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Virtual Teams,  
an alternative way of business.

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# INDEX

	<b>p.</b>
<b>Introduction</b>	<b>1</b>
<b>Chapter 1: Virtual teams</b>	<b>2</b>
1.1 World is changing.	2
1.2 Globalization.	3
1.3 Impacts of new technologies in business.	7
1.4 Introduction to Virtual Organization.	10
1.5 Definitions of Virtual Teams.	14
1.6 Main types of Virtual Teams.	15
1.7 Main reasons to lead to virtual approaches.	16
1.8 Challenges.	21
1.8.1 Building a Virtual Team.	21
1.8.2 Evaluation of intangible assets.	22
1.9 Cultural point of view.	24
1.9.1 Importance of cultural dimensions.	24
1.9.2 Context culture.	26
1.9.3 Schwartz's model.	31
1.9.4 Lewis model.	32
1.10 Other aspects to consider: incentives and obstacles of different countries.	34
<b>List of figures</b>	<b>37</b>
<b>Chapter 2: An effective Virtual team.</b>	<b>39</b>
2.1 Communication as a tool.	39
2.2 Clarity on: goals, roles and processes.	40
2.3 Commitment.	41
2.4 Team Building.	42

2.5 Keeping team member always aligned with project.	43
2.6 Technology.	45
2.6.1 Managing technology properly.	45
2.6.2 Developing a good information system.	48
2.6.3 Virtual Team technology tools.	49
2.7 Setting up a Virtual Team.	50
2.8 Examples.	53
2.8.1 Most famous companies that are using Virtual Teams.	53
2.8.2. Companies totally based on Virtual Teams.	54
2.8.3 Application into education systems with VIBu.	56
<b>List of figures</b>	<b>58</b>
<b>Chapter 3: Trust and Communication are fundamental.</b>	<b>59</b>
3.1 Communication: an introduction.	59
3.2 Barriers to communication.	61
3.3 How technology is changing communication.	64
3.3.1 Innovation is coming.	64
3.3.2 Computer-mediated communication.	66
3.3.3 Communication in virtual teams.	68
3.3.4 Developing relations in Virtual Teams.	73
3.3.5 Impacts in group decisions.	75
3.4 Communication.	77
3.4.1 Communication in Virtual teams.	77
3.4.2 Importance of communication and trust in performance.	79
3.4.3 Communication centrality.	83
3.4.4 Social Network Approach (SNA).	83
3.5 Trust is essential.	85
3.5.1 Trust in Virtual teams.	85
3.5.2 Trust and innovation in asymmetric environments.	90
3.6 Main effects of trust.	92
3.6.1 Sharing knowledge.	92

3.6.2	3.6.2 Organizational performance.	94
3.6.3	Innovation processes.	95
3.6.4	Developing outsourced projects.	98
3.7	Outsourcing performance solution.	100
3.7.1	Effects in performance of initial and ongoing trust.	100
3.7.2	Define a proper governance.	103
3.7.3	Hybrid: relational-contractual governance.	104
3.7.4	Alignment outsourcing solutions with business strategy.	106
<b>List of figures</b>		<b>108</b>
<b>Conclusion</b>		<b>110</b>
<b>Bibliography</b>		<b>112</b>
<b>Acknowledgments</b>		<b>118</b>

## INTRODUCTION

This work as its object to explain and introduce a new strategic approach to business processes that is called Virtual Teams. Furthermore, there is an analysis about the implication and the possible solutions that can achieve as an innovative process.

The aim of this work is based on understanding what the main required characteristics to be successful and how integrate them with the business strategy.

To reach a better understanding from everyone I preferred follow an approach that it is simple and understandable, I explained minutely every step, meaning, tool, environments and variables relate to virtual teams.

Into the first chapter, I introduced the topic from the globalization to the factors that created by new needs, like the increase of velocity of doing due to technology's improvements.

There is a deep description of what virtual teams are and which are the main challenges that would face into real world, especially in terms of cultural, religion aspects between members of the group.

The second chapter consider effects of communication as a tool and how it impacts on the effectiveness and efficiency of the projects. In fact, it is really interesting to see how different factors are changing final results in terms of information system, technology, commitment. To achieve a broader view about this strategy there are some real examples that can be considered interesting and useful.

Into the third chapter, it is analyzed the impact of communication from different point of view, the possible barriers that employees can meet and how technology can help or create new issues if not proper managed.

The study of communication is essential to build trust, element that is considered one of the most relevant for successful virtual teams.

## CHAPTER 1

### VIRTUAL TEAMS

#### 1.1 World is changing.

After the rapid evolution of the Internet, the world as we know it, is in a state of continuous change. For the past twenty years, technology has increasingly taken more importance in our lives.

The way of communicating and sharing information has advanced in a process, permitting the creation of social networks that are connected in each sector: service, tourism, advertising, etc.

This has created opportunities to form profitable businesses with more effective communication, contract and skilled workers, due to technology. In fact, technology is adapting and growing our business model and always creating new and innovative concepts, thanks to the latest devices that allow the creation of new services and collaboration on a global scale.

If we take in consideration a random product such as a car, fridge, or computer, we are going to meet same sensors, permitting rapid and efficient communication between machines.

We should remember that technology is one of the main drivers of globalization, something that has completely transformed all our lives. Globalization is represented as a process of incorporation and integration between people, companies and nations, driven by investment and international trade with support from the use of information technology. It leads to a worldwide cross-cultural understanding and creates a common place where people can exchange products and ideas. Internationally, globalization is a well-known and discussed topic, because of its impact on the environment, political systems, economic development, culture and human welfare. The most significant factors involved are political, cultural, economical and ethical. Economic factors can create many

opportunities; globalization permits access to specific resources around the world, which is particularly beneficial to countries with a lack of these resources.

The phenomenon of trading around the world among different continents has occurred since the Middle ages, in early business in Europe and China, and this time represents the vast change in trading.

With new policy and technological improvements in the past few decades, cross-border trade and investment has increased by twenty times, relating to Thomas Friedman's idea that globalization is "farther, faster, cheaper and deeper"(The state University of New York, 2016).

## **1.2 Globalization.**

There are many contradicting ideas about globalization, because not everyone believes that it is purely beneficial for humanity. It is known that globalization attracted and created many new opportunities in numerous sectors. In fact, it is involved in the creation of a free trade market where each country could specialize in the sector with the most competitive advantage. In this way, the consumer will have lower costs, a broader variety of goods, and higher level of export, economy of scale but a greater competition (Kapoor, 2011).

Another point that is focalized is the freedom of labour, in which workers are resources that can move from one country to another, and can work in different multinational corporations.

Focusing on the production sector, countries with a competitive advantage will enjoy an economy of scale and developing countries will receive higher investments that will permit multinational improvements.

At the same time, there is some controversy surrounding the concept of a free market as this can harm developing countries that are struggling to be competitive. Often the increasing levels of pollution and use of non-renewable resources has a negative effect on the environment (Pettinger, 2012).

From the cultural point of view, there is the risk of creating a world with less cultural diversity.

Other risks are illustrated by opportunistic behaviours adopted by companies, attempting to acquire resources for lower costs or avoid paying taxes. Nations should cooperate and create a common law to support and protect citizens.

The increase in opportunity is high, in fact, governments are lowering their barriers with the idea of creating a unique market, illustrated by Europe.

New approaches allow governments to regulate foreign investments and to get out of the market for companies to reach global governance.

Nations have an important place in this path, as they can influence international investor's choices.

The most important actions are presented in the list below:

- Creating new infrastructures and facilities to attract foreign investment
- Having the ability as a country to be stable in political and economic terms
- Helping developing countries to increase labour and environmental standards
- Protecting infant industries long enough to permit entry in the international environment, only when they are ready to be competitive.

Companies are significant in the process of globalization; they must manage a greater interconnection amongst markets, and an increase of the communication in both company to company and company to customer relationships.

For this to be beneficial, the company must be aware of the vast opportunities that globalization creates, but at the same time be careful to evaluate the new risks that enter the field.

An analysis from the perspective of the companies reveals some positive aspects, for example, a company helps the population of a developing country recover, through the creation of jobs, lowered prices for customers and providing technology and education.

The multinationals can enjoy access to broad level of resources, higher levels of information about their customers and the creation of products/service that fits better.

People around the world start to become more tolerant compared to other cultures, which permits improvement of the skills of future workers, such as communication and adaptation. Multinationals can benefit from this, in fact, labour can move among different countries in order to satisfy company needs (Reading and Qui, 2016).

Companies will then gain more power and thus, have impacts on political decisions and social welfare.

There are many claims of big firms like that have been infamously involved in tax competition and tax avoidance. This occurs because multinationals can set up offices wherever they prefer, with the aim to get a low rate of taxes.

All of these factors bring many changes in our markets, especially in order of competition and customer's needs.

Generally, competition is connected to the cost and price of products and services, the target market, technological adaptation, velocity of answering and resources, etc.

As in a national economy where one can produce at a lower cost and sell for less, conquering market share.

For these reasons, companies are investing a lot in technology, technology management and in reaching an R&D management, because of the understanding that to be competitive, businesses need to be able to quickly adapt to fulfil customer's needs.

Globalization has increased the velocity of technology transfer and it is the reason of increasing costs for some companies, they should be aware of it to enjoy the involvement into new markets and opportunities.

If they are interested in entering into new markets, companies must be able to acquire goods and service in a more effective way. If not, the organisations will not meet customers' expectations and thus, will lose profit and market share, ultimately pushing the creation or improvement of a customer focus strategy (Insurance *et al.*, 2015).

These circumstances make it possible to change customers' behaviours that are influenced by multiple factors, such as knowledge, attitudes, beliefs, culture, personality, demographics (lifestyle) and psychological factors that implicate personality, motivations, family, sub-culture and social class.

During recent years, consumers have become more similar and companies have started to invest in developing a global marketing mix toward specific customers' needs.

In fact, corporations are investing more in understanding customers' needs, increasing the variety of products/services and developing managing systems that lower the cost of transporting information, goods, people and capital among continents.

Currently, people are more informed, interconnected and adapted to survive in the market. Enterprises need to improve production efficiency, increase market share and seek cheaper raw material and technology.

Together, these changes build a high level of choice in the market, affecting behaviour of customers and their expectations, through acquiring goods in a fast and efficient way.

Through analysis, one can infer that consumer behaviour can be altered by internal factors such as local culture. In addition to this, external factors or effects of globalisation, such as communication, information and interaction can also modify consumer behaviour.

Collectively, these variables have dramatic consequences for markets and company strategies that must be selected to standardise or adapt their products into different markets.

Globalization brings a set of challenges for companies, it increases pressure in foreign markets, where businesses must invest in new buildings, efficient infrastructure, support of the population that can include giving to charities, providing education, assisting families, medical support and developing an effective way to transfer communication and large amounts of data efficiently. This is because the communication system is essential to continue international business.

If we consider a domestic market, one can recognise that pressure has increased, because domestic customers' expectations are increasing and becoming more uniform with foreign expectancies.

Some of these factors are increasing the cost of doing business, especially the research of hiring talented local employees, translators for international communication, global advertisement, transportation costs, pushing the company to use different strategies and furthermore, better collaboration for ultimately effective and efficient research and planning.

Companies must always increase their viability in the global market and from commencement, consider all challenges and risks they may face.

This applies especially to small businesses that have less resources and infrastructure, as they must pay attention to the local impacts of foreign competitors; something that will certainly change the way of doing business.

For example, an owner of a small-town grocery may focus on establishing a strong, friendly relationship with his customers, as he cannot afford to face big competitors like discounters with low prices.

Still, if they can manage their activity properly, thanks to globalisation, they can expand their customer base by lowering dependence on few major customers or suppliers, attaining the opportunity to go into new markets. As well as this, it is possible to gain additional growth of production and competitiveness through employing new skilled workers, creating an international network and access to unique resources.

On the other hand, big businesses face different challenges, such as creating an international strategy. We should not consider that globalisation is the only factor to push companies in this direction, as it can help to develop economies of scale, lowering the cost of resources, in terms of labour, materials, skills and so on (Littrell and Miller, 2001).

The creation of a common customer base is important for a global strategy, but we already know that from a global perspective, factors between countries must be interconnected and they aren't often. In fact, research and development offices are always situated close to the headquarters of a company and multinationals study and apply different details to suit customers' needs, varying from country to country. In this way, they can benefit from standardisation strategies where customers are similar and where they are different from the initial research; Sony and Volkswagen both represent good examples of this.

For other companies that work in different sectors such as pharmaceutical, financial, aircraft, luxury, it is necessary to be international to survive in the market and reach the right level of sells, because business requires a high level of investment.

One continuously significant challenge in human resource management is the necessity to create competitive advantage, especially in developed countries where there is shortage of skilled workers due to aging of population and retirement of baby boomers (Krugman, Obstfeld and Melitz, 2012).

### **1.3 Impacts of new technologies in business.**

Multinationals should be able to adapt their resources to the market changes and attract, retain and develop high performing employees. In a multicultural environment, there exists a workforce with different cultures, languages and often employees and company sectors are distributed in various countries. For this reason, it is critical to have a good internal communication system, to identify customers' needs.

To develop an environment where communication and coordination of activities are permitted to reach common goals, it is essential to integrate different value systems and shared global values.

To collect data of employees, some of the main functions of HR departments include hiring practices, contracting, creating development paths, and defining benefits, rewards, gender, culture and nationality. Analyses during the initial and final periods are vital to support decision-making (Kapoor, 2011).

During the last years, information technology is becoming an integral part of the business strategy, necessary to create worldwide integration. For example, with the creation of workflow software, developing transmission protocols is more effective and cheap, meaning that it is possible to increase the velocity of processes.

Another factor that makes globalization possible is illustrated by instant messaging that permits people to communicate in real time, in every part of the world, where there is an Internet connection.

This new environment is represented by the boost of level of competition and globalisation, made possible by organisations that started to face some difficulties, as described before, especially in terms of recruitment, maintaining expertise and skilled workers and developing a workplace that can inspire, engage and motivate people. It is considered necessary for effective and strategic goals, to manage workstations with employees that have different cultural backgrounds and skills.

Sometimes, to manage geographical and cultural dispersion of a project, a company must establish a good communication and collaboration inside the team first, whether it is in the same offices or in a third location.

Managers can choose from different typologies of sourcing; all these changes affect the strategy of selection for making or buying.

Some possibilities from these new necessities are different sourcing strategies, such as sourcing, outsourcing and offshoring.

- “Sourcing” is a contract or a delegation from a business to an internal or external entity that can be located anywhere.
- “Outsourcing” is a contract between a customer and third service provider for the management and completion of a certain amount of work, a specified timing, cost and quality level of service.

- “Offshoring” is a reallocation of organisational activities to a wholly owned subsidiary or independent service provider in another country.

An alternative approach could be to use a captive model delivery service when the work is owned by the organisation. Where the work is offshore from an independent party, it is called offshore outsourcing model delivery service (Vaia, 2015).

**Sourcing business model based on ownership and location.**

<b>Third party</b>	Insourcing Staff augmentation	Onshore outsourcing Domestic supplier, 'rural sourcing'	Offshore / nearshore outsourcing foreign supplier
<b>Joint Venture</b>		Co-sourcing	Offshore / nearshore development centre Build-Operate-Transfer
<b>In-house</b>	Internal delivery	Shared services	Captive centre (e.g., R&D); Captive shared services
	<b>On-site</b>	<b>Onshore (same country)</b>	<b>Nearshore / Offshore</b>

**Figure 1.1**

These approaches will permit companies to move into countries with favourable conditions and thus, enhance the importance of developing countries where they have better opportunities to find good, cheap resources. With the recent increase of business and IT outsourcing, customers start to feel more confident in these paths, because suppliers have established their level of service providers and so are much more inclined to invest in contract management.

Globalisation and international investments are tied together; they push economies to invest each other to protect health and acquire new profit.

Thus, enterprises must face competitiveness through sourcing materials and outsourcing labour in other countries.

#### **1.4 Introduction to Virtual Organizations.**

The mix of globalisation, outsourcing and telecommuting help to boost a new concept of doing business, called virtual office space.

Several offices work with telecommunication and mail for the organisation of employees and because of this, some enterprises have started to set up virtual offices, in order to meet different needs and be more effective and efficient in reducing cost in office maintenance.

Thanks to telecommuting, businesses can establish their headquarters in one place, with their manufacturing and operations process elsewhere.

This gives a company the opportunity of growth and allows efforts to be focused on main operations that may lead to a competitive advantage.

Telework is recurrently becoming more and more popular, whilst at the same time changing the relationship between workers and the traditional workplace through digitalization and use of computer-mediated communication (Alakoç Burma, 2014).

Virtual offices are used especially in communication services, such as:

- Remote receptionist,
- virtual assistant,
- call centre,
- voicemail,
- phone answering service.

When we consider space services, we should focus more on:

- professional address,
- mailing address,
- scanning received emails,
- reception courtesies,
- business meeting space,
- on-site amenities (full-office provider of all tools required for virtual organization),

- virtual office solution,
- other services (creation of website, poster, business card, presentation, consultations).

The advancement of Internet and networking has created a need for business flexibility (Ecoggins, 2013) . With the emergence of valuable virtual knowledge-based production and services, a complete transformation of structure was required, thus leading to the creation of virtual organization.

These new types of approach are considered as new organizational models, that are becoming a useful tool to face competition, made possible due to developments in transportation, communication and information.

Normally, it is organisations or communities that cooperate with information technology in specific topics that have more experience and skills, which is mutually beneficial.

Virtual organisation could be defined as a goal-oriented enterprise, as it is composed by members situated in geographically dispersed locations with different time zones, that can serve customers immediately, at any time, represented by a different organizational form, rather than simply an attribute (Mowshowitz, 1997).

As discussed previously, due to technology and globalisation, the creation of new types of organisation is possible, of which are characterized by innovative relationships between the organisation and the individual.

