the different parts of the firm.

- **Organizational Culture**

The principal **motivation** of the directors to cooperate in this change of processes was the need to be successful as leaders in their projects, because they knew that the executive committee at the end would see the outcomes. After they had become convinced of the project goals, their **commitment** to the project as leaders was very high. The need to be successful made people in the business units' HR departments cooperate readily with each other. Cooperation also went quite well because people knew they were dependent on each other for the projects.

- **Organizational Environment**

Project **risk** reached its peak at the beginning of the project, when Corporate, not expecting much cooperation among the business units, used this kind of framework to manage a project for the first time. For the business units, the importance of project and the **pressure** from top management created yet another source of risk, namely, that failure would jeopardize their careers. In that regard, top management's plan to implement the project outputs throughout the firm clearly increased the cost of failure for participants. The other **uncertainty** was to get enough time from top-level management to review and modify the process when necessary.

- **Resources & Capabilities**

Distribution of Resources in the Firm: Corporate supplied ample resources for benchmarking against other companies and for acquiring market/external knowledge to implement changes in the firm. Corporate also gave the business units enough funds for traveling and frequents face to face meetings, which improved the trust between people.

Distribution of knowledge: Corporate had more experience than the business units in managing projects involving multiple business units, even though it was using a novel project structure when splitting up the project into 6 subprojects. Therefore, the Vice President of Human Resources was the most important person, because he started the change, convinced the top-level management of the company and then sold the project Idea to the Business Units. The know-how of the Human Resources Directors in the Business Units was complementary to the knowledge at corporate, and therefore especially important in the implementation of standards. For example, they were most knowledgeable about the laws in each country and could use this knowledge to tell whether ideas were feasible or not.

ROLE OF CORPORATE HEADQUARTERS & BUSINESS UNITS

Throughout the project, corporate influence on the strategic decisions of the units was high. Top management was highly supportive of the project from the start because it was convinced of the need for change. For instance, the project leader emphasized early and comprehensive communication to ensure that all the units included in the proposal knew about the project since it started. All this was necessary and very important because Corporate proposed the project within a somewhat unfavorable context, and because of the project scope - the project included all Human Resource Departments in the company and was going to affect the whole company.

For the same reasons, corporate chose a very unusual approach to get buy-in from the business unit managers. The head of Corporate Human Resources divided the originally proposed project into six sub-projects and convinced the director of each Business Unit to the leader in one project. Corporate itself also led one of the projects; namely, the one for which it was best positioned to have the lead. To facilitate the implementation of project outputs throughout the firm, corporate also assigned responsibility to three managers in the corporate human resource department, one for each region (Region 1, Region 2, Region 3), who had to ensure that the new practices were correctly implemented in the business units.

Role of Corporate headquarters	*** Initiate process, identify corporate opportunities** *** Structure project (divided) and provide process model** * Descentralized responsibility, delegated *** Create incentives to cooperate/ align incentives (break in subproject)** *** Provisional resources** *** Control progress (conditional)** * Facilitate process between BU´s (3 dedicated managers) - part of progress control day to day basis *** Increase role for BU´s, create risk of failure (unrelated to project focus)** *** Made corporate role as similar as possible to roles of BU´s by take lead in one project**

Business Units Role: The human resource directors in the business units contributed their country-specific expertise to the project, as well as project management and leadership skills for the sub-projects. They successfully cooperated with the other business units in a matrix way because people felt that they owned one of the projects and they know that they needed to cooperate in the other projects in order to get cooperation for their own one. Thus, for instance, the business unit leading the project for hiring best candidates cooperated closely with the other business units to defined standards for the profiles of the candidates. The project leaders got together very often to show each other their results and at the same time to detect deviations from the process and correct them immediately

Role of Business Units	* **Management of sub-projects to create ownership** * Units communicating directly; leadership gives authority to call and request for info * Project leadership reciprocity -> relationship building

CASE 2.

Project: Transformation of Energy of a Business Unit Plant

DIMENSIONS

- **Relationships**

This project was somewhat unusual in that it also involved two different departments at corporate, the Technical and Energy departments. At the very start, the corporate Energy department management gained much commitment from the other parts of the firm by including the Technical department in the bidding process. When the technical department won the bidding, people felt that the project belonged to everybody. Consequently, cooperation between those two departments and the Business Units was expected to be high after the decision to perform the project in-house. Nevertheless, some leadership was required to convince Country Manager 4 and the plant manager of the need to convert the plant, and to give all participants the opportunity to have a **sense of the purpose** of the project.

- **Organizational Culture**

The departments involved were **aligned** to interact with the plant manager very closely; all knew the need of being successful in the project. They wanted to show that they made the best decision and knew about the importance of the project.

- **Organizational Environment**

The key part of the knowledge integration process happened at the level of operators and technical people (not only engineers or professionals), and the fact that they had both a common mother language and a common technical language facilitated cooperation strongly. For instance, the people running the plant in Country 2 could fly to Country 4 to explain the people in the equivalent positions how to operate the plant, which became an effective way to transfer knowledge at the same level.

There were several risks that put pressure on the project team members: First, it was unclear whether the corporate Technical department had enough expertise to convert the plant correctly. Second, it was not sure whether the project would stay within the target budget, due the geographical dispersion of the expertise and the teams. After all, corporate Technical and Energy departments were in the country base, the plant to convert was in other country, and the technical department with the running plant was located in yet another country. Finally, it was unclear whether the project could be completed on schedule.

- **Resources & Capabilities**

Distribution of economic resources: The project was given a huge budget because the priority was to start saving cost in the country as soon as possible.

Distribution of Knowledge in the firm: The main functional expertise was in the corporate Energy department and Technology department of Country 2, because they had previous experience and knew the exact requirements of an energy plant, even though that was not directly related to the core business of the firm. The management know-how was in the corporate Technical department, since they had been working before on constructing plants for the core business.

Support from Organizational Systems and Procedures: Project support from organizational systems was high, since they were designed to support building plants in other countries; working on yet another plant in another country was within what the systems and procedures were routinely used for. Beta also provided the people involved with an appropriate information technology infrastructure to communicate within geographically dispersed teams. Furthermore, the budget permitted to take opportunities to pursue certain innovations in some procedures.

ROLE OF CORPORATE HEADQUARTERS & BUSINESS UNITS

The corporate departments involved were the Energy Department and the Technology Department. Energy helped effectively the Technology department to overcome any problem related with their main know-how, and the expertise of the Technology department began to

grow. The key aspects of corporate involvement in the project are summarized in the table below.