Today, it is common to face virtual reality, such as on online shopping websites, through communication, temporary installation to meet specific needs, permanent organization to increase revenues and reduce costs. Home electronics give flexible working hours to workers.

Some think of virtual organisation as a successful solution for their business, but do not consider possible risks and efforts before implementing it.

Creating a virtual organisation commonly brings:

- a shared vision or goal to cooperate,
- cluster activities for competencies,
- the ability to work in teams and improve quality of activities,
- the distribution of information in real time into the network,
- continually updated conditions and competencies required in each group and project.

To reach efficiency, effectiveness in accomplishing objectives and arrangements should be established early, to create a network that is coordinated and able to cooperate (Alakoç Burma, 2014).

In this process, a competent leader is essential, he/she should be able to form the right group of workers according to their skills, defining the clear purpose of the final task and describing precisely the process and roles that each element must follow.

This could construct a standardised organisation, but if we insert these components into dynamic relationships among employees, a system where information is exchanged quickly and permits the development of a new adaptable environment able to meet customers' needs and respond as fast as possible.

But it's not always as easy as it appears. The organisation will inevitably face some difficulties when supervising their jobs (Ciotti, 2016). In fact, the following must be considered:

- Training and recruiting costs,
- New tools and technology to influence productivity,
- Redesigning of management processes,
- Keeping valued and stimulated employees.

If we are reducing costs of real estate due to technology and training investments, expenses must be controlled and monitored to ensure an effective integration of virtual offices in an organisation. This requires efforts, training, skills and investments.

A summary of the main elements (Alakoç Burma, 2014) to be managed by the organisation is presented below:

- Managing virtual work: making transitions with informed decisions, defining what technology can't replace and what is necessary such as socialisation, loyalty, and communication,
- Managing people: required new skills and training, including training for balanced work/private lives,
- Managing information: enabling workers to make correct decisions, increasing productivity and effectiveness and training employees to share and understand how to get information,

- Managing teams: without opportunity of face-to-face meetings, a problem could take a long time to be solved. Defining individual tasks and analysing the performance in terms of client satisfaction, costs and financial results,
- Managing processes: implication in operational processes and administrative ones, test information systems, measurement, evaluation in the virtual environment and defining if it should be redesigned to have a better control,
- Managing facilities: providing activities to remote workers, defined by managers' support and provided training, especially to facilitate knowledge sharing.

Sometimes, this approach permits many skilled workers the flexibility of managing working hours and thus, they become more motivated and happier that super visioning is not always essential. It is important to look for professional figures who are getting used to be self-motivated and understand the customers' needs.

To set control, it is required to coordinate schedule could better fit among workers to compare their jobs.

Cross-team communications make the model work, always discussing productivity of method, technology and expectations.

For these reasons, before creating a Virtual organisation, one should prepare information, technology and knowledge to be constantly available for the workers inside of one's team to facilitate communication.

Also, good communication and trust are required to reach objectives, through collaboration and virtual meetings. However, creating trust may be more difficult in virtual reality then in face-to-face relationships (Sotto, 1997).

The role of the middle manager is changing; they help to take tacit knowledge from the front line and translate it into explicit knowledge in the organisation, a crucial role in the business process.

In the global economy, knowledge represents one of the most valuable resources that a company owns and this leads to the creation of network and devices that connect experts. In the new environment, physical presence is not always possible, but there are ways that transmit sensations to be connected.

Businesses that are expanding in global markets need to dig deep in this phase and rethink their human capital resources, starting operations where labour and living costs are cheap.

## 1.5 Definitions of Virtual Teams.

Organisation can create groups of people from different backgrounds and skills, situated in different cities around the world, with shared responsibility versus specific outcome that can work twenty-four hours a day, seven days a week across diverse time zones; this could be one of the definition of **virtual team** (Malhotra, Majchrzak and Rosen, 2007).

It is important to specify that this is different from a simply virtual collaboration, members that work for a common cause and are all responsible for the outcomes are those who compose virtual teams. Others see them as a unique social entity into organisational boundaries with a team purpose.

Virtual teams can be applied in all industries and each industry gives them a different definition (Zofi, 2011):

- Humanitarian organisation: “People who need to work together who are not currently in the same office. They can also be working in different departments, or different cities and countries, and still operate virtually as well”,
- Technology communication company: “Any team that does not have a set office that people show up in regularly. There are two sides to it:
  - 1) Pulling together an ad hoc team and creating a virtual team to work on a project on an ‘as needed’ basis,
  - 2) Virtual teams working across time zones using technology”,
- Electronic/biochemical company:” A group of people who get together without a solid line reporting relationships to solve a problem. The key attribute is that virtual teams have some accountability to deliver results, but their players do not have a formal reporting relationship to the team leader”,
- Scientist in telecom company: “I see the virtual team as having two definitions:
  - 1) There are people who work only from home. They are telecommuting and never go to the office.
  - 2) They are geographically dispersed. They go to an office somewhere else and may never meet. Virtual teams work per what needs to be done and once the project is completed, these teams are gone”.

## 1.6 Main types of Virtual Teams.

Many organisations turn to virtual teams to reduce operational costs, faster problem solving and innovation.

We know that many variables are involved in this path, such as, the geographical position of each team and its members, different time zones and another point that has not been discussed yet, culture.

Culture is affected by timing and areas, the more they are distributed and the more likely culture will be heterogeneous, meaning that managers must have a good knowledge about it and identify how to design an efficient group. Sometimes teams are connected by background, other times, by culture, and so on. There are many combinations of these variables that can create new models to work effectively as a distance manager.

Depending on timing, space, life-cycle of the project, objective and role of members, virtual teams can be classified into 8 categories (*Management study guide, 2015*):

1. **Networked Teams** are geographically distributed and can have representatives from outside the organisation. It works as a cross-functional operation where each member shares his or her experience and knowledge in a specific issue or field. The membership is opened, meaning that new members can be added when required and others can be removed whenever their role has ended.

The network team ends with the achievement of the task; usually it is applied in consulting firms that must meet customer's needs to provide a high level of quality service.

2. **Parallel Teams** are created by workers in the same organisation; while delivering on primary tasks, they add parallel responsibility in these teams that are developed for review processes or solving problems with recommendation.

The membership is constant and it is used short term and is effective when global perspectives are needed.

3. **Project or Product Development** are teams formed by experts of subject matter from all over the world brought together to perform a specific objective required, that could be a development of a new product, information systems, or something that is specific and measurable deliverables. Membership is fluid, but in this case, members can make decisions for the project, they are common in R&D division.

4. **Work, Production or Functional Teams** are composed by members with one role that are put together in day-by-day operations. Each role and the contribution are clear from the beginning. In the end, members will combine their jobs to meet the solution. They usually work to reduce cost, especially in HR departments.
5. **Service Teams** are a group of people distributed across different time zones, to support companies providing a service twenty-four hours a day, seven days a week. Each member works alone but they all together perform in continuation and are used as technical and customers support.
6. **Action Teams** are created to solve specific issues in the short term; they must be able to provide an immediate solution to a problem. They are specifically used at NASA.
7. **Management Teams** are composed by managers of an organisation who work in different areas or counts. They are put together in order to discuss future strategies and activities to ultimately improve the effectiveness of the company.
8. **Offshore ISD Teams** occur when companies subcontract or outsource a portion of their software to a low-cost location and they coordinate and collaborate with onshore teams to deliver an expected result.

### **1.7 Main reasons to lead to virtual approaches.**

In some cases, in a big virtual team, **virtual communities** can be used as an interacting problem-solving tool to serve the community and attract and maintain members. It is a friendly, social and service-oriented platform that easily permits understanding users' needs and maintains long-term relationships where each can learn from one another (Jarvenpaa and Ives, 1994).

Virtual community is not without risk, there is a need to monitor participant input constantly. Everyone needs to receive the proper information, manage costs and the most important thing, represented by the selection of parameters, is to define whether this strategy is valuable or not.

When virtual organization increases their size and scope, they become less effective and require policies to handle the situation.

Since the 1960s, the nature of jobs is changing due to high pressures to create more efficient structure with multiple specified skills from different countries. Some companies adopt this approach to have flexible hours, improved business processes, saving time and costs and so on.

Now, the main reasons that pushes a company to select and initialize this strategy will be discussed and the reasons why remote growth about 80% from 2005 to 2012 will be analysed (Ciotti, 2016).

Before talking about different characteristics that represent virtual teams, I would like to introduce the most important **advantages** in individual, organizational and societal levels of the choices presented in the below table.

**Virtual organization’s advantages.**

<b>Advantage</b>	<b>Description</b>
<b>Cost saving</b>	Organisations can reduce a huge amount of expenses in terms of real estate, office space and utilities such as electricity, gas, water and executives’ travel. Sometimes they can reduce costs in terms of reaching different suppliers and lowering the costs of resources such as labour and raw material.
<b>Leverage global talent</b>	Organisations can look for talented people around the world and thus, decrease the level of barriers between countries and cultures. Today, each

	<p>company can bring experts and specialists inside of their human resources.</p> <p>Knowledge-sharing levels will rise and there will be an increase in greater innovation. This can result in teams developing optimum business practices.</p>
<b>Increase productivity</b>	<p>This approach permits a higher focus to a specific task and smoother running organisation. It is possible to reduce bureaucracy and increase the speed of decision-making, to then increase productivity.</p>
<b>Self-direction</b>	<p>Members have a high-degree of autonomy to develop the project, potentially stimulating new ideas.</p>
<b>Reducing timing</b>	<p>Virtual teams are usually composed by globally distributed members, allowing the possibility of creating a team that are actively working for twenty-four hours a day, seven days a week. Then, objectives are reached as quickly as possible, especially to meet customers' needs.</p>
<b>Improving collaboration</b>	

<p><b>with other businesses/parties</b></p>	<p>The reduction of the communication barriers make it possible for member to get in touch with suppliers, customers and partners all at the same time, continuously, through virtual teams.</p>
<p><b>New workers' opportunities</b></p>	<p>From the societal level, virtual teams can increase the number of worker's category, because with this strategy, people that previously could not work due to mobility problems or were hesitant to relocate due to either physical challenges or family requirements now have new opportunities.</p> <p>These candidates will be supported by communication technology and have the potential to become good resources for the business.</p>

**Figure 1.2**

As we can see, these new alternative processes allow to increase organizational flexibility, level of quality in services, reducing costs and they permit to focus on core business processes.

With the reduction of fixed costs, they made companies more flexible, adaptable and competitive, it means that they can concentrate to develop core skills and at the same time reach more skilled people for not-core activities thanks the broader choices that the world offers.

These companies are trying to moving from a western organization to a Japanese one to gain competitive advantages and be closer to their supplier to improve effectiveness of strategies, but always with the right innovative approach (Smith, Morris and Ezzamel, 2005). Even if, outsourcing carries several implications for accounting, it represents an easier way to achieve an objective without being trapped in long-term investments and high fixed costs.

An alternative to “make” is illustrated by Virtual team that permit to develop management control over the processes without risking to lose competitive advantages and reducing fixed costs with the opportunity to work with well-skilled workers from around all the world (Lamminmaki, 2008).

There are a lot of reasons that push companies to these two types of approaches:

- Cost driven, when they desire to reduce costs and increase profit with reduction of transaction costs and delivering at lower cost, especially in economies of scale where they try to reach the highest level of efficiency,
- Shifting costs from fixed to variable to be more competitive,
- Strategy-driven, when they try to increase flexibility in order to improve the effectiveness of your company to create products/services quicker using less resources and increasing overall quality.

At the same time, we should know that there are a lot of potential risks, because sometimes managers do not know the real identity or the total amount of a specific cost in advance.

Furthermore, these strategies can affect different variables of the business, such as, flexibility, contracts, levels of control, power with suppliers/clients, possible problem solutions with parties and sometimes can be seen as losing of synergy, reputation, security, business' values.

For this reasons, before using a specific strategy we must consider all the points of view, positive and negative ones to reach a broad vision in terms of costs, strategy, functions, characteristic and environments.

Some experts, advice that the most integrated functions of a business must keep inside and monitoring of the organization, because it is possible that other complexity arrive and the company must be able to face them with the highest level of flexibility that they need. Because companies must be coherent with own culture and goals in all their processes

and strategy to be successful and be an example for the entire sector (Kremic, Tukul and Rom, 2006).

## **1.8 Challenges**

### **1.8.1 Building a Virtual Team.**

Building an effective virtual team takes a lot of time, effort and care. Managers must take in consideration cultural differences, locations, religions, and languages before starting the selection of team members, as well as later, when he/she manages meetings.

For example, if someone is unable to speak properly, they should bring an interpreter who makes a successful conversation between parties. During the chapter, discussion will go deeper into these fields, but to start, a formed list of the main disadvantages of virtual teams is appropriate:

The cost of technology and developing a virtual team means that each member should be well connected with each other through e-mail, phoning calls, video-conferencing and instant messaging. But this could be represented as a high investment in terms of resources and money, especially for the installation and maintenance of tools and systems.

Conflicts, misunderstanding due to differences in culture or languages that occur between team members can lead to mistrust and difficulties in cooperation.

A lack of trust and collaboration can be common in virtual teams. From experience, it is known, that trust is essential among a group to create a team that works to reach objectives, specifically without face-to-face interactions.

Social isolation; today, social life is also created in the workplace. But, in virtual teams where communications are task-oriented, it will affect communication by lack of physical interactions and thus, this could have adverse effects on productivity, and lead to higher levels of stress (Defeo, 2014).

Without a fixed office and less face-to-face communication, it becomes more difficult to create engagement within the group. Managing information, leading the team and managing productivity will recognise personal and group achievement; continuous reviews are required to avoid failure and create trust and a better understanding between members (Harvard Business School Press, 2010).

I have listed only the most important of the advantages of virtual teams. But to achieve benefits and avoid negative results, advantages should be considered 'competitive' advantages with competitors and disadvantages as challenges that can be managed and overcome by different managerial and leadership approaches, training, strategies and communication.

It is vital to understand weaknesses in early processes to create proper teams that can be efficient, effective and avoiding failures, following the huge companies IBM and Microsoft; they were able to do this because they were developed enough to recognise the new opportunities. In fact, they invested a lot in developing an internal common communication and defining a proper leadership with clear objectives in the recruitment phase.

### **1.8.2 Evaluation of intangible assets.**

In organisations, the managerial and administrative level should/must know the intangible assets of the company as these are crucial for competitiveness and so awareness can improve intermediate and final performance.

Normally, an analysis is divided by internal factors, such as management and external factors used to raise money from investors.

With intangible assets, we take in to consideration:

- human capital as capabilities of problem-solving,
- knowledge presented in the structure,
- relational capital, including external relationships such as reputation and loyalty.

One of the most popular tools to measure intangible assets is SIMT (Social Impact Measurement Toolkit) where collections of data, quantitative information and intangible values link with the strategy of the company (Crema and Nosella, 2014).

This approach provides an assessment of strengths and weaknesses of assets in terms of employees' commitment, motivation and identifies value creation to keep competitive advantages.

When a manager has good knowledge about internal capabilities and disadvantages of virtual teams, he/she can start to think about how to manage challenges and set up a successful team.

The main challenges are presented below (Zofi, 2011):

- management processes in a specific location,
- ensuring there are clear objectives from the beginning, to the entire team,
- bringing together the right mix of skills and members,
- creating a good system that encourages collaboration and information sharing,
- maintaining commitment and collaboration,
- aligning personal and group rewards with team goals,
- technological infrastructure,
- communication.

There are a lot of elements and variables in the list above and so it is essential for managers to follow specific courses and undergo training before entering an experience like this one. Some companies have built a certificate process where they attempt to become experts in setting up teams, starting with people from the same nations and then pushing them through complex environments, like multinational and multicultural teams.

Training is based on creating additional skills in managers, for example:

- the capacity to define skills required for a project,
- understanding skills and experiences of members before creating a team and having the ability to build an appropriate team for reaching specific tasks,
- creating relationships with members and continually keeping contacts,
- having the ability to use technological devices like video conferencing and instant messaging to communicate with members,
- trying to manage situations by taking additional time for preparing meetings properly,
- having the ability to motivate members in each case,
- having awareness that managing a virtual team is difficult and so a leader should make notes of the discussion and actions.

Sometimes a manager could be excellent in managing “real” teams, but not so effective in managing virtual teams where there is no face-to-face meeting and physical contact.

We should consider that all this knowledge is not enough, because virtual teams contain a lot of elements and a leader should know a little bit about each field, to look at things from different perspectives, in order to design an effective team.

After this discussion, this quote from “Dead Poets Society” seems appropriate:

“I climbed on the desk to remind myself that we must always look at things from different angles. And the world looks different from up here” (Weier, 1989).

## **1.9 Cultural point of view.**

### **1.9.1. Importance of cultural dimensions.**

Culture is usually defined as the underlying value framework that guides an individual’s behaviour. Culture manifests itself in learned behaviour, as the individual grows up and gradually comes to understand what their culture demands of them.

Culture is composed by the following four elements: language, institution, material production and symbolic productions (Littrell and Miller, 2001).

1. Language is created by a group of words or shared ideas that have the same meaning for a specific group of people. It is necessary to create a culture, set words and sentences will have specific meaning and terminology for the same culture. Language is the main source of communication and is transmitted between people,
2. Symbols express an event or situation and they represent past, present and future events. A culture is recognised by a system of symbols and they can be a direct guide of behaviour.
3. Institutions or organisations can divide people in different cultures and they work to maintain and promote culture, for example in governments and churches.
4. Material production represents the proof in objectives of a specific way, to make products that can be characterized from one culture to another, such as in architecture or food, which shows all the material evidence of the differences between cultures.