Role of Corporate headquarters	* Initiate the process, identifiy opportunity for the BU * Help BU4 to see opportunity * Manage project/deadlines * Corporate provides funds for BU4 to compensate for cost that are not in line w/local goals (travel) * Provides resources *** Create motivation at corporate - bidding process** *** Provide complementary knowledge** *** Provide technical infraestructure (before initiating the process)**

Business Units Role: Since the project was needed in the Country 4, the department involved in Business Unit 4 was the Technical Department. Because the project was an important issue for operations, the country manager was involved as well. The Technology Department of Country 2 participated because it had experience with using a plant with the same type of energy. The business units managed most of the interaction among them directly, including the technical levels, making use of the available travel money. People learned very fast from each other, due to the common language of the technical people.

Role of Business Units	*** Transfer knowledge on the operational level to the other BU** * Support for team * Functional tasks

CASE 3.

Project: Due Diligence

DIMENSIONS

- **Relationships**

The expectation of cooperation between the team members is very high, and the role that the leader plays is very important. Since what each team member is doing during a day can affect the other team members immediately, they have to be aware of each other's work and maintain an extremely high level of communication and knowledge integration under high time pressure. Therefore, part of the leader's role is to manage relations among the team members, who typically come from different countries, and maintain the morale of the team. The leader has to set up a meeting every day after all team members finish their work. Even if they finish late, they get together and explain what they did during the day. The leader has to convince people that the project is a very important task and make them work hard. During the meeting, people all have to listen to each other, and no matter whether the topic discussed is important for them, they have to be in the meeting until it finishes.

- **Organizational Culture**

The process always starts with frictions in the team, due the workload, also they do not know each other, they do not know what to expect, they are doing the task in a different country, with different organizational culture, with different people. They very fast figure out they have to **trust** in each other to finish the task on time.

The team members know that top management selects them, so this gives them a lot of **commitment** to the task they have to accomplish. The team members are highly **motivated** because they know that can be an opportunity to get known by the top-management if they present the results at the end of the DD.

- **Organizational Environment**

Because top management personally selects the group of people in key positions for whom the process is supposed to be a learning experience, most of the members of the team take the process as a big **challenge** to accomplish. But the due diligence process is very workload intense, and completing it in about one week without previous experience means there usually is a **sense of chaos.** Team members learn very fast because of the **pressure** of the time and the commitment they have with the top executives.

Uncertainties and Risks: The main risk the project faces is that the leader does not notice that someone is getting nervous and therefore not doing the task. This problem may be, because the people in the team are facing a new and totally different task that they probably never did before in their lives. Sometimes someone in the team is having problems and he/she will not tell it because there is a lot of **pressure** when giving an opinion on a company that they do not know and present it to top management. So a person can get scared and fail, but normally the problem is detected soon during the daily meeting and gives the team time to help the person and correct the problem.

Another common risk is related to the fact that the team is intervening in other people's work. The team relies on the openness of the company when interviewing the employees. In most cases, they seem to be very cooperative because they want to be in a good position if the company is acquired. They are sometimes very naive and they never experience an intervention like this before and they want to know how is the process, or they are afraid. People can also tend to be reserved and give small amount of information because they are afraid or because there is another agenda in the company the team is investigating.

Finally, another risk is that when the team arrives, the company tells them that they only have two days instead of a week to do the project. That means that the rules of the game change.

- **Resources & Capabilities**

Distribution of resources in the firm: The amount of required resources varies, depending of the size of the company to acquire the investment amount, and the likelihood of success in the

acquisition process. But there is no real limitation of resources; they are applied according to the needs. There is, however, a limitation in the number of people Beta can send to this process.

Distribution of Knowledge: Normally, when the leader has no previous practical experience with this process, the Planning advisor has to help during the first two days or so. Then, the Planning advisor acts as a consultant during the rest of the process. The process usually takes between one and three weeks to complete. Participation in the DD process is a learning experience, the idea is that more and more people can have access to this experience and this is the reason why most of the people who is selected have never participated before in this process, except the Planning advisor. When there is short time to do the process, the people who participate have to have previous experience, to make it easy. But since the reason behind having new people on the team is that they learn from other best practices, so they do not need to be experts.

Support from Organizational Systems and Procedures: Corporate maintains and supplies manuals for the due diligence process to the team members. One day before the project starts, the team leader has a training meeting with all the team in the city where they will be doing the DD. This meeting, which takes all day, is to explain to the team what they have to do and what the expectations of outcomes are.

ROLE OF CORPORATE HEADQUARTERS & BUSINESS UNITS

Corporate takes the lead in assembling the team from various parts of the firm. The leader is usually the candidate for the country manager position if the company is acquired, and can come from the one of the Business Units or the Corporate. Two people come from corporate planning, one who acts as a leader if no candidate is selected, or as staff of the leader otherwise, as well as an analyst who helps with the valuation and integration of reports.

Of the three technical experts, the one who evaluates the resources to supply the plant comes from Corporate. The second, who evaluates the operation and efficiency of the plant, comes from one of the business units. The third person, which evaluates the plant processes and benchmarks them against the Beta plants, comes from Corporate. Three more people are

usually involved. A human resource person evaluates compensation policies and checks for possible personnel reductions. Then, there are a risk person and an Information Technology person, both from corporate. In brief, the way the project is staffed determines how much of the functional project work the business units perform.

Role of Corporate headquarters	* Training project leader / consultant * Identify opportunities, assemble team * Present participation as learning experience/create community of practice -> Motivating outcome incentives * Funding * Complementary skills * Provide process manuals *** Interdependance from eachother part of the team** *** Shared vision**

Since each Due Diligence project is a key process for the strategy of the company, there is a lot of support and encouragement from top level management at Corporate and from the country managers of the business units that are participating. They always are in touch with the team regarding the development and findings of the project.

Role of Business Units	* Project leader, learns the process * Support for team * Functional tasks

CASE 4.