The main sources that can represent and characterise culture are (Littrell and Miller, 2001):

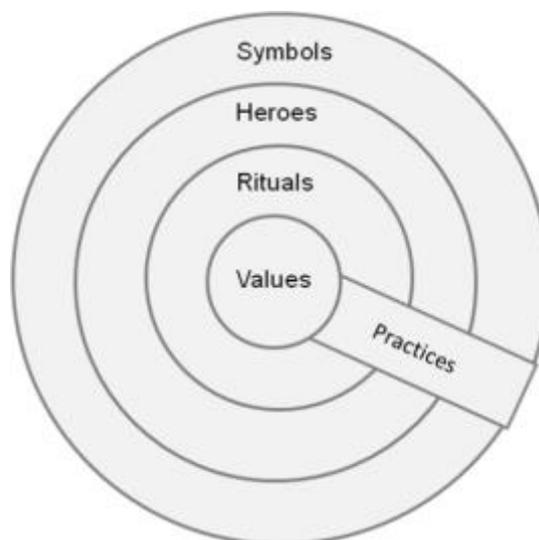
- Education received during the path of life,
- Nationality in terms of geographical boundaries,

- Languages, tools of communication,
- Social class; in some cultures, social classes are more present, such as in India,
- Gender; importance and specific responsibility can change depending on gender,
- Family, different perceptions occur amongst families and of family life,
- Religion can deeply influence a culture,
- Group, such as how the group influences others,
- Profession, such as how jobs are seen in a society and if there are some jobs that are considered more important than others.

Otherwise, regarding these sources, we should consider that cultural differences are manifested in different way and to different levels of depth (Hofstede and Hofstede, 2005):

- Symbols,
- Heroes,
- Rituals,
- Values.

### **Culture as an onion - Hofstede.**



**Figure 1.3**

Symbols represent the most imitated and valued, the deepest manifestations of culture, with heroes and rituals in between.

Symbols are words, gestures, pictures, or objects that carry meaning that is only recognised by those who share a particular culture. New symbols easily develop, old ones disappear. Symbols from one group are regularly copied by another. Therefore, symbols represent the outermost layer of a culture.

Heroes are persons, past or present, real or fictitious, who possess characteristics that are highly prized in a culture. They also serve as models for behaviour.

Rituals are collective activities, sometimes imaginary in reaching desired objectives, but are considered as socially essential. They are therefore carried out most of the time for their own sake (ways of greetings, paying respect to others, religious etc.)

The core of a culture is formed by values. These are tendencies to define if something is good or evil, right or wrong, natural or unnatural (Schein, 1991).

Many values remain unconscious to those who hold them. Therefore, they often cannot be discussed, or directly observed by others. Values can only be adapted or learnt from the way people act under different circumstances.

Symbols and rituals are the tangible or visual aspects of the practices of a culture. The true cultural meaning of the practices is intangible; this is revealed only when the person himself from his/her inner mind interprets the practices.

Now, some examples of different attributes that can characterize a culture will be explained. Thanks to Edward T. Hall, an American anthropologist and cross-cultural researcher, we can see a different concept of proxemics, as a description of how people behave and react in non-homogenous types of culturally defined personal space in terms of context, time and space (Littrell and Miller, 2001).

### **1.9.2 Context culture.**

In a high context culture, such as Asian or Arabian cultures, there are many contextual elements that help people to understand the rules. In this type of culture, much is taken for granted so it can be very confusing for people who do not understand the “unwritten rules” of the culture: meaning can be hidden in the way things are said, or in the background of the situation. For these reasons, it is utterly vital for people to understand the non-verbal communication, such as body language. So, Europeans can incur several

difficulties when faced with a Japanese or an American person, because with an insignificant gesture they may involuntarily communicate something important or false to a person from another culture. Understanding non-verbal expression is also important when one must coordinate some employees that grew up in different cultures (Vescovi, 2015).

In a low context culture, very little is taken for granted and so one's meaning should be explicit: intentions are expressed verbally. Whilst this means that more explanation is needed, it also means that there is less chance of misunderstanding. Considering these characteristics, we can say that in a low context management there is a much more direct relationship between people with different classes, roles and genders; roles are very clear and the situation cannot be used to change the meaning of words and behaviour.

### **Time culture**

There are two main diversifications of culture approaches with time (Schein, 1991) :

- Monochromic time is characterised by doing one thing at a time. For example, people create clear schedules and plan their work and family lives, usually focusing on objectives and the work obligations first. People with this approach rarely borrow or lend things because they give importance to property and tend to be low context culture.
- Polychromic time, where schedules and planning change during the time continuously, interactions are valued more than physical things. In fact, they do more actions at the same time and borrow and lend things easily and they tend to be high context culture.

### **Space culture**

In this case, we analyse the importance of ownership for some specific group of people:

- high territoriality, they have a greater concern of ownership and try to mark out their area with boundaries from their neighbours, they tend to be low context,
- low territoriality represents groups of people with less interest on ownership, they like shared territory and private space, normally it relates to high context cultures.

These three dimensions, space, time and culture are essential to define every operation, there are some multinational companies that have already been aware of it and they've invested a lot of money to discover some solutions.

A common lesson that is explained to international managers is represented by the Hofstede's theory, in which he tried to divide culture into the following six classes:

1. **Power distance** is related to different solutions of basic problems of human inequality.

#### **Power Distance Index.**

Low Power Distance	High Power Distance
Flat organisation	Tall organisation
Less supervisory personnel	High level of super visioning
Subordinates expect to be consulted	Subordinates expect to be told
Managerial privileges are frowned upon	Privileges show off the status symbols of the manager
Openness of information to everyone	Information only into the hierarchy
Innovations need a good champion	Innovations need hierarchy support

**Figure 1.4**

2. **Uncertainty Avoidance Index** shows the level of stress of a society against an unknown future.

#### **Uncertainty Avoidance Index.**

Low UAI	High UAI
Weak loyalty to employers, short employment	Strong loyalty
Preference to a small company of self-	Large organisations are more stable

employment	
Top manager is involved in the strategy	Top manager is involved in operations
Tolerance for ambiguity structure	Formalised structure
Low brand loyalty	Strong brand loyalty
Attracted by new products	Fear of new products
Belief in generalist and common sense	Belief in specialist and expertise

**Figure 1.5**

3. **Individualism Index Values** relates to individual-related values, such as personal freedom, human rights and equality.

**Individualism Index Values.**

Low IDV	High IDV
Live in flats	Live in detached houses with private gardens
Live with human companions	Live with pet
Social network Security	Security by insurance
Asking friends for job	Do-it-yourself
Read few books, use fewer computer	More books and computer use
Social network is the main source of information	Media is the main source of information

**Figure 1.6**

4. **Masculinity Index Value** is related to the division of roles between men and women.

### Masculinity Index Values.

Low Masculinity	High Masculinity
Buying decision between partners	Men make buying decisions
Homemade products are popular	Fewer homemade products
Purchase for the purpose of use	Purchase for showing-off
Less appeal for foreign goods	More appeal for foreign goods
Irrelevant engine power	Engine power of cars important
Reading: more fiction	Reading: non-fiction
Less confidence in advertising	More confidence in advertising

**Figure 1.7**

5. **Long Time Orientation Index Value** is related to the choice of focus, of people's effort for present or future.

### Long Time Orientation Index Values.

Low LTO	High LTO
Quick results expected	Persistence, perseverance
No income saved	Saving income
Gift giving as concept of love	Gift giving to children for their education
Humility is a feminine virtue	Humility as a virtue
In business, short term result	In business, first making a relationship and then start with business.
Investments in mutual funds	Invest in real estate
Immediate gratification expected	Deferred gratifications are accepted

**Figure 1.8**

6. **Indulgence** within a country's population is related to the level of enjoying life.

### 1.9.3. Schwartz's model.

Another model that is considered important to analyse the culture in countries is Schwartz's model. In this model he clustered different countries connected by same values and attributes on a map (Imm Ng, Anne Lee and Soutar, 2007):

- **Embeddedness** shows the status quo, avoiding everything might change the order,
- **Harmony** is the sense of protection from the environment,
- **Egalitarian commitment** is a place where social justice and helpfulness exist,
- **Intellectual Autonomy**, countries where people are curious and more creative,
- **Affective Autonomy**, stimulated and exciting places,
- **Mastery** is represented by an active effort to modify the environment,
- **Hierarchy**, the role of hierarchy is legitimate.

Schwartz identified seven cultural values in three pairs, usually arranged in a circle (Schwartz, 2004).

#### 1. **Embeddedness Vs. Autonomy**

Where embeddedness focuses on sustaining social order and retaining tradition, it is based on values like tradition, security and obedience. Instead, Autonomy is the opposite; a culture where individuals can choose what they prefer, although it is the opposite of the main stream. There are two types of autonomy; one is *affective* (based on how people are looking for pleasure and enjoyment without censure), and *intellectual autonomy* (more focused on ideas and political frameworks).

#### 2. **Mastery Vs. Harmony**

The main differences between them are represented by harmony and concentrate on people looking for individual success. The characteristics that people must have are courage, ambitions and competences, but in harmony, people are looking for a better world and some success shared among the entire population.

#### 3. **Hierarchy Vs. Egalitarianism**

It is easier to classify these two values because in hierarchy there is a clear division of roles and power among people and thus, there is a common acceptance of it, whereas in an egalitarianism culture, everyone is considered equal (Schwartz, 2004).

This model is important to understand the different approaches that a manager must take in consideration between different states and if one is aware, one can adapt to the culture customs and reach objectives.

### Schwartz's model.

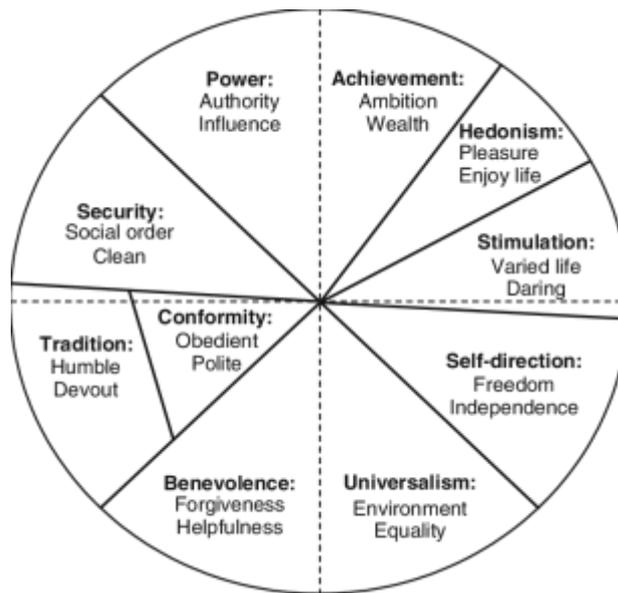


Figure 1.9

#### 1.9.4 Lewis model.

This model is rooted in Edward Hall's model where he considered context, time and space essential to define a culture (Littrell and Miller, 2001).

Lewis model explains three new concepts of culture:

1. Linear-active culture (Germany, Switzerland, Luxembourg),
2. Multi-active culture (Brazil, Argentina, Mexico),
3. Reactive culture (Japan, China, Korea).

#### Linear cultures:

Linear-active culture consists in task-oriented behaviours, highly organised planners and doing one thing at a time. Speech and conversation turn-takes and listening, in a

reciprocal and direct discussion influenced by facts and participating figures is used for information exchange. A person coming from a linear-active culture tends to be more truthful and less diplomatic and adhering to logic rather than to emotions. When doing business, they believe that good products make their own way in failing to demonstrate that sales are based on relationships in many parts of the world.

The main characteristics of this kind of culture are: punctuality, step-by-step planning, observation of deadlines, and quick responses to written communication.

Some examples of this culture are Germany, Switzerland and Luxembourg.

### **Reactive Cultures:**

Reactive culture is represented by Chinese or Japanese culture where there is the predilection of hearing the other side's position before declaring one's own: this doesn't mean that they are passive, but that they aim to avoid possible pseudo-conflicts due to different degrees of self-assertion.

The preferred mode of communication is monologue-pause-reflection- monologue (in linear-active and multi-active cultures the preferred mode of communication is dialogue) and the silence, is not only tolerated, but also considered as a very meaningful, almost refined part of discourse. People from a reactive culture attach less importance to "what" is being said than "how" something is said, "who" said it, and what is "behind" what is said. What is "not" said may be the main thrust of the response.

### **Multi-active Cultures:**

They are characterised to be people-oriented, assigning a lot of importance to emotion and tending to prefer establishing a relationship before doing business. The communication between multi-active cultures are active and conversations are overlapping.

They usually plan objects but it is difficult in the respect that there is a constant process of re-planning, but they consider spoken words important and they must be respected to achieve trust and good business relationships.

This culture is the most spread around the world and can be found in:

Southern Europe, Mediterranean countries, India, South America, Arabian and other

cultures in the Middle East.

### Lewis model.

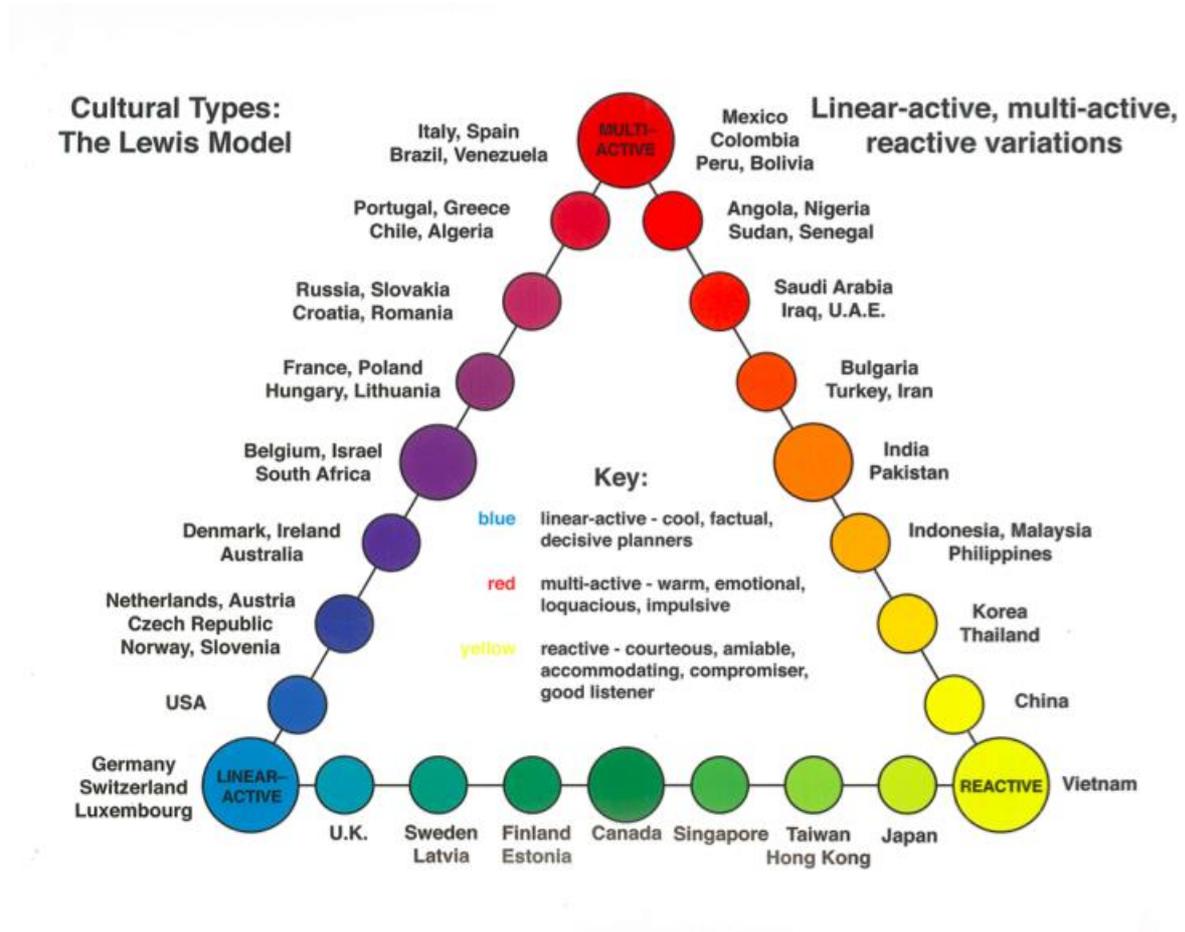


Figure 1.10

### 1.10 Other aspects to consider: incentives and obstacles of different countries.

It has been pointed out that culture is important to know and understand, before starting to run a business with people from different cultures. We should study some characteristics of the country to have a better knowledge of managing variables effectively, because most of the time country and culture are connected.

Now, discussion will go deeper from a country point of view to analyse obstacles and opportunities that may be faced.

From a geographical **framework**, we should analyse the distance, size of a country and especially the time zone, which is essential for a virtual team.

With time zones, one should be aware that different timing can create problems amongst members, but if the meeting is planned efficiently, members can share efforts through technological tool taking advantages, internally and externally, such as the opportunity to work twenty-four hours a day for seven days a week and giving employees the opportunity to balance their work and personal lives (Gonzalez, 2014).

The **political framework** is to consider the system as if it is authoritarianism, monarchy or democracy, if it is a stable political situation or fragile and conflicting. If there is corruption, it is important to be considerate, especially if we want create a stable business and to understand the traditional ways of foreign nations.

Previous discussion involved culture and languages but there is another variable in a **socio-cultural framework**, in fact, religions in some culture cover an important role and can affect results; a manager of a virtual team should know the religions and how interact with people without offending them, using appropriate words, examples and specific colours in the presentation.

Another factor to consider is the population size, growth, age and the distribution to define the best place to find resources and skills.

There are some countries that have a different level of education system, in fact, there some countries that can develop specific skills such as India with IT, compared to others. Each country has different market structures. With market structure, it is desirable to cluster economic sectors, market size, level of economic development, cost of living, productivity, technological change rate and infrastructures that are necessary for virtual teams. In the present day, almost all around the world, a good level of telecommunication and Internet is possible, but for our projects we need to be sure that it will be faultless and constant.

We should always consider the **legal framework** that could create big obstacles to work and settle in other countries. Law, regulation and juridical law must be respected, especially for virtual teams, it is essential to know how the labour system works, in terms of work culture salaries, working hours, bank holidays, dismissal, social security, health and understanding how it works with foreign partners if in the future they would like to invest and open an office there.

The last point to be mindful of is to create an efficient virtual time and keep lower costs. To do so, there should be an analysis of the **monetary and financial system** and an understanding of how to save money due to exchange rates, currencies, with accounting systems and rules or ways to repatriate profits. Sometimes there are some developing countries that have **public programs for investment** and for business, these could be a good opportunity to keep costs low, raise money and get resources at a lower cost (Gonzalez, 2014).

## LIST OF FIGURES

- **1.1 Sourcing business model based on ownership and locations.**

Vaia, G. (2015) 'Sourcing models', pp. 6–8.

- **1.2 Virtual organization's advantages.**

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- **1.3 Culture as an onion – Hofstede.**

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- **1.5 Uncertainty Avoidance Index.**

Schein, E. H. (1991) 'What Is Culture?', in *Reframing Organizational Culture*, pp. 243–254. doi: 10.2307/976474.

- **1.6 Individualism Index Values.**

Schein, E. H. (1991) 'What Is Culture?', in *Reframing Organizational Culture*, doi: 10.2307/976474.

- **1.7 Masculinity Index Values.**

Schein, E. H. (1991) 'What Is Culture?', in *Reframing Organizational Culture*, doi: 10.2307/976474.

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- **1.9 Schwartz's Model.**

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## CHAPTER 2

### AN EFFECTIVE VIRTUAL TEAM.

#### 2.1 Communication as a tool.

One element that it is thought of as essential for each kind of relationship, is communication.

The first step is adopting a common language in a company, or in this case in a virtual team. It could be English, that is considered as a business language. If you are settled in Europe, you know that each country's population talks many different languages, otherwise they are so closed off and inaccessible, so a shared way to communicate is compulsory.

In some countries, English could be the second or third spoken language and sometimes interacting with native speakers can be difficult, representing a barrier that can manage with training or interpreters.

For these reasons, it is necessary to understand the four elements of language skills in your team, the abilities to:

1. speak,
2. understand,
3. write,
4. read.

When collecting the data, it is seen that members have different levels of skill in each of these four areas, but there is a chance to make decisions in a more effective way.

Someone considering a virtual team, must think about the complexities surrounding location, but members could be located simply in different buildings or floors.

Everything depends on the reason for the creation of the virtual team, and thanks to a good managerial approach and technology, we can manage communication (the next chapter will further discuss the importance of communication).

When there is a comparison between two cultures, we call it, a cross-cultural approach. This kind of approach is made possible by a learned and shared communication, where

we must pay attention to different values and practices. Where there is a communication between people of different cultures, it will be easier to see what they do and do not have in common and we can compare with Hofstede's studies.

## **2.2 Clarity on: goals, roles and processes.**

All teams require a clear definition of visions and goals of a project, which is difficult to achieve from the first step. In fact, managers explain a vague vision to transform a detailed project during the process, but in virtual teams, managers do not have the luxury to meet all the members and talk about misunderstandings and problems.

For this reason, it is crucial that the role of the leader has a clear vision and an overall goal to achieve; goals must be concrete and measurable.

At the end of the process, they should be able to understand if they met desired results. It is much more likely that if they clarify who is going to do a specific process and the results that must be achieved at the beginning, they will avoid members working for cross-purposes or getting confused (Zofi, 2011).

A team should respect the following conditions, if they want to work effectively:

- Transparent processes where all the choices of decision-making approaches, methodologies, work plans and procedures, are made
- Explicit outputs with deliverables, records, milestones, results and documents.

If a team is transparent from the first step, it will have the chance to generate commitment among members, something considered critical for success.

The role of leadership is essential for commitment particularly because when selecting the member, one should be able to recruit the right figures with specific skills and natural interests in the collective goal.

Managers should clearly define the purpose of the team and each member should agree and accept it. They should identify knowledge and skills required to run the project and explain the company's political and logistical landscape. Members should be self-disciplined and motivated, for it is not ideal for workers that require supervision, as well as being open-minded with technology (Chow and Chan, 2008).

Responsibility of leadership should be clear and sometimes shared with experts, because a leadership should trust expertise and share the direction and control of the project in some processes with them.

### **2.3 Commitment.**

One of the most important steps of effective teams is fostering a common identity of a team to make it successful. When there is commitment in a team, all members are encouraged to collaborate and willingly share information, but this is not automatic.

It is hard to develop this sense, so sometimes teams plan launch or dinner meetings, twice or three times a week for members to develop their relationships, especially at a personal level, talking about background studies, trips, skills, sports and hobbies.

Normally a group of people create more sub-groups within their group and to be sure that a team works, a rotation must be created so that everyone can experience working in different sub-groups. In that way, all members can gain knowledge and create expectations of others.

The most common and effective manner to establish a shared communication is with face-to-face meetings, but if the members are globally distributed, sometimes it is not possible, or too expensive. In this case, videoconferencing could be a solution.

Managers should always know the different time zones of each component and plan scheduled calls in a timed manner that everyone can feel comfortable with. If it is not possible, one must alternate conference calling in an equal way.

During these meeting, one should always remind members of objectives and goals to achieve.

Virtual collaboration could be more difficult, but is not impossible and can sometimes work better than face-to-face communication (Larsen and McNerney, 2002).

A good manager should always find a way to make members work together in problem solving situations and when they reach a solution, it should be appreciated that they have the skills required for the success. If goals have been reached, it is only because members were cooperating and so a group reward is essential to encourage further cooperation.

In virtual teams, it is vital to select the communication media to use, such as the commonly used e-mail, fax, or team website to describe detailed and complex messages that can be

kept permanently, for records. For urgent messages or collaborations, solutions such as voice media, such as phone, voice mail, teleconference can be used.

If something urgent must be known to all team members immediately, the manager should plan a videoconference and use the team's website where every member of the team can read and respond instantaneously at the time of recording, whilst e-mail is considered a back-up.

## **2.4 Team Building.**

Team building is an effective way to establish relationships between members of the group and their leader, as it allows transforming strangers into acquaintances quicker.

If members of a team previously did not work together, they will need more time to form relationships, understand each other's skills and define expectations, so they cannot be efficient and productive from the very beginning of the project.

There are additional factors that can change the team building approaches, in terms of locations and budget in particular (Zofi, 2011).

If a team has a good budget and/or it is not globally dispersed, it can afford to have face-to-face team building. Instead, a group with a lower budget and where members are dispersed globally, it becomes more difficult and a better approach would be to adopt a remote team building.

Often, team building can be seen as a cost, but most of the time, it is an affordable investment to reduce risks during the process and have a better plan from the start, because it is known that the presence of small conflicts in stressed environments mixed with weak relationships and bonds between members and the leader can lead to failure.

After considering these variables, a manager should approach cultural diversity, and create a sensitive team-building process involving all cultures, to make sure that all participants are comfortable in developing relationships (Norman, 2015). They should share their experiences and find common points to tie with each other and the manager should be able to check up on which people can easily connect with others.

In remote Team Building, there are more challenges than real ones, but if you can manage the differences in time zones and give the personnel the right technology, this may lead to success.

Normally, cross-cultural training is required and is indeed beneficial for all members because they can further understand each other and how they should interact for good communication and the avoidance of conflicts.

An essential point for remote team building is represented by having deep knowledge about members, designing well-planned team activities and games with the help of platforms, devices and technology that every member should own.

## **2.5 Keeping team member always aligned with project.**

In a virtual team, there is no the opportunity to take a social coffee break or a way to discuss with your colleges. But this could be essential to create an open line of communication where members can easily communicate with one another to compare results and see if they are aligned with others.

To make this possible, it is necessary that team workers understand processes and desired results and compare and plan with colleagues for on-going tasks. They must recognise whom, how and when to do a specific operation, the roles and the responsibilities connected to it and finally, how they will measure results.

To be made clear, it can take different forms, such as a regular work plan or team charter, or an up-to-date team roster on the team's website, where a written list with all members, time zones, and available hours for calling is updated regularly, permitting one person to contact another one directly.

The problem with virtual teams is the possible risk that two members have a conversation about a possible solution and this news may not be communicated with other members. It is important for a successful team to have everyone updated and leaders encouraging each member to put all the information on the team's website in order to share knowledge about the project and processes. If this does not happen, they must adopt a new method such as posting weekly lists to the team's website, hosting weekly meetings, posting continuously progress and status reports or work plans. Nevertheless, it is most important to be consistent and reliable in ensuring a fluid information flow.

Keeping everyone informed is a real challenge, but with a work plan, there is more opportunity to succeed (Harvard Business School Press, 2010).

It follows five simple steps:

1. Creation of an online common workspace, with an easy-to-use software describing every single detail of the project with calendars, schedules, discussions and decision tracking,
2. Everyone must agree with overall and individual plans,
3. Assignment of responsibility to a team member to be the keeper. This role will be rotated so that all individual members can understand the importance to keep it updated and in order,
4. Monitoring of the plan during the project and notifying when something does not respect timing or quality expected,
5. Updating the plan if necessary and all members must be notified of all changes.

This approach was defined the most effective from “Harvard Business Press”

(Harvard Business School Press, 2010).

To enhance performance of a team, the role of the team leader is indispensable, he/she should be able to manage different situations and give assistance to members. In fact, to be manager must involve having broad knowledge and soft skills that give him/her the ability to run the project.

A team leader should know all the members, their skills, their availability and all the relevant time zones to reach an effective communication. If he/she should help by teaching other member how to solve specific problems instead of solving them alone, the manager should create strong lines of communication, addressing all members to help each other share knowledge (Zofi, 2011).

One must always pay attention to the flexibility of the group, because if there are not rules about availability, there is a risk that one will not find a member when you need him/her. Sometimes a member is stressed and if the leader imposes some simple rules they can better manage it, for example, with the clarification of the priorities from the beginning, it is possible to avoid some obstacles and confusion with just a few changes.

Each member receives a lot of e-mails every day from their colleagues and answering quickly to everyone would be impossible, but by marking messages with “low-medium-high priority”, members can be more effective with e-mails, thus, communication becomes more effective in the team.

With a good communication in a team, we can avoid isolation cases of our members that do not have the opportunity to out from their house to reach the office. To such members, the team can give some social contact with dinner meetings or trips to the local office.

Another important role of the leader is to check that all members are following the plan and respecting all terms, and making deadlines. However, if members fail to follow these actions, the manager must contact the member and find out why, if the member needs help to improve performance and try to understand the difficulties they may be facing.

Sometimes it is better to divide tasks in subtasks and put members together in working pairs or teams. The most important step is developing, at an early stage, where the leader explains all processes and desired results to satisfy expectation to members, so that they can start to work as a team.

Once, Henry Ford said (Ford, 1907):

*“Coming together is a beginning,  
keeping together is a process,  
working together is success”.*

## **2.6 Technology**

### **2.6.1 Managing technology properly.**

Technology represents one of the most important steps in the creation of the virtual team, because all communication passes through it and it should facilitate, coordinate, control and share all the information instead of creating barriers.

In a virtual team, it is unnecessary to hire people with high technological knowledge, because one can hire workers that are willing and able to use simple devices to reach objectives.

It is a task of information technology technician and the leader to develop a system that works efficiently and easily; from the onset, the team should know the attitudes and jobs of each member, and what the best software or the software that is used in the company are, to identify the similar platform and practice to be able to share and research files.

The manager must consider that in the creation of systems/software, delays can occur and it is better to start early so not to delay the final project (Jarvenpaa and Ives, 1994). One should have clear ideas from the start, about how technology should be flexible, how much it costs and how much the team can afford, where information should be saved, each movement should be tracked and all the information the team need to develop the project should be gathered.

Virtual teams are created to keep costs lower and it is important to respect this, trying to adapt existing technology with devices that we already own, in fact, sometimes it is useful to create and follow some steps to keep costs lower.

From the start, the leader should be aware of timing as well as the level of money and technology resources in the company to avoid wasting time, resources and to confirm if there is a software available that users already know of.

It is worthy to assess the existing resources to see if the company uses a team website that with some small modifications, can become a good tool for the virtual team.

It is important that each employee can have access to files; the ability to upload and download when required and all software and programs should be compatible with the member's devices.

To avoid mistakes, the manager can create a list that will include the entire format used for text documents, graphics and charts and for communication to avoid future misdealing. This is sometimes useful to define the level of liability and privacy on each shared document to identify outcomes and personal responsibility.

There are a lot of technological ways to communicate:

- *E-mail* is a tool that permits access from any location, to attach documents, photos, graphs and the ability to describe every detail. However, sometimes if there is a need to compare with other ideas or people, it is not useful, because of the difficulties to receive quick feedback. Although there are benefits, some conversations by e-mail do not compare to a live, continuous discussion, leading to transparent communication within members.

It is possible to create some rules that make them clearer and less time-consuming:

- Separated e-mails for each topic,
- Using a clear statement or specific request,
- Being specific, short and focusing on the main objective,

- Keeping paragraphs short and straight to the point,
  - Reiterating the original text to remind readers of the past conversation.
- The use of a *Website* or Intranet site that can substitute a real room in which colleagues discuss ideas or can find everything they need for the project such as missions, goals, deliverables, schedules and so on, is divided into four walls:
1. Purpose wall, where you can illustrate the team charter, goals, list of deliverables and current results,
  2. People wall, where you can identify members, their roles, skills, knowledge and hobbies,
  3. Communication wall which will link you to all means of communicating with members, what they prefer and what the favourable and available timings are,
  4. Content wall where all the working documents and procedures are posted.
- The technician should be able to create a flexible website to respond to growth, changes and information of the project, and it should have a logical graphical interface and an intuitive format to upload and download files. It is essential to test it before starting the process.
- Live-meeting technology is a useful tool to speak directly with customers and members to increase effectiveness.

The most common way to communicate in virtual teams are represented by:

1. Telephone conferencing, can be necessary to review results, objectives and to brain storm ideas, comparing different points of view,
2. Video conferencing is a way to bring team together without leaving own workspaces or wasting time. However, it could be complicated to manage a better performance with a small number of people,
3. Web conferencing presents a shared screen where members can share and view documents from the leader. In this situation, it is a better conference, if only one person talks, one takes notes to have a written document of the web conference, and one member does the facilitating (Harvard Business School Press, 2010).

### **2.6.2 Developing a good information system.**

A Virtual team is a group of independent members that are linked together and form a group, tied together through contract and trying to achieve the project objectives.

They are designed to improve efficiency and effectiveness. Meta-management provides a systematic approach to exploit competitive advantages.

Thanks to advanced Information technology, it is now possible to manage complexities and to provide a differentiated and distributed project that is executed in different times.

But the leader should be able to design an organisational system, capable of transferring knowledge across locations and being efficient and responsive. The system should be stable, easy to use and useful for decision-making and conveying the company's values.

The IT will affect the organisational approach, the coordination and design of the team, always supported by (Jarvenpaa and Ives, 1994):

- A Uniform Web-based information system,
- Data mining and mass customisation technology,
- Organisational memory systems (OMS) that integrate, support, and automate the acquisition, retention, maintaining the environment,
- Groupware supporting coordination and decision-making.

The challenge for the future of Information management is moving an organisation towards a dynamic network system, to face turbulent environments and understand customers' needs.

In fact, technology permits access to all this information and makes that customer play a central role, because network organisations are open, virtual, flexible, dynamic and flatter than vertical ones.

Building an organizational memory based on decentralization with sharing knowledge represents a real risk. But, if it turns out to be successful, members will benefit from it.

The critical role of Information technology is gathering, storing, no disseminating control and generating knowledge and add-value in unstable environments.

In this way, they can increase employee values, giving them incentives and improving the level of information sharing, but they will have challenges with (Khalil and Wang, 2002):

- Standards and protocols,
- Data compatibility,

- Cross-functional boundaries,
- Individual capabilities,
- Creating a culture that promotes sharing information,
- Making sponsors active in the process to give direct and fast feed-back.

### 2.6.3 Virtual Team technology tools.

#### LIST OF VIRTUAL TEAM TECHNOLOGY TOOLS.

<b>Tool's Function</b>	<b>Technology tools</b>
<b>Collaboration Tools</b>	<ul style="list-style-type: none"> <li>• Slack</li> <li>• Squwiggle</li> <li>• Grape</li> <li>• Campfire</li> <li>• Redbooth</li> <li>• ActiveCollab</li> <li>• Huddle</li> <li>• Goplan</li> <li>• Lighthouse</li> <li>• Blackboard collaborative</li> <li>• Trillian</li> <li>• InVision</li> </ul>
<b>Project Manager Tools</b>	<ul style="list-style-type: none"> <li>• Microsoft Project</li> <li>• Basecamp</li> <li>• Workfront</li> <li>• Apollo</li> <li>• Projecturf</li> <li>• Smartsheet</li> <li>• Teamwork</li> </ul>
<b>Document Storage/ File sharing Tools</b>	<ul style="list-style-type: none"> <li>• Dropbox</li> <li>• Google Grive</li> <li>• SharePoint</li> <li>• Box</li> <li>• Onehub</li> </ul>
<b>Meeting Tools</b>	<ul style="list-style-type: none"> <li>• WebEx</li> <li>• GoToMeeting</li> <li>• Google Hangouts</li> <li>• Adobe Connect</li> <li>• iMeet</li> <li>• Yammer</li> </ul>

<b>High-End Video Conferencing Tools</b>	<ul style="list-style-type: none"> <li>• Cisco telepresence</li> <li>• Polycorn Telepresence</li> <li>• Logitech LifeSize</li> </ul>
<b>Video and Audio Conferencing Tools</b>	<ul style="list-style-type: none"> <li>• Skype</li> <li>• Speek</li> <li>• Join Me</li> <li>• BluesJeans</li> <li>• Zoom</li> <li>• UberConference</li> </ul>
<b>Instant Messaging Tools</b>	<ul style="list-style-type: none"> <li>• Google Hangouts</li> <li>• Skype for business</li> <li>• Jabber</li> <li>• Hipchat</li> </ul>
<b>Document Co-creation Tools</b>	<ul style="list-style-type: none"> <li>• Google Docs</li> <li>• Prezi</li> <li>• Conceptboard</li> <li>• Scribblar</li> </ul>
<b>Social Network Tools</b>	<ul style="list-style-type: none"> <li>• Yammer</li> <li>• Chatter</li> <li>• Jive</li> </ul>
<b>Schedule Tools</b>	<ul style="list-style-type: none"> <li>• Doodle</li> <li>• Timebridge</li> <li>• ScheduleOnce</li> <li>• TimendDate</li> </ul>
<b>Virtual Team Games</b>	<ul style="list-style-type: none"> <li>• Prelude</li> <li>• VirtuWall</li> </ul>

**Figure 2.1**

## **2.7 Setting up a Virtual Team.**

After taking into consideration all the challenges above, it is vital to know how an effective virtual team should be created and which are the most important variables to run it.