Project: High Development Organization

DIMENSIONS

- **Relationships**

Since people were pulled together from different parts of the firm, it was unclear initially what quality of cooperation to expect. As it turned out, cooperation worked very well because the people in the team were more interested in sharing responsibilities rather than reporting to a boss. Other important issue was that they had more commitment to their jobs because they had to report to the whole community about their work, so they felt that **their work had meaning.**

- **Organizational Culture**

Behaviors and Routines: From the 40 weekly hours of work, the team had to take 8 hours to get together, solve problems and receive training. Interaction between managers and workers was pretty open, they had to be in constant contact to ensure the progress of the project and solve unexpected situations. Nobody had to log the times when they arrived or left the workplace, which gave them more **commitment** than before. The team members were responsible if somebody was missing and started to develop a high sense of **trust** in each other. Also, because team members started to know how their jobs, their performance and work processes in general were related to the overall performance of the plant, the team started to develop a **shared vision** of the purpose of the team and the objectives of the plant.

- **Organizational Environment**

There was a sense of **challenge** because team members did not use to present their work. Here, however, they were interacting in a safe environment and found themselves all in the same situation. In addition, management gave them a lot of encouragement and support for their work. Such support helped deal with some factors that impeded the implementation of the project, specifically, problems with unions, legal contracts and intermediate Management, since supervisors afraid of losing their jobs strongly opposed the changes.

- **Resources & Capabilities**

Distribution of economic resources in the firm: The plant was new, and with the best new equipment, there were enough resources available to make the operation of the plant successful.

Distribution of Project Management know-how, and support from organizational systems and procedures: Since management did not have enough experience in the implementation of this system, they relied heavily on external consultants. Having much experience in installing this process, the consultants also provided systems and procedures to support the project. While they had most of the expertise initially and trained the employees, after a short time every team had worked out how they wanted to work together.

ROLE OF CORPORATE HEADQUARTERS & BUSINESS UNITS

The role of corporate is summarized in the table below. Because it was a pilot project, there was a lot of support from management for the project at the beginning. The project then lost priority for top management when the company acquired a new big company in other country, which required a lot of top management attention.

Role of Corporate headquarters	* Define process using consultants * Create incentives for people related to the process: Reporting (fine grained incentive) * Dedicated learning / process solving goals for project * Specification of Behaivors, norms and culture * Leadership (motivation) * Resources * Show links between process/activities and outcomes * Include consultants to provide complementary knowledge
Role of Business Units	* Operations * Management (self control and organization)

CASE 5.

Project: Global Trader

DIMENSIONS

- **Relationships**

Virtual geographically dispersed teams were formed with different negotiation capabilities for making better deals, orders can come from different purchasing departments of the business units depending on the expertise.

Dealing with the suppliers: There are teams of 2 or 5 people for each field. The team is formed with people from all the business units with more expertise in the field. The teams can be working in different project at the same time. The teams can rotate people. And the idea is that the team owns the project so they have to negotiate directly with the supplier and get the best deal, they have to **collaborate** to do it.

Project Interaction: Rotation of people and global dispersed teams who are working after seen each other from time to time makes them increase their **ability to work in teams** because they understand the global vision after working with different countries, facing different and challenging problems.

- **Organizational Culture**

Behaviors and Routines: Because they are constantly rotating they get to know each other pretty close an **trust** between each other has been developed this makes them be more easily communicating even if they are working geographically dispersed. They developed a **shared vision** because they are getting projects of different business units and departments; they see the company as a whole and not as only the business unit or the plant.

- **Organizational Environment**

There is a sense of urgency because they have to supply fast the material to the plant, and their role is critical. This situation increases the **pressure** in the people that is in very important negotiations with the suppliers.

- **Resources & Capabilities**

Distribution of economical Resources in the Firm: The resources of the project are high: they can fly from country to country because the savings they can get in a deal are huge, so there is no significant restrictions in the budget for the project.

Distribution of Project Management know-how: For their projects the purchasing departments decided not to use external consultants they feel more valuable the sharing of knowledge and experiences between each other than hiring an external consultant to tell them what to do. They all participate of one way or the other in this project, so the expertise is dispersed geographically.

Support from Organizational Systems and Procedures: The Information Technology infrastructure of the company facilitated the communication, they can do it either voice, e-mail, videoconference or exchange information with the Group ware software that the company use.

ROLE OF CORPORATE HEADQUARTERS & BUSINESS UNITS

Corporate Role: Corporate purchasing department acts as a facilitator in the process, they provide some of the expertise when the teams need it. Their role is summarized in this table:

Role of Corporate headquarters	* Identify opportunity
	* Initiate project, structure (# teams), assign responsibility
	* Facilitate
	* Create interdependence during the process (rotation, assign to multiple teams)
	* Create interdependence for the task in the future -> motivates; induces long-term views
	* Change perspective/ scope of concensus for people- shared vision

Business Units Role: The annual conference helped them in the knowledge exchange. The geographical dispersed team situation makes them make a big effort, but the shared

responsibility help the situation. Now the office is not anymore separated from Beta, it is integrated in the company and this office receives all requests directly from the business units. The global dispersed team as part of the business units feels that they have a commitment with Beta not only with the business unit. Key aspects are mentioned in the following table.

Role of Business Units	* Manage process * Develop shared vision * Standarize processes

CASE 6.

Project: Tax Forecasting System

DIMENSIONS

- **Relationships**

At the beginning they have **low cooperation** between business units, they were use to work on their own. The people from corporate start to build interrelationship with the people involved in the project, trying to convince them to work together, every two months someone from the corporate office was in the business unit, building relationships and helping directly with their problems. "Face to face relationship is important," said one of the managers.

- **Organizational Culture**

Behaviors and Routines: Every business units had different ways of work. The **commitment** was **low**. There were **not incentives** to the people who were doing the dirty job; therefore the **motivation was low.**

- **Organizational Environment**

Project-related Uncertainties and Risks: The tax information use to send to the tax department but the financial information was sent to the Accounting department and the timing was not the same. Relation between the Accounting department was good, they are under the management of the same vice-president but they never give information immediately to the Tax Department. They also said had to check the information before send it to the tax department because its "confidential"

- **Resources & Capabilities**

Distribution of economic Resources: Resources are moderate, the project is not considered strategic, so the support of the top-management is low.

Distribution of Project Management know-how: Managers in the corporate division are who got the expertise, and they are traveling to the business units to implement the project.

Support from Organizational Systems and Procedures: Incentives to the Business Units, if they find a way to get better results in the Financial Statements, there is a direct compensation to the countries.

ROLE OF CORPORATE HEADQUARTERS & BUSINESS UNITS

The managers of the corporate travel to implement the project in the business units, when they get together, is where mainly the knowledge exchange is effected. The managers of the corporate department still are doing visits every 2 o 3 months to the business units, to increase the relationship between them and to help with operational problems. But there is a lack of support of top management because there is a functional and is not a strategic project.

Change in the work culture, more cooperative, they understand to help each other is better, because other business unit can give an idea how to solve a problem that they face before and this happen frequently due the fluctuations in the markets in different countries. The system began to work and the business units had more information and they began to ask for more information. The annual meetings are still in place, keep open the communication help and get more feedback.

Role of Corporate headquarters	* Initiates, sees benefits * Relationship building among units, long term perspective * Manage process: Act as facilitators keeping open relationships * Motivate: Direct communication, financial rewards * Help with operations problem * Low top management support * Low resources

CASE 7.

Project: Plant automation.

DIMENSIONS

- **Relationships**

There is a committee coordinated by the corporate IT department which includes all the business units, represented by their operations manager, they are the facilitators in each country. The committee was formed after a series of different meeting and forums that wanted to implement **different** initiatives in different countries.

In the implementation phase there was **no cooperation** among Business Units because the corporate IT department was in charge of implement the system and they were doing it at the same time in different plants, the people was so busy to help other units in their implementation process. After they were in the final phase of implementation, business units started to get together to **share the problems** they had and they discover that some were similar and other were particular of the country, they created a database to document the problems faced. There is **not a sense of truly leadership** in the project, even with the facilitators, the people seems to have **different needs** and the problems are still infrastructure and resistance to change.

- **Organizational Culture**

Behaviors and Routines: After the final phase of implementation there are many changes to adapt to the software and it seems that the operative failure is coming together with the no cooperative reaction of people. The culture of innovation that its particular high in the IT department seems to be break down due the high rotation of personnel. **Motivation is low** due the constant rotation of personnel in the IT department and because it does not seem to be a strategic project.

- **Organizational Environment**

There is a lot of barriers in the attitude of the people, when they are implementing they assume that everything will work as expected, and suddenly they found problems that the people

do not report. It seems the people are not convinced of the project or they do not feel they own the project. Also a **sense of chaos** in the implementation, they work with a lot of **pressure** but there are not real incentives to be committed to the project.

- **Resources & Capabilities**

Distribution of economic resources: the country manager of each country, which means they have necessary resources and support of the management, chose the people in the committee. The problem is that when the committee decide to make an implementation there is always a debate about who will be paying the cost of development and implementation of the software.

Distribution of Project Management know-how: The expertise in development and implementation is concentrated in the corporate IT department. The practices are in each business unit; the leader assigned is in charge of implementation in each business unit.

Support from Organizational Systems and Procedures: IT department has to support the implementation but there is a lack of personnel with expertise because of the rotation and because so many projects running at the same time in different phases. Organizational changes in the business unit give no support to the project, business units looses continuation in the phase when the person is moved to another country.

ROLE OF CORPORATE HEADQUARTERS & BUSINESS UNITS

The committee is coordinated by the corporate IT department but there is not a sense of truly leadership in the project. There is a lot of personnel rotation in the IT department due to low economical incentives, so every time someone left the company, someone else has to learn again, Beta is loosing knowledge in this process.

Their operation manager a then is evaluated by the corporate before they are implemented presents all requirements of the business units.

Role of Corporate headquarters	* Manage process: corporate owns, units follow * Unclear resource supply * No leadership eventhoug the committee is coordinated by the IT corporate * No interdependence between BU´s created direct * No consistence in relations due to personnel turnover * No incentives * Control over decisions: IT evaluates requirementes before implementation * Provide technical platform
Role of Business Units	* Decide on resource distribution; committee to define process * Followers not owners of the project * Suggest changes for each country independently, corporate decides

CASE 8.

Project: Integral Operation

DIMENSIONS

- **Relationships**

Cooperation at the beginning is expected to **be low**, they try not to impose the project, they sell the idea until the plant manager buy it and consider that he owns the project.

Project Interaction: The process duration if between 2 or 3 months and a series of 8 sessions to determine the variables to control in the business. During this time there are series of sessions where they work together to define their own standards of variables. And the feeling is that they discover the best variables and the corporate just acted as a facilitator.

- **Organizational Culture**

Behaviors and Routines: The sense **of innovation** makes them feel they really are doing something important for the company. They feel they own the project **and motivation and commitment** to the project increase substantially.

- **Organizational Environment**

The risk could occur if the plant manager does not buy the project and implementation phase has to be an imposition. This situation has never happened until know, but is still a risk. The **encouragement** from the management and the corporate people is high. People are trained until they can manage the variables on their own.

- **Resources & Capabilities**

Distribution of Project Management know-how: The expertise is in the managers of the corporate department but when they are in the middle of the project, the expertise start to grow between the people involved in the project. The Audit department participates only in the implementation of the project as a consultant.

Support from Organizational Systems and Procedures: The audit department comes to the people of the plant with the tools to explain how to discover their own variables. The audit people never mentioned that is a program of the corporate. The audit people create a business case to autoconvince the people why is important to figure out the variables, and how can figure it out.

ROLE OF CORPORATE HEADQUARTERS & BUSINESS UNITS

Corporate Role: The corporate audit department acts as facilitator all the time, they sell the project to the country manager first, then they go and talk with the plant manager and work with him until they own the project. The main leader has to be the Plant Manager. Using the business case corporate audit department has the experience to facilitate that workers define their own variables.

Role of Corporate headquarters	* Initiate process * Prove benefits, convince * Provide methodology and tools to platform (business case) * Project as learning process * High motivation / support

Business Units: They measure wasting and cost in quality, when the blue collars are doing this process they start questioning "why we waste this product so much", "how can we avoid wasting it?"

Role of Business Units	* Adapt systems to local conditions * Lead projects * Own the process * Take over when learned how to use system *Start using results as basis for local activities (eg cost savings)

CHAPTER VI. MEASUREMENTS

1. Knowledge Measurment

Managers have a long known that "if you can´t measure it, you can´t manage it". This maxim is as true of learning as it is of any other corporate objective. (Garvin)

One of my majors concerns when I was doing my reaseach was to find out that most of the literature on knowledge management I found did not even mention the word measure or assesment, or if it did, it did so only in a very general way. My personal experience in presenting new projects to the organization was that I was told, "if you want that your project be approved, you have to justify the outcomes of the project and these outcomes have to be measured to evalute the performance of the project. In other words, the final outcome of an strategic project has to have an impact in the organization as a whole."

I believe that to implement effectively the process of Knowledge Integration into a company, the variables should be assessed in order to control the outcomes during the development of the project and this measures should be more explicit since the definition, the structuration and follow up of the project.