As we see, the role of the team manager is fundamental to connect resources and talented people, building congruent blocks of processes to achieve goals.

Before setting-up a virtual team, we need to create a road map, just as you would before making a trip, where the following are identified:

- The team's purpose, mission and goals,
- A structure that describes how the team will work,
- The development of a Team code of conduct,
- If necessary, modification and alignment of processes during the project.

In a trip, the first thing we select is the destination. The only secret to reach this goal is good planning, where the leader must manage tools effectively, as well as competent people and the correct processes, some of them could be useful plan backward.

Each project has different tasks to achieve, such as the creation of a software, website or product, but the meaningful point is that objectives and goals should be clear, achievable and the recruitment phase must be developed to get there.

The team leader is responsible for transmitting the action, explicating the action and the objectives of the project as well as stimulating motivation and a shared vision among members.

Support is important for a leader, too, and he/she can meet support into the project sponsor, who can help to manage the structure or possible problem situation across organisational boundaries and locations. If the sponsor does not act as champion, the group has a higher risk of failure (Harvard Business School Press, 2010).

The sponsor is the person or the organisation that is responsible for acting as the project's champion, providing direction and support to the team. In the context of the Project chart, he/she approves the request for funding and the project scope represented in the document as well as setting the priority of the project relative to other projects in his/her area of responsibility.

Sometimes sponsors are people with good knowledge and they can help the leader from the beginning, in the recruitment phase. In addition to this, they can help with understanding what the tasks and resources required are, and focusing on the selection of future workers with specific experience, skills, knowledge and soft skills that are essential to this environment to develop a cross-cultural communication in the team.

When a destination is selected, the designing of a team charter can begin.

A *team charter* is a useful document, developed in teams, used to set and clarify group direction, roles, and responsibilities of members who will select the deliverables, missions, goals and milestones of the project (Project Management Institute, 2013).

It is usually designed during the early part of the project and it has 2 main purposes:

1. It represents a roadmap for the leader and members to follow and keep the right direction thought forecasted objectives for internal scope,
2. It can illustrate to funders the processes, responsibilities and deadlines of the project.

The more complicated the Project is, the more face-to-face sessions of videoconference recommended, because all the planning and processes must be identified, discussed and agreed between all members.

Included in a good plan, there are always some rules that work as guidelines that are applied across the team to meet deadlines and quality standards.

Sometimes to collect and explain all this information, a team orientation session in the non-virtual real world, even if just once, could be a perfect occasion to implement team-building and give everyone a chance to meet and know their future colleagues directly with an establishment of communication norms.

A face-to-face initial meeting can offer many benefits to the project, especially to set expectations and credibility in the team, it is important that each member feels unique and like an individual and one can reach visibility and build relationships.

Establishing a team code of conduct that guides how members communicate between one other and the frequency of communication, selecting the timing and ways to share different issues (Larsen and McInerney, 2002).

Each member should know early on, who can support, help and advise the leader, how the agenda should be filled and everything should be publicly posted on the specific wall of the team.

Another thing to take in consideration is that during the project, many variables can be changed and we should be able to adjust achieve the final objective, always attempting to gain advantages from these changes.

## 2.8 Examples

### 2.8.1 Most famous companies that are using Virtual Teams.

Presented below are some examples of well-known companies that effectively use virtual teams as well as some other companies that are created with virtual team model.

Here we can analyse some real-life challenges that those companies had to face, and see how they saw virtual teams as a solution (Lepsinger, 2015).

The first company is **SAP**, one of the largest inter-enterprise software companies in the world, with about 30,000 employees in more than 60 countries.

The headquarters are based in Germany and R&D are situated in Israel, China, India and United states in a strategic way, where each centre has a different specific area where they will share knowledge with the entire business. They can also save costs because a project manager has the opportunity to enrol specialists from different countries and areas in his or her own team, building team skills to fit exactly with the specific final objectives.

SAP is well managed, especially because they invested a lot in virtual team-building initiative composed by training programs where each member works in a team to build the community through online learning, conference calls, briefings and coaching sessions.

Another company that could distinguish its self from competitors is **IBM**, a company with more than 200,000 employees around the world, so big that it faced difficulties to manage high numbers of workers in different time zones.

They based their strategic choice on ROWE (Result Oriented Work Environment), where they discovered that employees have different times when they are most productive. To check this opportunity up, they used virtual teams, where workers can select working hours based their own schedule.

They could keep a good communication among members thank to collaborative software that improved trust and communication within the teams.

**General Electric** is the third company that demonstrates to the world that international enterprise (more than 90,000 employees) can work with virtual teams and that it is possible to create a bridge to manage the gaps between distance and differing time zones. This company is one of the most diversified companies in the world and it faced obstacles in effective communication across a global workforce.

They decided to invest in training:

- Leader training, to create an effective virtual leadership in global setting and a better understanding of cultural differences and how to create competitive advantages through that,
- Employee training was based on explaining how the process works, how to collaborate with members through new devices.

All training was done via virtual classes where employees adopted interactive and e-learning approaches to achieve common goals.

One of the most important steps out of all of these processes is represented by personal feedback of participants that allowed them to recognise the strengths and weaknesses of the service, and the ability to work on and improve the service.

## **2.8.2 Companies totally based on Virtual Teams**

### **ZAPIER**

It is a web application that allows one to easily move one's data, monitor your own activity and manage connected apps from a dashboard in an enjoyable way. When you connect your app, Zapier can adopt specific automate actions. For example, you can set up a notification every time a specific customer likes something on your Facebook's profile.

It works with virtual teams around the world, something that permits the company to get the most qualified people as well as representing the opportunity to spend more time with family for workers. But they are still working on challenges such as the difficulty of virtual brainstorming and the creation of personal relationships (Nevogt, 2015).

### **FIRE ENGINE RED**

Fire Engine RED provides innovative marketing, technology and data solutions for the education market. They combine data-driven strategies with effective design, specialising in student exploration, CRM, big data and software. Their student search tools, such as responsive email messages and web forms, are well suited to the mobile devices that

teens use. Their data services include predictive modelling, list purchasing and persona identification.

It was developed in Canada and The United States and one of the co-founder is really happy to say that they can enjoy hiring the most competitive person in the world and reach objectives high. In this way, Spiegel thinks that workers are more efficient because they are not involved in distractions, stress and non-verbal signals and this is something that makes this approach successful (Nevogt, 2015).

### HUBSTAFF

It is a company that provides solutions for managing remote employee. It can track time and monitor the work done by each member, recording actions without an Internet connection. In this way, companies that use virtual teams can calculate the productivity and results of each member and it means they can reduce costs.

With this strategy, they can reach talented people and control the hourly rates, but at the same time, as the manager said, it is very difficult to build a sense of loyalty within the company (Nevogt, 2015).

### 10UP

It is a Company composed by 120 experts in digital strategy, management and software engineering, situated in different parts of the world but with a higher density in The United States.

They provide creation and engineering services, innovative tools of digital experiences for advanced business and marketing objectives.

The company gives a customer-centric service, in which they try to solve problems and create new approaches for a better understanding of customer's needs.

They operate in most major cities with a varying typology of clients, from small businesses to multinational, such as, Google, which has a small office in Portland, Oregon.

The founder decided to create this space because he cares a lot about the high-quality service that business should derive from. In fact, he invested a lot in training, mentorship and recruiting talented people who are available at the same time to organise conferences

around the world.

Another distinction we can see is that 10 UP's employees sometimes have face-to-face meeting between them or with the customers, especially in The United States.

They are gaining a niche set of skills quickly and at lower cost than other companies, but at the same time they face challenges for lacking empathy, having a lower level of personal communication and experiencing difficulties to retain employees.

The manager highlights the importance of recruitment, because from the beginning, they could select people who care about the opportunity to work in different places and with flexible hours, because training employees is the most important achievement (Nevogt, 2015).

### **2.8.3 Application into education systems, VIBu.**

During recent years, some students and professors understood the importance for international business students to have relationships and get in touch with different cultures, gaining awareness of the existing challenges.

Two researchers from The University of Turku in Finland, Saarinem and Lainema, started a project based in global collaboration, multinational learning and business operation over time zone, through simulation games where they involved teachers and university students (Saarinem and Lainema, no date).

They started to cooperate with different universities around the world and created teams composed by 8/12 members from different continents and countries.

The simulation is developed in more phases, but they take place at the same time, in this way that student start to face challenges of time zones and only teams with high motivation can achieve the objectives.

In these simulations, they must face real business games and manage operations in real time through communication tools and a specific platform.

One of the most interesting things that the developers highlighted is that these teams work for completion but at the same time in collaboration. This happens because some teams are suppliers or customers of others and they must communicate between individuals and groups to achieve the best results for the simulation, resulting in mutual benefits.

The student will develop high trust in the group and will be aware of the future challenges virtual work and multicultural collaboration can bring, skills that are required for workers in international businesses.

In these simulations, teachers participate because they can select the learning outcomes and modify the simulation to push students into different business decision-making environments (Wankel and Blessinger, 2013).

Some of the main learning outcomes related to these simulations are:

- Virtual work and management,
- Operations management,
- Supply chain management,
- Multicultural communication,
- International business logistics,
- Leadership and team development,
- International business management,
- Managing across cultures,
- International manufacturing,
- Management of people over time zones.

## LIST OF FIGURES

- **2.1 List of virtual team technology tools**

Osman, H. (2016) *The ultimate list of virtual team technology tools*, [www.thecouchmanager.com](http://www.thecouchmanager.com). Available at: <http://www.thecouchmanager.com/the-ultimate-list-of-virtual-team-technology-tools/> (Accessed: 22 May 2017).

## CHAPTER 3

### TRUST AND COMMUNICATION ARE FUNDAMENTAL.

#### 3.1 Communication an introduction.

Communication is defined as any act of transmitting information.

This can include information in the broadest sense including thoughts, ideas and emotions.

Giving someone a rose is communicating a certain message. Telling someone “you are so pretty” in another separate act of communication and their response, perhaps to look at you and smile in reaction to receiving a compliment and a rose, is again another form of communication (Littrell and Miller, 2001).

In fact, communication is considered as act of delivering intended meaning between groups and entity, using mutual signs and rules.

In the process of communication, there are two main parts: the receiver and the sender. The person who is transferring the message is the sender, whilst the receiver is the person on the other end of the communicative process, receiving the message.

The process should be based on a mutual understanding in which members not only encode and decode information but also share meanings; it is useful and often necessary to connect people and transfer as well as share emotions, feelings, ideas, concepts and beliefs.

If a palm falls in the desert and there is no one that can hear it, does it make sound? So, if someone sends a message and no one receives it, is it communication?

No, communication requires two actors: the receiver and sender.

The idea should be sent by a common channel; the sender should encode the message in an appropriate way that permits the receiver(s) to decode the message and understand the complete meaning. In fact, both parties share the responsibility of effective communication in the process (*What is communication?*, 2016).

A good communicator frequently understands his/her audience and avoids misunderstandings. To be sure that messages arrive, there are many tools that can be utilized, such as clarifications and reflections that permit the sender to receive feedback about communication and adopt some corrections if their answers are incoherent.

### The communication process.

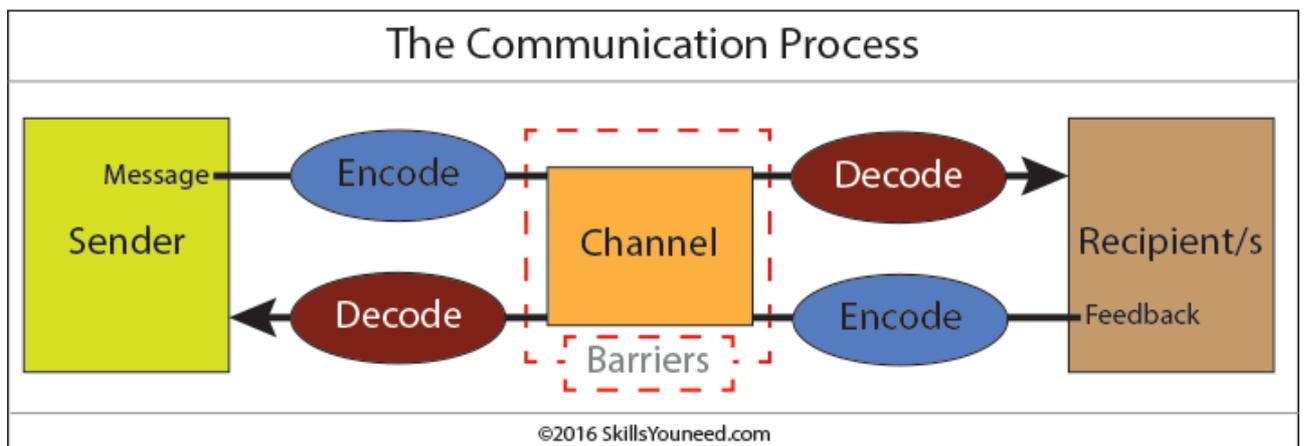


Figure 3.1

The three main phases are represented in the model above, and they are:

1. Encoding messages, where a person must first be selective of the communication channel that fits best with the message. This occurs daily, people often transfer thoughts into spoken and written messages. To reach effective communication, we should use the appropriate form for each channel that we are going to use, for example you would not use abbreviated text in a formal letter to your professor and you would never use complex graphs with data and numbers to explain something to children. In fact, the sender should analyze the audience and define a communication channel first and foremost. This will involve many matters such as uses of languages, clear and simple information, eliminating anything that may create confusion and misunderstandings as well as understanding if the receiver can respond in a similar communication.

2. Decoding messages, when a person decodes and understands the message, the outcome is successful when there is a perfect understanding, but sometimes, messages can be decoded in different ways due to barriers of communication for previous experiences, context, psychological states, time and place of receivers.
3. Feedback represents the only way to assess communication, allowing one to understand if the received message was comprehended correctly, without confusion. It is necessary to pay attention to feedback in order to reach good and effective communication. Feedback can vary in terms of the used channel. For example in face-to-face communication, one can perceive immediate feedback, but in radio and television one can only understand through indirect and delayed forms (What is communication?, 2016).

### **3.2 Barriers to communication.**

There are different levels of communication that relate to many disciplines. Each level requires different knowledge, channels and forms of communication.

In the pyramid of communication, one can see some categories, such as societal, institutional, group, interpersonal and intrapersonal communication.

Often in communication, messages may not be received as the sender intended, thus, feedback is necessary to have a better understanding. Also, clarification and reflection can sometimes help to transmit and improve quality of messages.

On other occasions, it is not enough; when there are some barriers of communication, messages will be distorted leading to confusion.

People who want to reach an effective communication must be aware of communication barriers to avoid them and therefore reach their objectives.

The most common barriers in communication are (Skillsyouneed.com, 2017) :

- Languages; when people from different places communicate in the same language, they can face some terminology that is not understood properly or is over-complicated or unfamiliar. Sometimes it can depend on factors such as where the communicator is from and whether there are different colloquialisms and expressions in each of their languages that can create misunderstanding or accidental offence to one another, or strong accents which can create difficulties;

- Psychological barriers, sometimes the mood or feelings of one person in the communicative process can affect the messages expressed, especially emotions such as anger or stress which may be reflected into the communication. The receiver may perceive the message in a different way and misunderstand the sender, so it is essential to be able to manage feelings if we want to transmit a correct message, especially in the working environment;
- Physical barriers can be represented by geographic distance between parties. Communication is easier between geographically closer people because they have more similarities, but technology is offering the possibility to reduce these barriers, bringing both advantages and disadvantages too.

We should consider physical disabilities such as hearing problems or speech difficulties of our receiver before taking part in a conversation. Then one can help him/her using the correct non-verbal communication to complete and transmit a more effective message. However, one must be careful because non-verbal communication varies from country to country around the world.

- Systematic Barriers are common in organizations and structures where there is an inefficient information system or lack of effective communication channels and a low understanding in rules, roles and responsibilities,
- Attitudinal barriers occur when behaviors or perceptions prevent people from taking part in effective communication. This could be because of a lack of motivation, resistance to changes of points of view, prejudices, inaccurate stereotype assumptions or lack of attention from the receivers,
- Cultural barriers occur due to norms of social interaction varying widely across cultures. These differences deeply affect communication in expressing emotions, concepts and meanings.

Language seems to be translated from dictionaries, but it is not like this because there are a lot of parts that are lost in translation between different cultures.

Language is the implementation of communication with others and to reach an excellent communication, it is vital to know not only the language, but also the different communication styles (*thebusinesscommunication.com*, 2017).