- **Firm Measurement**

As Verna Allee (1997) mentions, traditional accounting methods do not capture the full value of the firm. A comparative analysis of book value versus market value of companies acquired in recent mergers; finds that the actual dollar amoun paid far exceeds the book value of assets. The only way to account for the surplus is in terms of the intellectual assets and service value of the company or more generally growth options, which include but are not limited to knowledge assets. The challenge in any measurement system is to be sure that what we are measuring is really an indicator for what we want to observe. We measure the knowledge aspect that we value. Some companies use the number of divisions that integrate and use best practices. This measure assesses the knowledge oportunity of sharing and disseminating new knowledge. Others companies measure codified knowledge in the form of patents, copyrights and propietary

methodologies. A firm may measures effectiviness of knowledge transfer skills with the time to take it to open a new office and how this time changes with the number of offices opened. But measuring knowledge efficency is more challenging, measures for quality, time and cost. Measures are ways to see patterns. There is no "correct" measure. The right measure depends on the purpose of the Knowledge Integration process.

According with Carla O´Dell and C. Jackson Grayson (1998), measurments are the key to ensure sustainability and success of Knowledge Integration over time. Top management will not continue investing if no tangible or quantifiable intangible results can be demonstrated. In order to keep Integration efforts going, and centered, companies must continuosly link their process to the desired outcome, as I explain in the framework. Everthing depends on what kind of measurments firms are talking about and for what purpose. To know whether Integration efforts are achievieng the objectives, identify the business results that match the original value proposition and mesure them. Measuring the level of transfer activity can tell which of the transfer tools and mechanisms are most effective for the purpose of sharing practices and know-how. The best way to measure the impact of Knowledge Integration is to assess the effect of the knowledge capital base has in the company´s performance.

- **Project Measurement**

It is important to measure the success of the projects that are being improved through Knowledge Integration to be perceived as sucessful by the users. Most firms are using improvement outcomes in process cycle time, quality of products, business growth from the production, success rate of proposals and increased customer satisfaction to assess the success of their transfer projects to help users achieve an immediate business objective. Other companies report that their knowledge management efforts are tightly linked to business objectives and business needs and they prefer to measure process and project outcomes. Because measurment is embedded in the business case scenario, the success of the project serves as a proxy for the success of the Knowledge Integration.

2. Measures of Knowledge Integration

In the previous context, I consider projects of Knowledge Integration in Multinational companies as strategic and therefore they have to be assessed in two ways:

- **Internally**

The company has to find out ways to assess the performance of the project and the impact in the employees values and know-how, operational processes, the level of transfer activity, management best practices and its transferability to other projects. Also improvement outcomes in process cycle time, quality of products and success rate of proposals.

- **Externally**

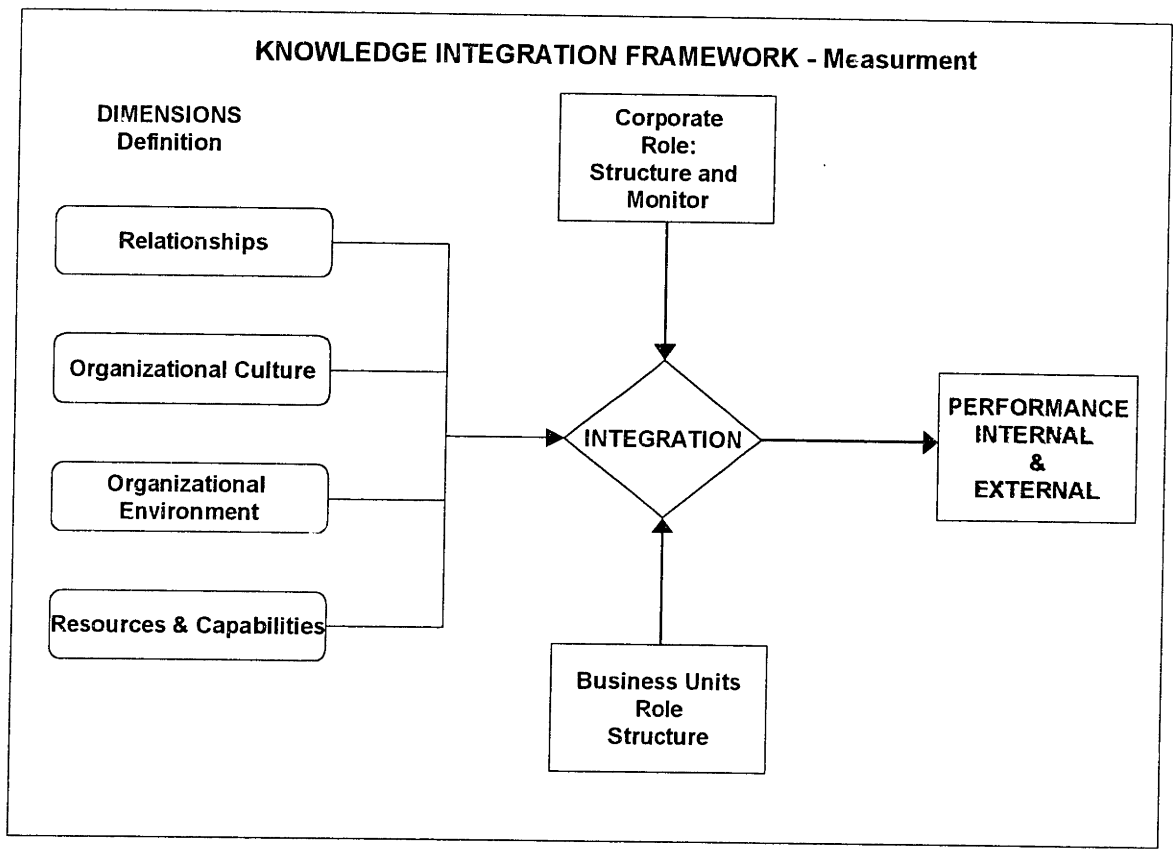
The project will have an overall impact in the organization that can be measure for others outside the organization and provide sustainable growth to the corporation. E.g. Image, Customer satisfaction, Profitability of the company, Stock performance, Oportunity Cost, etc.

3. Steps to define measures

Managers have to present new projects with Internal and External measures integrated in the framework:

- The first step to measure is to set up the project that the company require and conciously define what are going to be the key dimensions of Knowledge Integration in the project and how the company will design the structure to assess the dimensions
- Second, over the structure highlight the conditions when the project started and measure at that point
- Third, projects will have to apply mechanisms to facilitate knowledge
- Fourth, during the development and at the end of the project measure the performance and the overall impact of the variables will help to control the final outcomes

Internal measurment because is related directly to the project, can be measured more easily if managers set up the dimensions correctly. In the case of External Measures, measurments become a more difficult task, because you will have to follow more carefully the overall impact in the organization of an specific project, and always there are other forces acting at the same time that can impact the external measures.



4. Case measurments

In the cases of this thesis the reader can have an idea of Internal Measures looking to some of the performance outcomes that each project had.

- **INTERNAL**

Case 1

Project: Global Human Resources Strategy

- **Performance**

Quality of the outcomes is better due that the project was divided in sub projects and each leader just have their own focus to get the best expertise and implement it in all the organization. The responsibility is bigger but shared, and they feel more commitment to work and to cooperate. After this macro-project the cooperation will improve significantly because they all already work together in a common goal. The speed of the project has been slow because the coordination with the top-level management is difficult but it has not stopped and the progress has been successful. This has been one of the slow-downs of the project, there is not enough time from the top-level management committed to the project and therefore the pressure to get it done is lower.

Project Outcomes	* Improved relationships between BU´s * Slower development than expected for corporate projects due the time to coordinate meetings * Focus on sub projects will give better results * Good quality of new standars * Learned new form of project organization

CASE 2

Project: Transformation of Energy of a Business Unit Plant

- **Performance**

- First: the plant was converted correctly

- Second: the project finished before the time due (four months before)

- Third: the cost of the project was 17% below the budget

The knowledge experience in the Corporate Technical Department increase due to this project and now they are capable to construct energy plants even if is not their core business. If there

any other need of construction of energy plant, the Corporate Technical Department will be more expertise.

Project Outcomes	* Little relationship building, * Little work as intermediary (relationships, knowledge) * High performance * Capability buildin at corporate * Improved relations between companies * Higher potential to cooperate in the future

CASE 3

Project: Due Diligence

- **Performance**

There are manuals that indicate how you can measure each function in the company to get a better valuation; one important outcome is the improvement in the quality manuals after each DD.

It is very hard to follow each result individually, but the experiences give the people a sense of accountability and reward. They improve their ability to cooperate with other parts of the firm, cross border and internally. If there is a chance one of the top management executives goes to the country where the DD is being made and each of the members of the team present the results of the study. This exercise gives improvement on the morale and motivation because the sense of achievement after the effort. They feel as a big reward to present to the top management because they never did it before.

The interchange of knowledge is between the members of the team, they have to be in the same meeting every night listening to the others and they learn how all the company works. After this experience each member of the team goes back to the Business Unit they belong or to the Corporate and they can apply new business practices but the most important thing they get a clear view and perspective of how to run the business. The leader has the opportunity to get a clear picture from the company, and if the leader become the new country manager, the leader will know all the problems, opportunities and risk the company is facing.

Project Outcomes	* Learning DD process in BU´s (part of community) * Learning to cooperate * Daily meeting in the evening -> Immediate exchange of knowledge, shared vision, relationship building

CASE 4

Project: High Development Organization

- **Performance**

The implementation in new plants in other business units began because one of the managers of the plant was move to other business unit as a country manager and he participated in this process and decided to implement it in the new unit. The 8 hours each week of getting together and think and train, worked in benefit of the team but also increase the learning curve of all the workers. The trust the team built with no bosses. The increase responsibility they took in doing the task.

Project Outcomes	* Trust * National Quality award * Stimulate transfers

CASE 5

Project: Global Trader

- **Performance**

The base of the project is in the interaction between business units to accomplish a task, they were the first to start this kind of interaction and now some other departments are following their example. Seen the company as a hole and making deals with the support of the size of all the company instead of just one business units strengths the purchasing competitive advantage.

There are several projects going on in the purchasing area, some of them are initiatives of new projects of other business units and not from the corporate that at this point are starting to spread at the global level. The organization of the Purchasing Department is Matricial, but the most important thing is there is "TRUST", people participate because the corporate purchasing department gain confidence and act as a facilitator, help and add value to the projects. The most valuable thing is that they met face to face.

Project Outcomes	* Learning about other parts of the firm broad perspective * Saving when purchasing * Used as a model for other departments

CASE 6

Project: Tax Forecasting System

- **Performance**

- Direct increase in financial performance of each unit, because they learn how to make it better

- Change in the work culture, more cooperative, they understand to help each other is better, because other business unit can give an idea how to solve a problem that they face before and this happen frequently due the fluctuations in the markets in different countries.

- The system began to work and the business units had more information and they began to ask for more information.

- The annual meetings are still in place, keep open the communication help and get more feedback

- Build Trust to get information, go and visit them every month, , through a long time relationship you will get more than just forcing them to update the system

- The benefits they obtain with the new information : impact in the financial results and the incentives that are in place to find out creative ways to increase the rpofit in each business unit make them a more motivated group to share knowledge.

Project Outcomes	* More process difficulties * Not quite as sucessful

CASE 7

Project: Plant automation

- **Performance**

Implementation phase end when the plant is working properly, but it does not avoid painful problems after short periods of time. All business units have problems and they do not share at this point.

With the integration of the process the idea is to avoid this problems.

After the implementation of the software there is more efficiency in the process, they get better results in the quality of the product.

The problems are shared in the database but it seems people do not pay real attention to that.

Now with the new committee everybody knows there are different needs but there is a consensus of going to the same way.

- There is no real transfer of expertise between corporate and business units due to the way the implementation is set up

- Even if the software represent a competitive advantage I do not know if the time to implement make the company less competitive

Project Outcomes	* Sharing late in process and only limited * Each of coherence, process fragmentation * Problems after implementation

CASE 8

Project: Integral Operation

- **Performance**

- Has in economical impact, people are aware of how their work make an impact in the whole business and get more conscious. They waste less material; they turn off the lights, etc.

- In the basic process of the business they find out how to measure the product that is sell to other people because the client did not wanted at the last minute

- How much product is sell by person in the plant

- What is the relation between price and market quotas

The project has found new applications in other products and processes:

- Improved Relation between client-supplier

- Implementation of ISO-9000 was easier to prepare the certification process

- Help with the measures of Variable Compensation to evaluate performance of the employee

- Operating Margins

- Investment Recovering

The approoach of the audit department as a consultants not imposing the system has worked very well, when they convince the plant manager there is a sense that the plant own the project and this is the key to make the project successful.