Some of the main aspects of language and communication are represented by:

1. Verbal communication,

## 2. Non-verbal communication.

All the information and messages exchanged through words are considered part of *verbal communication*, that is composed by written and oral communication.

Written communication is useful when you need to communicate something with a lot of details that must be conserved when they are transferred to the other part.

Verbal communication is a vital process to inform others about our needs or to share knowledge. It is the key clarification component that permits solving a lot of problems of misunderstanding, providing detailed missing information fast.

Sometimes perhaps, it can be used incorrectly, but phrases like “I’m sorry” can help you to solve a bad situation effectively. In other cases, verbal communication can be a useful persuasion tool permitting one to inform clients exactly in the desired way.

Verbal communication is the most important way of creating new relationships, debates, innovations, because it plays a key role in our interactions.

Most sociologists measure the quality of social life in how a person is able to communicate (Hanes, 2015).

*Non-verbal communication* is composed by sending and receiving wordless messages, sometimes but not always alongside of verbal communication and includes body language such as gestures, facial expression, eye contact, posture, vocal inflection, physical proximity and touching.

There are other examples of non-verbal communication, for example in how someone shakes hands, the sound of the voice when he/she is talking in public to a group of people or individual, the tone and volume are important to transmit effective messages.

The dressing style of people it is also part of non-verbal communication because when someone is dressed in some specific trainers, glasses, clothes, it is because they want to transmit or express a message and shape people’s judgements.

In fact, non-verbal communication can reinforce, contradict, substitute, complement or emphasize verbal communication and it is necessary to achieve an effective communication in face-to-face interactions.

The main characteristics are represented by:

- No use of words in the communication,
- Culturally determined, what people learnt in childhood from their parents and others associated with their upbringing. This changes and adapts to the places and

society they may grow up in,

- Do not have one specific meaning. A gesture can contain many meanings,
- It could be vague and imprecise,
- It can conflict with verbal communication, because it is unconscious,
- It can reveal emotions and feelings
- It does not have any rules or formality because it is often habitual behavior.

### **3.3 How technology is changing communication.**

#### **3.3.1 Innovation is coming.**

Explained earlier in the introduction, both technology and globalization are in constant transformation and are changing each aspect of our lives.

The progress in development technology took a lot of growth in communication tools and techniques. Century by century, communication through technology is continuously given more importance.

The beginning of the change in communication happen when Alexandre Graham Bell invented the telephone in 1875, the first massive tool that changed the way of communication between people. Then came the mobile phone, Internet, social network and virtual realities (*cooltechcrunch.wordpress.com*, 2012).

From the start of these inventions, groups of people begin to define and cluster both positive and negative effects of the consequences of technology in communication, from telephones, mobile phones and e-mails, to social networks.

As we know already, social network represents a virtual world thanks to the excessive use of mobile phones and internet, with low cost technology and internet, almost all populations can afford to buy a mobile and a contract that permits use of networking sites, applications, e-mails and video-conferencing, especially in new generations.

Most of the advantages of new technologies are represented into the bullet points below:

- There are no barriers of communication, they permit the continuation of relationships even if you are situated in a different part of the world and need to contact someone urgently,
- There is better opportunity to share and obtain knowledge between people, with

introduction of on-line schools and courses, it impacts the education system and may evolve and change it,

- It impacts relationships, because it is easier now more than ever, to find someone on the Internet to date or meet, to share information, or just to chat. In this sense, relationships have fewer barriers to overcome.

These are only a few of the possible advantages of new technologies, but it is important to also consider the negative impacts.

A lot of people think that with new tools to communicate, the charm of the “old world” is going to disappear and the ability of people to communicate in face-to-face contacts are becoming worse over time. They fear of the negative effects that this is having on younger generations, particularly in interpersonal communication (cooltechcrunch.wordpress.com, 2012).

With lower face-to-face communication, young people are losing their opportunity to learn non-verbal communication, because they are spending most of the time chatting and texting through new technology. However, as mentioned before, non-verbal communication is essential to achieve an effective communication.

Sometimes we can tie good and effective communication with a good and prosperous social life, it means that this person is good at communicating with both verbal and non-verbal communication.

Some people think that new generations are lacking in interpersonal skills to transmit and explain ideas in face-to-face communication, because of their increased use of technological communication instead trying to face the challenges that should make them stronger communicators in “real world” (Parks and Floyd, 1996).

The reduction of face-to-face meeting is getting bigger, perhaps to reduce costs or because some prefer to communicate on-line, rather than in “real-life”, creating problems of social interactions in many lives. There are people that believe they have many friends, who spend their lives in isolated situations in front of a screen, without seeing their ‘friends’. Humankind should be aware of the benefits and costs of technology impacting on communication, only to have a sensible and smart approach to them, without abusing.

Earlier, it was understood that people see virtual communication in various, perhaps opposite ways. Some see it as the cancer of our society, but the fact is, it completely

changes our life and we should be able to create and maintain social links to get all the new opportunities that are coming.

In fact, if we are moving towards shared solutions, we should be able to apply the communication that fits most appropriately. For example, if you are short for time, a face-to-face communication will help you to define rewards, values, physical appearance and physical attractiveness in relationships, because in computer-mediated communication takes a much longer time establishing a relationship (*servicefutures.com*, 2015).

At the same time, we should not consider communication through technological device as impersonal, because there are many ways in which it can permit communicators to understand and create expectation about the counterpart.

It is important to recognize the migration of relationships and that nowadays, it is difficult to keep only one channel of communication and is important to understand that sometimes relationships start from a virtual world and can be continued in real world, or vice versa.

One of the main factors that communication impacts is socialization.

Socialization represents multiplex and complex processes where an individual acquires attitudes, behaviors and knowledge from participants in an organization. We can attribute the meaning of simply grouping to organizations or something more complex such as companies and states.

Everyone is part of a group and it means that it is vital to transfer information internally with efficiency to achieve objectives, to carry on with relationships or to acquire knowledge, skills and common values.

### **3.3.2 Computer-mediated communication.**

CMC (computer-mediated communication) filters many social and affective signals into human interactions with final consequences on communication outcomes and suitability of interpersonal tasks.

It affects communication for individuals, social groups and organizations, but we should be aware that CMC is not always appropriate for all tasks and sometimes face-to-face communication is required, especially to predict the process and outcomes of CMC.

Face-to-face communication is essential to reduce social influence effects on decision-making processes, because we can obtain information about status, authority, personality, mood, motivations and intentions (Walther, 1996).

This is not always possible in computer-mediated communication or sometimes it requires a very time consuming process.

CMC is becoming part of our lives and we cannot avoid it, so we should use it in a proper way, transmitting messages in a clear and detailed manner, providing information to people without interpersonal obstacles, ultimately permitting people to make decisions effectively.

Telephones or mobile phones are part of our daily communication and are an alternative to face-to-face communication. They have higher effects when people have previously determined norms and rules in a group, in fact, CMC can enforce group identity.

To make sure that communication works, it is advised to first transmit some conditions, meanings and social information about members so that they can select the appropriate language styles and behaviors.

In fact, it has a strong impact on communication outcomes if the sender or/and receiver is a pseudonym or anonymity. Sometimes if a person in CMC is using his or her own name, it can cause them to feel shy or not be completely honest when they need to make complaints or point out that something does not work properly. Instead, someone that does not use their own name will feel more comfortable to make criticisms.

In computer-communication mediated there is the opportunity to use paralinguistic clues that are considered as non-verbal communication in face-to-face interactions.

They are in the written communication and take form as typographical marks, text, tricks with keyboard without lexical meaning.

You can only understand them if you know the socially shared meanings, because they are only interpreted within social conventions.

With social cognition, people enter an intensive process to make inferences about people's personality, emotional state and behavior intentions (Lea and Spears, 1992).

For example, in CMC, if we analyze a dialogue and find grammar errors, we may infer that the writer was in a hurry when writing. However, if the errors are systematic, it could mean that the writer is careless or incompetent.

If the writer continues the same marks or errors, maybe he wants to transmit a meaning that is a cognitive schema for people; we know that cognitive frameworks define behaviors and impressions of people because they rely on stereotypes.

CMC tries to avoid the use of these social and interpersonal cues, give the receiver an unbiased message that is effective for decision-making. Communicators also use them to construct impressions of each other and thus, they are helpful to create a greater reliance. Under certain conditions, paralinguistic content can provide social cues, but they do not have the same effects that non-verbal communication have in face-to-face interactions, because it is more difficult creating an impression through e-mail than in a real meeting, so people with CMC require more time (Walther, 1996).

To establish a functional computer-mediated communication is vital to identify social context in terms of individuals, groups and organizations before starting. It is also important to know organization identities and pre-establish an interaction by face-to-face contact or mobile phone to create a first impression.

### **3.3.3 Communication in virtual teams.**

Communication varies depending on the context that is being studied. The following paragraph will include a deeper discussion of explaining how socialization works in virtual teams.

As mentioned before, virtual teams are geographically dispersed around the world and thanks to electronic technologies, can link together resources that are divided by time and space.

The manager should be able to organize to improve cross-functional development, delivery service in time and recruit/attract international experts (Ahuja and Galvin, 2003).

Virtual teams can become a solution if well designed to develop proper communication and level of trust.

Socialization in virtual teams is occurring over time and involves many parties, such as groups, individuals and organizations and trying to manage these factors together has been a challenge.

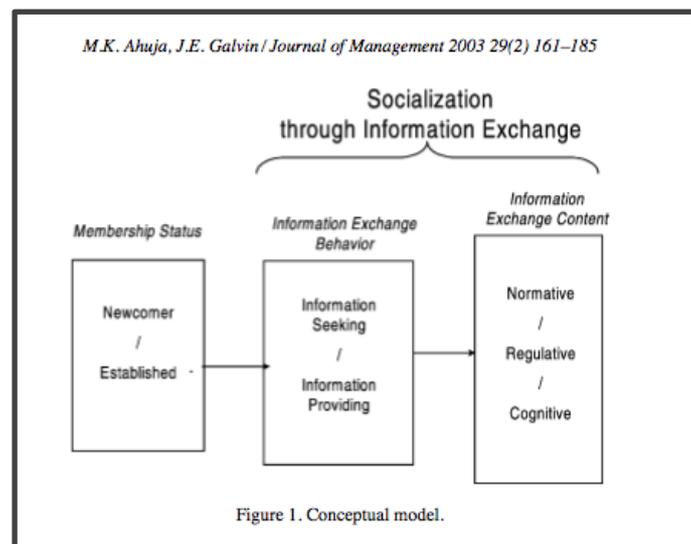
The communication environment in the group is represented as a process of learning behaviors and roles that permit communication amongst members.

For one person alone, social information can represent a waste of time, but in a group, it is vital because communication is the glue that creates a strong structure for a group. A group cannot exist if deprived of communication (Ahuja and Galvin, 2003).

As was written in an article from the “journal of management”, there are different models of communication in virtual teams and each one considers the differences of communication.

In Ahuja’s schema, he divided socialization into information exchange behavior and content. He explained the different impacts related to a prior experience on socialization of newcomers (Ahuja and Galvin, 2003).

### Importance of information exchange in socialization.



**Figure 3.2**

As we can see from the model, in the first part, there is a distinction between ‘newcomer’ and ‘established’. Members are separated according to the level of experience that they have in the group or organization, because it is supposed that they will explain and transmit knowledge to the new comers, the latest arrivals.

Membership status can influence information exchange. In fact, newcomers’ communication activities are at the beginning, information seeking to assimilate all the information and processes of the new environment.

They aim to gain knowledge and understand group expectations to define what their contributions could be.

On the other hand, there are information providing, providing other knowledge, sharing understandings in order to reach a future and effective organization. Sometimes workers with some specific skills, like a technician, manager or senior manager can transmit information that not everybody can know.

Both information in exchange behaviors are connected to achieve a common goal of the group and they need to be related each other, but to make this possible, we should know that behaviors are influenced by three different perspectives:

1. Normative, all activities are done to understand and share values and expectations with the group. It is important to define the soul of the group and a consolidated entity, in virtual teams, it is common to organize meetings with face-to-face interaction if possible, to establish this area of the project to share company philosophy from the beginning;
2. Regulative factors represent all the activities focused on defining rules, roles, procedures and processes that should be followed in the group. It is vital that all members understand as they will then share them with the newcomers,
3. Cognitive, is task-related activities to complete and develop the project, that describe the information required to accomplish team's objectives to each member. It will describe shared meaning to reach a common understanding where the group's communication will stem from (Ahuja and Galvin, 2003).

The first part of the process of communication in virtual teams is important to define these perspectives because later, there is less opportunity to correct and solve misunderstandings and share values.

Coordination is essential to create a group with community level mechanisms, especially to inform internal and external members.

Group selection could be used as a mechanism of socialization, because they understand that it's important to share objects and tasks depending on the job position and skills required. After that, it's important to give them training for the future job, so that every member of the team will be replicable and changeable and can work with different team members and be effective and efficient.

To maintain good computer-mediated communication, it is important to develop a certain

level of trust among members in the group, developing a common collaborative plan that is economic and practical, supported by new technological devices.

Many corporations see virtual team as a vital support for some functions of the company such as customer sales, customer service, etc.

In fact, companies use virtual teams to face increasing compression of the competition in the global market, where subcontracting labour could be the only way to survive.

With this approach, one can solve the problem with this virtual reality that allows more flexibility, responsiveness, improves levels of managing resources, reduction of costs and the ability to meet customers' needs.

Computer-mediated communication is a solution for multiple issues, but we should be aware that customers/members are ready and educated to manage this type of approach, if not it could be possible that they are going to feel as lack of permanency, reliability and consistency.

Especially with this typology of customers, developing trust before starting the project is essential to overcome problems and allow companies to take risks that they cannot control and monitor.

The most common characteristics of virtual teams are (Malhotra, Majchrzak and Rosen, 2007):

- physically located in different countries,
- Interaction between members by computer-mediated communication,
- not prior history of working together.

An approach to reach a better understanding is illustrated by Time; interaction performance theory (TIP) developed by McGrath in 1991. This theory describes the importance of working in groups during our lives, that it happens in our daily life, perhaps different characteristics will be seen throughout groups, such as the nature of the group and the temporal permanence and processes of interactions (Jarvenpaa and Leidner, 1999).

Another point that he would like to transmit is the importance of listening amongst the group relationships and it does not matter if the communication is face-to-face or computer-mediated because to gain benefits, listening is necessary.

This theory tried to cluster groups to the different natures that they are created:

- inception, project inception is choosing among sets of production or achievement opportunities,
- problem solving is where the group tries to define technical problem solving,

decision making and define practices and policies,

- conflict resolution, is where they attempt to resolve conflicts within the group in terms of values, culture, interests and negotiations amongst individuals,
- execution, in this phase they define behaviours to reach the goals of the project.

To develop an effective team, they should be engaged simultaneously and continuously in all three functions, like production, in member support where they can create member inclusion, participation and loyalty and commitment amongst the group.

The modes in TIP do not have a fixed order, in fact, for teams that do not have a prior history they must face challenges in a different way, because they must build trust. Also, more theories say that building trust through technological devices is more difficult or sometimes almost impossible.

However, other theories say that computer-based communication can help share information, (Walther, 1997) according with Walther's theory, computer-mediated communication does not differ from face-to-face communication in terms of social information exchange, but it changes in terms of velocity of transferring information.

In some social discussion, we can see that level of depth and intimacy is greater in computer-mediated communication groups that are face-to-face, even if members have never met before.

To describe this point, there is a theory called "Social identity model of deindividuation effects" (SIDE), that was developed by studies in social psychology and communication. It describes effects of anonymity in a group, especially with the contribution of technology and computer-mediated communication.

It cannot fully explain deindividuation factors but it can suggest that in absent of prior face-to-face meetings between members of a group, through computer-mediated communication, the individual usually develops stereotypical impressions of others with the limited information that they have (Postmes, Spears and Lea, 1998).

Anonymity has strategic consequences, because it positively affects the ability to express personal and social identities.

Another point in computer-mediate communication in virtual team that is salient is represented by cross-cultural communication.

Differences in communication behaviour can influence the results in communication processes in virtual teams. Introduced by Hofstede, some simplifications of classifying

cultures can help and suggests that as the people from individualistic cultures might be more trusting than people from collectivist cultures in computer-mediated communication.

Sometimes, being confident with your knowledge and skills could lead you to be more interested and available to explore other cultures and be more effective.

These are the kinds of people who should be recruited to be leaders and make groups work, because in virtual reality members have a short time frame to build a relationship and these people can be useful to connect all members to ultimately reach a common objective.

In virtual reality, there is a shift of trust from trust developed with strong interpersonal relationships to trust based on role divisions, knowledge, professional reputation and network effect.

It is necessary to reach a high level of information exchange to gain experience and knowledge about other members, especially in technology platforms.

At the same time, virtual reality can benefit from technological approaches thanks to the lack of cultural effects, because if members enroll in a course where they are going to introduce cross-cultural communication and educate workers to decide which words should be used to avoid mistakes and misunderstanding.

Non-verbal communication will be eliminated completely or almost by electronically communication, meaning that a lot of misunderstanding due to dressing and gesture could be avoided (Wang, Walther and Hancock, 2009).

### **3.3.4 Developing relations in Virtual Teams.**

Laku Chidambaram developed research studying how computers can modify interactions and communication in virtual teams.

He believed that intragroup relational links evolve during a period if there is repeated use and a group support system. Computer mediated-communication is more task-focused than face-to-face and tends to minimize socioemotional interaction. Technology imposes constraints and restrictions, especially without social presence.

Most of this relates to the limitations of channels in computer communication that tends to be more task-oriented than traditional (Chindambaran, 1996).

For these reasons people say that the virtual world is lacking intimacy, but Walther claimed that this process takes a longer time in exchanging socioemotional cues than a face-to-face group.