Other important issue is that when they are using the business case to help the people find out their own variable to control, that make have the people a sense of discovering something new and belong to them.

Project Outcomes	* Used in other products, processes * Workers learn relations between total business and the plant * More motivation and commitment

- **EXTERNAL**

I will give some examples based on my cases and how Beta could more effectively measure externally Knowledge integration.

Name of the Project	External Measurment
Global Human Resources Strategy	Skilled employees and better leader will have an overall impact in the performance of the company. Carrer alternatives will help to put the right expertise in the right place and more easily integrate task forces for new projects.
Transformation of a plant energy	Saving cost 17% below budget will impact directly the profitability of the company.
Due Dilligence	How much did you pay for the company vs how much is worth. The new best practices learned by the people that will apply when they finish the project in their normal jobs.
High Development Organization	Efficeny of the process. Quality awards.
Global Trader	Economies of scale. Savings because the increase in negotiation abilities.
Tax forecasting system	Saving in tax paids, directly impact in profitability.
Plant Automatization	Customer satisfaction. Cost savings.
Integral Operation	Production cost savings gives lower overhead directly impact on profitability. Better compensation base.

Measuring the impact of the Knowledge Integration process is very important. Without measures of success, the motivation of the employees will disapear and the firm will not be able to say what is a good practice and what is not. The question here to ask the top-management is the extent to which they believe that measuring the outcomes of the Knowledge Integration process, the company can control the project better and gain a sustained competitive advantage. Or are we going to change the way of measure projects performance in order to get a new knowledge accountability?

CHAPTER VII. CONCLUSIONS

This chapter presents the results and generalizations of the analysis and observations through the cross comparison of cases within Beta. The major conclusion is that Beta corporate headquarters must implement mechanisms to encourage knowledge integration across countries in order to maintain its competitive advantage and to sustain growth. The analysis supports this conclusion by demonstrating the importance of the role of the corporate center in fostering knowledge development and integration.

The first part of the findings concentrates on the key tasks that the corporate can accomplish in order to support the process of knowledge integration. The second part describes the conditions under which corporate needs to perform these tasks, drawing on the example of Beta. The third part describes situations in the cases where absence of mechanisms from corporate headquarters inhibits the process of knowledge integration. The last part draws some general conclusions.

1. Processes or Practices that support Knowledge Integration

The following are tasks that corporate can perform to support knowledge integration. They are described in chronological order of the development of any project.

- **Provide Infrastructure:** This task should be the ideal context where the initiation of creative innovation and environment where transfer and transformation of knowledge can take place. Corporate headquarters needs assure that the firm provides systems and procedures, physical facilities, Information Technology and training to enable this environment. One of the mechanisms to promote knowledge integration is to have the support of information technology to facilitate the processes. But if IT departments do not support the process of implementation of the technology with new cultural changes, the use of this powerful tool will be useless.

- **Initiate the process:** This task defines the existence of the corporate role in multinational firms. Corporate headquarters has consolidated information about the business units, they define the strategic vision of the company, and most of the time, they concentrate the best expertise in the core business of the firm. These factors enable them to detect opportunities for corporate and/or the business units that the business units will not identify, when corporate detects the opportunities it should propose and initiate a new project. As part of this task corporate headquarters should be seeking good projects, processes or practices that are already in place in the business unit, compared with the other business units, and evaluate them with the other business units to promote and support the transfer of those seemed to be the best.

- **Structure the process:** After the initiation of the project, one of the most important tasks is to assure the success of the knowledge integration process and, therefore, of the project is the way that corporate center designs the project.

  - Corporate should create relationships. Informal relationships between the business units and corporate, e.g. promoting communities of practice. Create the right cross-functional or cross-geographic team for the project. Send people to interact from one country to the other.

  - Corporate should create interdependence. Tasks for the project should be assigned and designed to be accomplish through the cooperation of the relationships created.

  - Corporate should modularize the process. In order to promote interdependence, it is sometimes easy to divide the project into sub-tasks or phases in order to facilitate the people is focus on one part when the project is large.

  - Corporate should provide process models: It should create business cases or define the procedures for repetitive processes that enables people to have a vision of the expectations at the end of the project. It should define performance in terms of internal and external outcomes.

- **Motivate Participants:** Corporate should be aware that in every project in the organization, the key element is people and in order to promote knowledge integration between them, it should use, different mechanisms to motivate them.

  - Approaching of people: The most important step in this task is how to propose the project and create trust. Corporate should be selling the project from the top management to the lower level until they get total support. Other ways include getting together at annual meetings where they can talk face-to-face and exchange ideas.

  - Enable leadership: A project without a leader is a ship without a captain. The role that corporate plays in defining leadership can take different forms, one role corporate can play is to be the leader because of the expertise. Other option could be define several leaders for different sub-tasks of the project; other posibility could be select the natural leader for the task in order to promote alignment in the business units.

  - Create sense of ownership: Corporate can use the business cases or act as a facilitator in the project, giving the opportunity that a leader comes up or forming the teams that at the moment of start working together do not have everything predefined and they can go rediscovering the process until they feel they create something new on their own. This process promotes the culture of innovation in people that feeling creative promote and pursue their own ideas.

  - Create commitment: There are several ways to accomplish this objective. E.g. linking project to careers; challenging people recognizing successes that might provide an important step in their careers as a way to create commitment. Other example is having to present their work to collegues and/or top-management creates more responsibility in the people, it make them feel that their work has meaning to others. They should be encourage to share their own knowledge with others, to give people pride them in their work if corporate promotes this task.

- **Provide Resources:** Corporate cannot avoid this task in order to successfully implmennt the process of knowledge integration in the organization, particularly if this process is to be enablee in geographically dispersed business units.

  - Economica Resources: One important task is to define how the company will manage costs in worldwide projects, especially when talking about sending people overseas. Defining who pays for the travel and who will do his or her work when he or she is away.

  - Complementary knowledge: In every project, there is a need of new knowledge that is not existent in the business units. Thus, corporate can either use its own expertise or look for consultants who provide the best approach to the skill that is needed.

- **Control Progress:** Corporate should, at least in the beginning of the project, establish mechanisms to monitor perfomance of the project. Subsequently, it can leave it to the business units or the leader.

  - Procedure Model: One mechanism should be to create the first set of procedures or manuals that enable people to understand the outcomes required on the project. After that, people can update them and, change or delete stepsm to improve the procedures adding new experiences.

  - Facilitators: People from corporate should be acting as facilitators in the day-to-day tasks until the project is completed not just at the start of the project.

  - Measure outcomes: Given that internal and external outcomes are defined since the beginning of the project, corporate facilitators should be measuring the outcomes to correct deviations in event of their existence.

2. Conditions in where the corporate role enables Knowledge Integration

This section of the chapter will provide examples from the Beta cases to demonstrate the conditions that make knowledge integration possible.

- **Provide Infrastructure:** As noted in chapter IV in the case of Beta, the information technology structure is already in place for this company and, it is a totally integrated network in the business units. This was an important factor that enables most of the successful cases described in this thesis.

- **Initiate the process:** Most opportunities that resulted in successful knowledge integration in Beta were identifiesd by a corporate unit. Human resources department sees a corporate opportunity and start the project. The energy department detects savings in cost in a business unit. The tax department sees that opportunities of knowledge sharing will save time and money to Beta. The only situation where this is not the case was the automation project, where the opportunity was identified by one of the business units where then sold it to the corporate. However, once, corporate was convinced, they initiated the implementation process in the other business units.

- **Structure the process:**

  - Corporate should create relationships. The energy case enables relationships calling one of the business units to support the other. The due diligence process motivated people from different business units and corporate that never worked together to be involved in an important project for a short period of time. But this short time and commitment enables a rapid way to integrate teams.

  - Corporate should create interdependence. Human resources case makes interdependence at the moment of definition of sub-projects, where the success of each project is highly dependent of the share of knowledge between all the business units involved. The due diligence process creates interdependence when the team is aware that everybody must

finish the task in the best way possible and the outcomes should be evaluated together. Errors by one member of the team should be seen as a project failure not only a part of the project that did not work.

- Modularize the process: The human resource case of splitting the project in sub-projects gives the sub-leaders opportunities to focus in one small task, rather to trying accomplish a big task. The global trader case enables teams with different tasks. The people assigned should focus in on that particular task when he or she is part of that team.

- Provide process models: The integral operation case facilitates the business case, so as to give people the opportunity to discover their own variables. The due diligence case provides one explanation to the participants about the expectations of the top management from the team, the formal manuals/procedures to follow and the well-defined outcomes expected.

- **Motivate Participants:**

- Approaching of people: The integral operation case first approaches the country manager, when he or she is convinced then they present the business case and act as a facilitator.

The energy department gives with the bidding the opportunity to create a challenge for the technical department, and when they won the bidding, they were more motivated to make it right.

- Enable leadership: The human resource case enables an interesting shared leadership, which engender more commitment to the project from all the business units. The energy case provides a clear way to take the lead due the expertise that corporate has in this field. No one else could do it better.

- Create sense of ownership: The integral operation case with the self-discovering of the measures by the workers, creates a feeling of being an innovative person and makes them feel that their work matters. In the high development organization case, workers had to present their achievements to their colleagues, a situation that makes them be more responsible about what they are doing.

- Create commitment: The due diligence case enables commitment when people know that this participation in this project will enhance opportunities in their future careers. This challenge leasd to more commitment. The human resource case presents the same situation, i.e. the leaders know that their performance will be seen by the top management and therefore, this it is a direct enhacement to their career.

- **Provide Resources:**

  - Economical Resources: The human resource and due diligence cases are both examples of priorities where there are not economic restrictions for traveling or meeting. This situation facilitates the outcomes. In the case of energy department, they could use their economic resources to allow people from the operational level of one country travel to the other country and transfer knowledge.

  - Complementary knowledge: The high development organization case has external consultants who facilitate the implementation of the process. The energy case, through their expertise, developed a new capability to build plants for a non-core business of Beta in an effective way.

- **Control Progress:**

  - Procedure Model: The due dilligence case gives clear updated manuals and explanations in the beginning of the project about the expected outcomes at the end of the project.

  - Facilitators: In the global trader case, the corporate acts a facilitator to create the teams and to help with their negotiation expertise. The human resource case has 3 managers making certain that the flow in the development of the project is done properly.

  - Measure outcomes: The energy case had very clear targets in cost energy saving, in time and in cost of building a plant. The integral operation case knows exactly which are the variables that they want to control and what are they for.

3. Processes or Practices that inhibit Knowledge Integration

This section reviews observations from the Beta cases regarding unsuccesful implementation of knowledge integration in the projects.

- **Absence of top management support**: In case 6, the tax integration system, and in case 7, the plant automation project, there was an absence of top management support, since these projects were considered to be operational rather than strategic.
- **Not strong Leadership:** In case 7, the plant automation project, the committee that was already in place had not identifyied a strong leader who could enable a faster knowledge integration. They are begining to discover it, with more meetings but there is no real leader in the project at the moment and corporate has been unable to define one or break the project into several tasks to define sub-leaders.
- **Absence of process models and control of the outcomes:** There is still a lack of definition of the final outcomes to achieve in case 7 of Plant automatization. Thus coordination between the business units without definitions of the final outcomes has been a problem. Therefore, there is no way for corporate to control the outcomes if they are not still defined.

4. OVERALL CONCLUSIONS

"Why is good to share knowledge? If you keep expand the knowledge. By the time your competitor learns what you did, you are one step ahead" ? (Eleanor Westney)

Knowledge integration has to be central, not a peripheral firm activity. The process must be ongoing and institutionalized, not temporary. It must be the responsibility of everyone, not only from the initiation of the process. Knowledge integration is only valuable when it occurs between the people of the organization and applied to solve problems and being more competitive. In other words, the focus must be shift, from developing knowledge to building a knowledge integration process capability into the organization. Companies will have to identify better measures of success in the knowledge integration process to see how much is worth the effort. Due to the focus on one company, what worked in some situations might not work for a new one.

But implementing the corporate tasks will yield greater probabilities assuring a successful knowledge integration process. Corporate has to encourage participation across countries, providing the mechanism to support activities to enable knowledge integration and using them in daily operations can improve the management of learning effectively and achieve competitive advantage to maintain a sustained growth.

But there are still many questions to answer:

- How can the process of knowledge integration be effectively measured?
- What kind of knowledge should be shared?
- How can individualistic competition be elminated and promote knowledge integration?
- How can Corporations be motivated to start the process? Should the process start as a big project or should it be an organic one?

This thesis demonstrates only a first step in the evolution of a new era in corporate activities.

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