Nowadays, the role of time is essential and for this reason temporal boundaries should be considered:

- computer-supported teams need more time to develop close relations, for personal nature,
- over time, they are going to meet their relational needs with a continuous pressure to adopt technology and new devices.

In fact, how Walther explained from the SIP perspective, the role of time permits evolution of interpersonal relationships.

Another point to consider is that typing takes longer than speaking and the exchange of information could be slower when using a keyboard (Walther, 1996).

To be successful in an intra group communication with technology, the right use of timing is required, in terms of synchronization of processes among members that represent a key factor to achieve common and forecasted outcomes.

With a good system of communication, we can coordinate all processes within the group and avoid certain behaviors, especially conflicts. If the “virtual relationships” carry on without big issues, intimacy will increase over the time.

When some groups start to become closer, they use emoticons to describe specific feelings or emotions and a non-verbal form of communication (Chindambaran, 1996).

Computer-mediated communication has sociotechnical structures that can be clustered into the following:

- Anonymity is relevant because it allows a group to be able to evaluate ideas independent of those who generated them. It is a task-focused orientation that makes management processes more effective,
- Simultaneity; every member of a team should have complete access to all information in a transparent way to help the group to glue together and be more creative through computer mediation,
- Electronic recording and display allow members to write into channels of communication instead of talking, but, even if it will take more time, they can keep proofs and data about each topic of meeting that they have completed,

- Process structuring allows the regulation of interactions, meaning that they can evaluate cohesiveness and satisfaction of a dialogue, defining an electronic structure that will make communication more task-oriented. This can also reduce issues, if from the start, members can understand the importance education and training, to keep a high level of transparent communication between parties.

All structures are defined by group members' attitudes and perceptions. If we take cohesiveness into consideration, one may see some members are attracted to the group and to each other with affiliation motives that have been linked to many positive outcomes.

It allows one to be aware of problems and importance of motivation, to improve creativity and to make better choices.

Positive perceptions are often connected with process gain, while negative perception reduces the motivation and performance of a group.

### **3.3.5 Impacts in group decisions.**

During Lize and Scott's studies, they focused on Group Decision Support Systems that provide evidence for computer technology's impact on the quality of decision-making amongst groups (Zigurs, Poole and DeSanctis, 1988).

We analyze decision-making because it is one of the most important processes that each group must face, they can work in different sectors, functions, but in a group, each member must decide and define a common idea or goal to follow and reach.

Before making decisions, all members need to thoroughly know and understand the environment, data and have a better understanding that functions computer-supported can help to develop effective teams.

The process of communication is involved in a mechanism of exchanging ideas where all information has a source, a channel and a receiver.

If we consider the communication between many people, there will be multiple communicators and channels, such as the use of graphs, pitch, gestures and verbal messages, etc.

All groups need to have all the information exchange that they are going to receive from different channels. In this way, virtual teams can have a better, clearer availability of

information and data. This will be the case for quantitative data thanks to the support of technology; however, effectiveness is lost due to lacking face-to-face communication. That can be supported by video calling but would be extremely difficult to do in equal participation and influence all members through technology. For this reason, from the start there should be advice for meeting every member in face-to-face meetings.

The researchers were more interested in the process of group interaction rather than just the outcomes, how people give different preferences or skills, in order to which channels they are going to use.

There are four channels of communication: verbal, non-verbal, written and electronic. Each channel requires different skills, features and capacity to have impact on the receiver.

When a new group is setting-up, to be effective and affect future actions, in a decision-making process, they should include the agenda setting, discuss future objectives and summarize opinions. This is central to be able to capture micro level in verbal communication, but the effects that non-verbal communication have should always be considered.

Virtual reality is a little bit different because if face-to-face communication is unavailable, but the system of communication is well designed then information and data will be available at the same time. Consequently, they will be more goal-oriented and with electronic support, each individual can anonymously comment on graphs, so that ideas and decisions can be ranked in order of members' preferences, finding the solution to match the proposed problem.

Studies of communication determine some actions that affect verbal behaviors (Zigurs, Poole and DeSanctis, 1988):

- Initiation behavior (initiating messages of how to define deadlines and agendas),
- Goal-oriented behavior (making statement about goals' group and jurisdiction),
- Integrative behavior (summarizing and integrating contributions),
- Implementation behavior (division of the jobs and tasks according to different skills),
- Process behavior (requesting or suggesting a procedural direction and defining a leader).

To sum up, influence behavior is defined in terms of verbal, non-verbal and group messaging actions that affect group behaviors.

Technology provides a new channel of communication that is equally available to all members, is anonymous and can neutralize external status. Due to this, there is a more equal communication among members; in fact, it is possible to support equal distribution of influence between members.

Electronic communication is always available to each member and encourages participation. The anonymity represents a low threat of communication, providing the opportunity to express all ideas and arguments.

In fact, electronic support helps the decision-making process, to develop a higher level of creativity and offers support to each member, increasing effectiveness and adaptability of the group.

### **3.4 Communication.**

#### **3.4.1 Communication in Virtual teams.**

Virtual teams rely on interactions and communication through electronic space. If the duration of the project can affect the outcomes, we should consider the risk of opportunistic behaviours. Here, trust starts to work and acts among and between members. Many researchers have found that sharing personal information helps to increase trust, but single members must first understand the importance of trust so that they can learn that they must be willing to share information to get to the final task.

Trust should be a form of glue in distributed team that works based on increasing the importance of communication between members.

Sometimes, a paradox occurs because when virtual teams are created for a temporary project, they must work quickly and with flexibility to be innovative and reach customers' needs. But, to accomplish this you need high levels of trust and collaboration, something that you can only reach in long-term relationships.

Trust is a long process based on good communication, face-to-face relations, sincerity, explicit language and sharing ideas, values and information.

Each organization should know that the use of cameras, threatening and continuously calling to check the presence of workers only increases the difficulty to create trust in the company and accomplish goals with objectives made harder (Jarvenpaa and Leidner, 1999).

It is essential that in an organization, team, office or school, the system should be organized and managed in a proper way to enhance trust between members, workers and managers.

Furthermore, if distance between workers means there is no face-to-face communication, and thus there is a low level of trust, managers of virtual teams can create a transparent system where members feel safe to share ideas, personal and working information.

In fact, Communicative activities are at the heart of the organization and *computer mediated* communication systems serve the purpose of filing, distributing, sending and processing messages.

In fact, there are some tips or paths that a manager should be aware to follow from the very beginning of the creation of the team, where he/she should be able to develop and improve communication in the following such ways:

- Each team and member must have a clear and well defined roles and objectives,
- Selection of members' skills should match according to required skills,
- Defining rules of communication and initial training on how to use the platform, to make all information available,
- Understanding of members needs and their capacity,
- Define rules and frequency of communication,
- Working in odd or unsociable hours,
- The aim of initial training is to understand the level of written and technological ability of members.

In fact, virtual teams provide a bridge to time and space, but without trust and no history of working together, they can result in disaster. Usually a relationship between people is created by numerous face-to-face communications, but sometime in virtual reality, this is not possible.

With trust, a team could increase its outcomes in terms of efficiency, effectiveness, creativity, communication, cooperation, satisfaction and decision-making.

For these reasons, they must invest more effort on building trust, as it could create both cognitive elements (competence, reliability, reputation) and affective elements such as taking care and expressing emotions.

The formation and the maintenance of trust is a fragile environment and temporal factors play a critical role (Jarvenpaa and Leidner, 1999).

Trust among members shows the confidence that a person is willing to act, make decisions and take risks whilst at the same time taking responsibility for their actions. The most important characteristic of trust is represented by words like, integrity, reliability and competence.

Trust has a dynamic nature that makes relationships change over time in order to generate ongoing communication and experience working together.

Most of the time, workers do not have enough time to develop trust between each other and they must make more effort in the beginning stage of the project to steadily increase the level of communication focusing on working context, because trust in a company is essential for high performance and success.

### **3.4.2 Importance of communication and trust in performance**

In information systems and in a lot of global virtual teams, professors and managers discovered that trust and communication between members are both essential to reach good performance.

Next, the discussion will move on to explain three proposed models that describe the role of trust in relationships and in performance.

It is important to understand what effect trust has and if we want collaborate and use technology approaches we need to gain trust first.

In fact, it has a critical role in teams especially where members bring different goals, values and ideologies. It could become harder in dispersed teams, where they do not have opportunity to have a prior experience together and meet face-to-face.

In this type of group is problematic to measure performance of individuals and interactions among them, because we can only see the final-group result.

## Sample of prior studies examining Trust in distributed team.

Table 1. Sample Prior Studies Examining Trust in Distributed Teams

Study	Overall summary of the study	Focus on group-level or individual-level performance	Relational/ structural approach?
Webster and Wong [108]	In this study, the authors compare trust, communication, and satisfaction in traditional teams, semi-virtual teams, and pure virtual teams. Results indicated that pure virtual team members enjoyed greater satisfaction than traditional team members. Further, semi-virtual team members demonstrated greater positive feelings toward their local members than their remote members.	Trust treated as a dependent variable as opposed to an independent variable for explaining performance.	No
Lu et al. [61]	In this study, the authors use both qualitative and quantitative approaches to examine how different components of virtuality influence specific aspects of virtual team performance. Results indicated that different types of practice had several negative effects on performance, especially on communication and trust in team members, and on the ability of the team to meet project deadlines.	Focus on group level; trust treated as a dependent variable as opposed to an independent variable for explaining performance.	No
Wilson et al. [110]	This study examined the development of trust in both computer-mediated and face-to-face teams. Results highlight that computer-mediated teams exhibit lower trust in the initial phases, but that over time, the trust levels in such teams increase to levels similar to face-to-face teams.	Trust treated as a dependent variable as opposed to an independent variable for explaining performance.	No
Edwards and Sridhar [32]	This study reports an exploratory research involving 24 virtual teams based in Canada and India. The focus of the teams was to generate and define the business requirements for software projects. Results indicate that trust and task structure positively affect the effectiveness, satisfaction, and efficiency of such teams.	Focus on group level.	No
Ocker [76]	This study examined the creativity in and performance of asynchronous virtual teams. Results indicated that factors such as domain knowledge, downward norm setting, lack of shared understanding, and time pressure negatively affect the performance of such teams. On the other hand, factors such as stimulating colleagues, social influences, and a collaborative team climate were found to have the potential to improve performance.	Focus on group level.	No
Breu and Hemingway [11]	In this paper, boundary theory was used to examine the factors affecting organizational virtual teams. Results suggest that low levels of trust among team members and the technology used by the team affect performance and knowledge sharing in such virtual teams.	Focus on group level.	No
Brown et al. [12]	This paper builds on the interpersonal circumplex model (ICM) and examines the role of personal traits in virtual collaboration. The proposed model argues that interpersonal traits affect individual team members' disposition to trust, perceived trustworthiness, communication, and thereby their willingness to collaborate.	Focus on individual level; trust treated as a dependent variable as opposed to an independent variable for explaining performance.	No
Jarvenpaa et al. [50]	This paper examines trust in global virtual teams during two different stages of team development. Findings indicate that a member's trusting beliefs have a positive effect on his or her trust in the team and perceptions of team cohesiveness in the early phases. However, in the later phases, a member's trust in his or her team operates as a moderator, indirectly affecting the relationship between communication and perceptual outcomes.	Focus on group level; trust treated as a dependent variable as opposed to an independent variable for explaining performance.	No
Coppola et al. [19]	This paper presents a model of trust development in online/virtual courses. Specifically, it examines the development of swift trust in both highly rated and poorly rated online courses. Results indicated that course success depended a great deal on the early development of swift trust.	Focus on course (or group) level.	No
Panteli and Duncan [79]	This paper adopts a "dramaturgical" perspective on trust relationships and examines trust development in temporary virtual teams. The study's results argue that trust relationships in such teams are mutually negotiated and jointly constructed and emerge from the scripted, prescripted, coscripted, rescripted, and unscripted computer-mediated interactions of virtual players.	Focus on group level; trust treated as a dependent variable as opposed to an independent variable for explaining performance.	No

(continues)

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Table 1. Continued

Study	Overall summary of the study	Focus on group-level or individual-level performance	Relational/ structural approach?
Zolin et al. [111]	In this study, the antecedents of interpersonal trust in cross-functional globally distributed teams were examined. The study adopts a longitudinal approach and focuses on variables such as cultural diversity, perceived trustworthiness, trustor's propensity, and perceived follow-through as the antecedents of trust. In addition, perceived risk and reward serving were found to be important moderators.	Trust treated as a dependent variable as opposed to an independent variable for explaining performance.	No
Piccoli and Ives [81]	This article reports on a longitudinal study exploring the effect of behavior control on trust in the temporary virtual teams. Results indicated that the behavior control mechanisms typically used in traditional teams have negative effects on trust in virtual teams.	Focus on group level; trust treated as a dependent variable as opposed to an independent variable for explaining performance; some hypotheses focused on the individual level.	No
Sarker et al. [92]	This study proposes and validates an instrument measuring the different bases of trust in global virtual teams. Drawing on the literature, three bases of trust applicable to virtual teams were identified: personality based, institutional based, and cognitive trust, with cognitive trust being further subdivided into three dimensions: stereotyping, unit grouping, and reputation categorization. In addition to confirming the conceptual bases of trust, the study's results also indicated that stereotyping in virtual teams can be of three distinct types: message based, physical appearance/behavior based, and technology based.	Focus on group level; trust treated as a dependent variable as opposed to an independent variable for explaining performance.	No
Morris et al. [74]	This study investigates the effect of information technology and trust on the job satisfaction of virtual team members. Information technology was operationalized using user's satisfaction with the technology used. Results indicated that both user satisfaction and trust positively affect job satisfaction of virtual team members.	Focus on individual level.	No
Jarvenpaa and Leidner [48]	This study examined the challenges of creating and maintaining trust in global virtual teams, through a series of descriptive case studies. The results of the study suggest that global virtual teams experience "swift" trust, but such trust is typically very fragile and temporal.	Focus on group level; trust treated as a dependent variable as opposed to an independent variable for explaining performance.	No
Coutu [20]	This study examined the formation and development of trust in virtual teams. Specifically, the study illustrated that trust does exist in virtual teams, but it develops differently from that of traditional teams.	Focus on group level; trust treated as a dependent variable as opposed to an independent variable for explaining performance.	No
Jarvenpaa et al. [49]	In this study, the antecedents of trust in global virtual teams were examined. In the early stages of the team project, trust was predicted by perceptions of other team members' integrity. The effect of team members' perceived ability on trust decreased over time. The study's results also indicated the formation of swift trust in global virtual teams.	Focus on group level; trust treated as a dependent variable as opposed to an independent variable for explaining performance.	No
Iacono and Weisband [46]	This study examined how virtual teams where members have never met each other develop and maintain trusting relationships. Results indicate that high levels of trust were maintained in teams that engaged in continuous and frequent interaction, and that this level of trust positively affected their work effectiveness.	Focus on group level.	No

### Figure 3.3

To develop trust properly, we should create the fitting environment where members can share ideas, information, at the same time as understanding that without facing any

barriers for their locations, a bad understanding can create conflicts and effects on performance.

Network individualism paradigm says that individuals work within a context of a network of other individuals, not individually. In fact, network and structural approaches seem to be appropriate to analyze groups, where behaviors are divided by structure, individually or into groups. With this approach, they can identify opportunities that will influence the allocation of resources.

There are different types of analysis, for example the social network analysis is useful to examining performance related to some consequences with a major focus on relationships, because it is able to capture interactions and connections between social entities and studying individual behaviors. In the social network research, there are some individuals who perform better than others and this may be connected to their personal, critical resources and the support they receive from other team members.

With this approach, network members can enjoy gaining a high amount of information and resources, but it makes it possible for some elements to gain more power even if they are not in charge.

In virtual team is a little bit different, because members share mutual accountability and they interdependently to solve issues, the communication are based on tasks, interests and commitment to final goals.

Managers should push all members to create a good communication in the group, because as is read in books and articles, communication is essential to tie together a group and people who communicate.

Communication is the basis of trust; trust is the basis of good performance.

By increasing the level of communication and sharing ideas, information permits the creation of commitment and trust between people and sometimes, the first impression is hugely important for trust. These improvements can add value to the project.

“Trust has been defined as the willingness of a party to be vulnerable to the actions of another party, based on expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party”(Harvard Business School Press, 2010).

It can occur in relationships between one or more persons, in this case it will be called collective trust, when some elements like common beliefs and ideas that are recognized by all members and everyone behaves without taking advantage of others.

Words such as trust and trustworthiness play a key role on affecting performances and individuals that are central to the network, like leaders, receiving more trusted than others.

### **3.4.3 Communication centrality.**

Communication has a vital role in each group, especially in distributed groups, that do not have prior experience, shared knowledge and understanding and the distance hinders development of communication. But during the path of communication, it is probable that something is going to be lost.

It is necessary to define the centrality of communication in a team to understand who can be useful to improve internal communication linkages and affect positively performance. Interactions through electronic devices can help to develop high levels of interdependence and communication frequency, but there is always the fear that someone is behaving in an untrustworthy way and do not contribute to the final project. It is useful to create a good system of communication in the team to avoid issues, develop trust and communication through shared personal information over time.

### **3.4.4 Social Network Approach (SNA)**

Illustrating SNA tradition, individuals perceive a high level of trust in relation to their level of communication centrality. Sarker, Ahuda and Kirkerbey captured and labeled three different roles of trust (Sarker *et al.*, 2011):

1. The Addictive Model predicts that both trust and communication affect individual performance, especially in virtual teams where there is sometimes a lack of transparency. Also, members who are considered trustworthy have more doubts about performance than others and they try to improve it, because with a high level of communication individuals can reach a better level of performance. They can

enhance discussions, push people towards common goals with emotional contagion, because trust and communication have complementary effects on results,

2. Interaction (Moderation) Model sees trust as beneficial to improve facilities in communication, because if it does not have a direct effect, it can provide specific conditions that permit groups to reach objectives in a faster and more effective way. Trust sometimes plays a moderator role that enables an individual to interpret the communication activities and affects judgements about the work outputs. In a virtual team, especially if there is a high frequency of communication it is relevant and it will amplify the effect.
3. Mediation model, where trust plays a mediating role within the relationship between communication and willingness to share information. In this approach, trust does not affect directly but indirectly through communication on performance, where trust does not follow the path represented by communication → trust → performance. In virtual teams, it is more difficult to see when your colleagues are working and if they are struggling and only better interactions can increase performance. Then, it is possible that some members perform well if they are not at the centrality of communication and take the group towards a successful objective.

At the end of the analysis, it can be said that they provided clear information about interrelationships between trust, communication and performance, but to summarize the conclusions, they discover that “Addictive Model” does not work properly with individual performance and is more useful for group performances. In fact, in the first model, trust works as glue. The mediation model works by identifying the effects on individual performance, because if a worker is well educated and motivated, he/she will be highly performing in the right job position and trust will affect the group objectives.

In empirical examination, we can strongly support that communication leads to performance through trust.

There are 3 models of virtual teams: traditional, pure and hybrid.

These are based on the level of technological mediation used, how members are distributed around the world and physical location.

They capture linkages among communication, trust and individual performance.

For the future, it's vital to consider the importance of SNA of individuals in the team to increase the opportunity of creating added value and adopting both the individual-

behaviour approach and the task-oriented approach because the importance of relational approach is increasing.

### 3.5 Trust is essential

#### 3.5.1 Trust in Virtual teams.

As it has been discussed a lot in the previous paragraphs, we must question, why trust is so important in our jobs? And also in virtual teams?

We are going to try to define why trust is so important; first we should define two different types of trust, interpersonal and inter-organizational. These are both playing different roles in affecting relationships, negotiations and performance (Zaheer, McEvily and Perrone, 1998).

For interpersonal trust, the agent's trust in the members of the counterpart organization, whilst inter-organizational trust is represented by trust placed in the partner organization by the members of focal organization as we can see into the graph below.

#### Interorganizational and interpersonal trust.

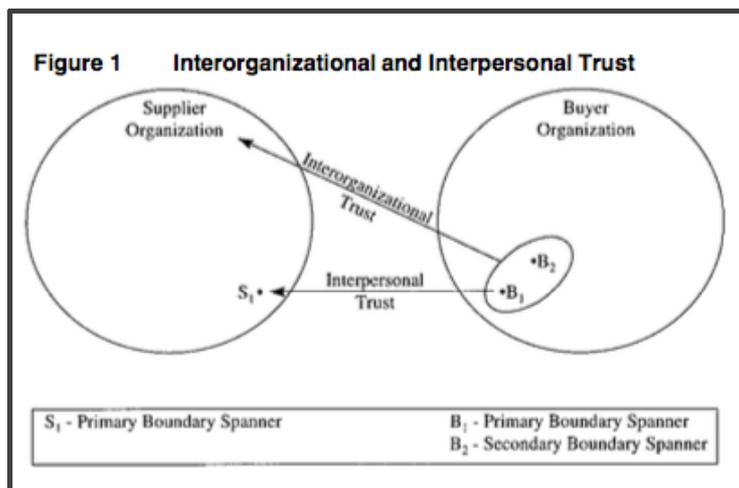


Figure 3.4

Trust has multiple important roles such as in facilitating the organization and coordination of economic activities between firms, in cooperation projects trust is fundamental in all levels.

It is necessary to avoid or reduce opportunistic behaviours and face the situation with high levels of ambiguity. It is a positive characteristic of economic exchange with effects on transaction cost (Williamson, 1981) in fact, personal relations generate trust and discourage opportunistic behaviours between firms. They can create competitive advantages, developing efficient governance.

Inter-organizational trust is based on three essential components; reliability, predictability and fairness. In inter-organizational relationships, confidence and predictability are part of the expectations of the counterpart with goodwill in a predictable manner.

Trust has also been seen from another point of view and divided into:

- Dispositional trust, when an individual respects expectation,
- relational form is based on prior experience and interaction with a partner.

Time is an important variable that permits an increase in effectiveness and ties organizations over time.

Reaching mutually acceptable agreements, especially in an environment where uncertainty is high, with trust we can reach points and share information quickly and easily to reach a higher level of flexibility and efficiency and at the same time, *reduce cost of Negotiation*.

In fact, trust helps to exchange information between organizations faster and easier at a lower cost so companies try to develop it to improve future relationships and reduce opportunistic behaviours.

In this way both parties can enjoy sharing benefits and a reduction in conflicts, but at the same time, when level of trust is higher, it means that expectations are high and cannot always be met, for differences in terms of goals, resources or situations. Unexpected actions mean that the company has to face conflicts and based on the level of trust, they will decide how to behave, if accepting terms for a short term, or if not and changing partner etc.

Trust works in virtual teams in three different dimensions of the nature of teams, within an environment and in the level of complexity.

Technology covers an important phase in the process of building trust in a virtual team but alone, it is not enough, because quality in relationships is required, especially if they do not have every-day conversations.

Virtuality is complex and diverse and contributes the creation of different envisions of virtual organizations. One example that will be discussed and analysed is the global virtual team that is defined as temporary, culturally diverse, geographically dispersed and with computer-mediate communication.

With this form of group, developing trust is more difficult, especially if they do not have prior history, because complex and dynamic issues surround them. However, we cannot generalize and we must study different virtual team experiences and trust processes.

As we said before, the lack of explicit knowledge introduces a risk that can be overcome in an effective way with trust that represents a status of positive, confidence with the other party.

It is necessary because it has been seen as the “heart” of knowledge exchange; it allows virtual and traditional organizations to work.

In the traditional approach, face-to-face communication covers an essential role to increase the level of familiarity between members. Spending time together permits members to feel more comfortable and willing to share information, competences and integrity ideas in a much easier way.

Paradoxically, familiarity is based on face-to-face communication and in virtual teams there is not always the opportunity for this so they must focus on proficiency more, for lack of interpersonal trust. However, Clark said that there is another element that could develop trust and it is represented by situational cues (Pantelli, 2003). He explained that there could be one individual, who trusts another individual in a specific situation, but this situation is changing and it is possible that he/she would not trust anymore. Thus, this means that we cannot generalize.

Dibben developed a framework to identify a variety of situational trust types where familiarity and situational cues (CSQs) were taken into consideration.

With high familiarity and few CSQs, there is a weak relationship based on contractual obligation for the fulfilment of an action (Dependence-based trust). In the case of many CSQs, we will see a stronger relationship based on situational trust and confidence with the party (Confidence-based trust). CSQs is determined by the experience of a person

working in a virtual team, so when there is lack of it, this will be represented by few CSQs (Pantelli, 2003).

### Situational trust types.

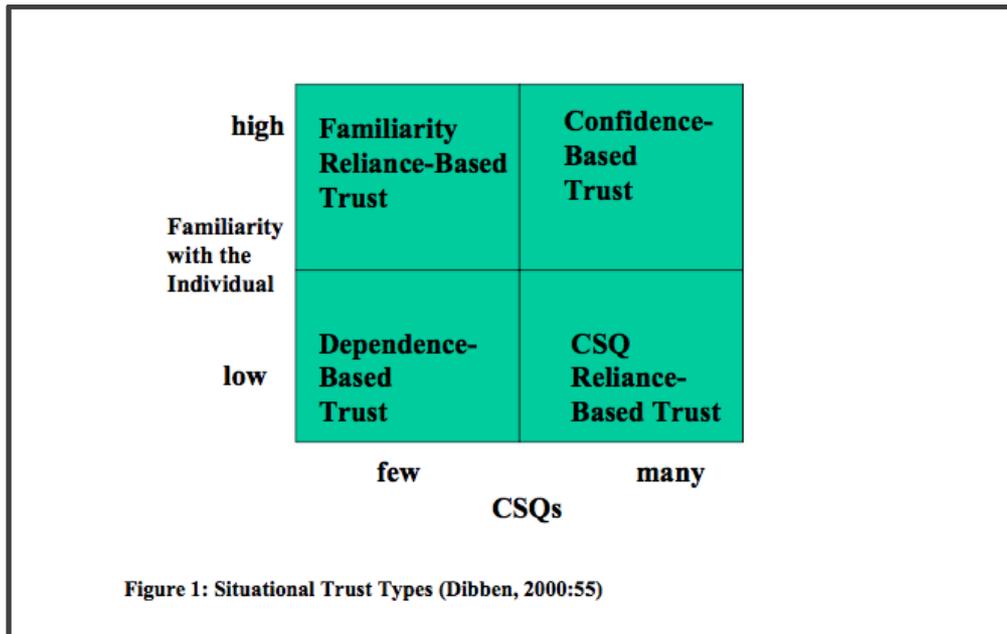


Figure 3.5

It is important to view trust as a dynamic and emergent social relationship that develops as participants interact with each other, regardless of the timeframe of a relationship.

There are another three different dimensions to analyze virtual teams based on the level of continuity, the degree of dispersion of the members and its relation with organizing firm.

### Different dimensions in Virtual Teams.

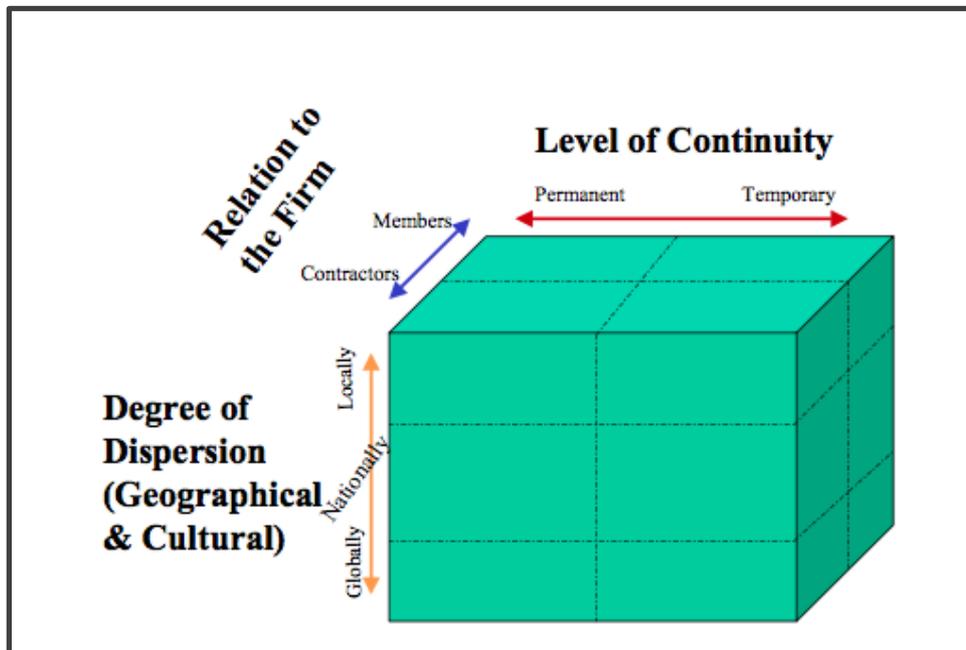


Figure 3.6

*Degree of dispersion:* this explains how members are geographically dispersed in the world, their time zone, but most important their culture, religions, language and all the barriers that can be considered to build cohesiveness in communication and understand if there is any opportunity for face-to-face communication.

The more a team is dispersed, the less opportunity to develop familiarity it will have.

*Relation to organizing firm:* it represents an intragroup arrangement to promote cohesiveness between team members in order to share background, features, interests, attitudes and values.

Virtual teams require sense of mutuality and reciprocal loyalty, increasing frequency of communication to improve the sense of presence. Sometimes it can be a good action to transform virtual workers to members with membership contract to improve their level of contribution and to encourage them to get to forecast objectives.

The relationship becomes close and the level of familiarity increases, as well as of the understanding of situations.

*Level of continuity:* the mayor of virtual teams is created for temporary basis to provide specific knowledge, ideas and solutions usually for a product life cycle. If there are some teams that are permanent or long term, we can see the improvement in terms of outcomes but especially in terms of familiarity and comprehension of the situations and trust.

### **3.5.2 Trust and innovation in asymmetric environments.**

Asymmetric conditions in the context of collaboration agreement could be important to analyse, especially if we decide to change environment, the agreements between parties can be varied by level of degree, trust among parties and the level of innovation, that sometimes is imperative in term of efficiency, effectiveness and sharing knowledge.

As previously discussed, trust is important to reducing opportunistic behaviour and it's based on honesty, integrity and reputation. But on the other side of the medal, we must calculate risks, level of commitment and the sharing of power and values.

With trust, you can enjoy of reduction of risks, the number of dedicated resources and focus on innovation activities to boost improvements and beneficial relations.

To be innovative, the level of knowledge is essential in a collaborative relationship, especially if all parties' want to enjoy achieved results (M., Yurov and Montes Botella, 2014).

To increase performance, we should innovate our network, systems, ways of thinking, connect to new powerful tools for information exchange, link sellers, suppliers and customers.

Common forms to share knowledge could be represented by joint venture, licensing, spin-offs and cooperation agreement but sometimes, if we work to develop an effective information system,

it has a strong impact on trust and innovation. It fits perfectly when you are in an asymmetric environment, because it is vital to be selective from the beginning without wasting resources.

Asymmetry is defined as lack of balance or equilibrium between relationship factors and behaviours, decision-making, information sharing, coordination and organisation.

When we talk about asymmetry between parties it means that there is no right way to share equal information correctly. At this point, innovation information systems could be essential to solve it.

Asymmetry negatively influences the level of trust, more in developed countries than in developing countries, where lack of trust creates barriers. In fact, to avoid that, there are integration processes that help to align perspectives and principles in a supply chain thanks to innovative applications, such as CRM and ERP.

With integrating IT, we can reach positive collaboration performance, but it is vital to train the manager for an asymmetric environment and try to challenge them from the beginning to create a better performing process (M., Yurov and Montes Botella, 2014).

### **Customer Relations Management software (CRM).**

CRM software permits the consolidation of information and documents of clients in a database that is easy to manage and access from all the workers of the system.

It allows the abilities to share, administrate and control information with a high level of security. It has a lot of functions, some of which are listed below:

- marketing automation that can enhance marketing efforts at different points of the lifecycle,
- sales force is helped by avoiding duplicate efforts between customers and salesperson,
- contact center automation,
- Geolocation that allows the development of a marketing campaign based on customers' physical locations.

The main challenges of CRM are based on customer information, how they are connected, distributed, protected and organized in the company to create easy and transparent sharing paths (Rouse, 2014).

It is an efficient channel to communicate and solve problems with customers faster. In fact, new technologies provide a better perspective to sales and marketing teams.

Sometimes, companies do not need to have big servers to store all data, but there are on-demand CRM and SaaS (software-as-a-service) with cloud-based storage that permits storage on an external, remote network with the simple subscription of monthly or yearly payments.

With this solution, each employee has access to information around the world with Internet connection and a password.

## **Enterprise resource planning (ERP).**

ERP is an industry term for a set of activities that helps manage the business organization. It focuses on developing effective software, where information flows and is fluent and effective for making-decisions that can be data-driven.

To be effective, it must collect and organize data from different levels of an organization to provide performance indicators in real time (Rouse, 2017).

It can solve the asymmetry between different functions in the company, such as administration, supply chain, managing inventory, and finance and business intelligence.

It is an affordable solution for small, medium and multinational companies because it includes geographic differences in organizations and different running systems.

The most important legacy platforms are SAP, Oracle and Microsoft Dynamics.

### **3.6 Main effects of trust.**

#### **3.6.1 Sharing knowledge.**

It was concluded in the previous paragraphs, that knowledge sharing amongst employees is a necessity for a good business and there are a lot of ways to make it possible.

Technology can help us a lot, but we can create additional paths to make it better, such as developing rewards and incentive systems.

In fact, a virtual team should be viewed as a social community that creates, shares and transfers explicit and implicit knowledge, where members build relationships on information.

These processes are enhanced by social capital, that is created by the organization and how employees share information, for example if it is for rewards, self-worth, reciprocal, voluntary or not.

Chow and Chan created their theory based on TRA (theory of reasoned actions), where they analyze either tacit or explicit knowledge and social capital (Chow and Chan, 2008).

Social capital exists due to relationships between people as pro-social behaviors like a community involvement.

The following three clusters of attributes form it:

1. Structural dimensions where all social and network relations are clustered with details in terms of hierarchy and frequency,
2. Relational dimension, it is vital to understand the level of trust within groups, norms, rules, or obligations that each member expects to achieve common goals,
3. Cognitive dimension refers to shared understanding between parties, to measure performances in a network configuration and are used trust and achievement of shared goals.

Theory of reasoned action (TRA) explains that the attitude of an individual towards a behavior is stronger if the member is engaged in the behavior; the greater is the subjective norm and stronger the intentions will be to perform it. In the end, the engagement is stronger and it is more likely that the individual is going to perform.

They found that in an organizational context, people establish many contacts especially if it is a flat and decentralized organization or team, because it transmits good feelings about developing new ideas and close relationships (Chow and Chan, 2008).

In fact, the network is more intense and sharing information is more favorable, because good relationships make high expectations among member and they are pushed towards mutual and social trust through increasing interactions.

Social trust impacts on employees' expectations level, especially in terms of intentions and behavior. Another point that they defined essential in a group is illustrated by the common understanding of shared goals to achieve a good level of cooperation.

It is important that each person has a personal attitude toward sharing knowledge and ideas, so that the recruiting process represents a vital step for success. For this reason, member should be spontaneously willing to share knowledge and the project will result in more effectiveness and success.

### Theory of reasoned action.

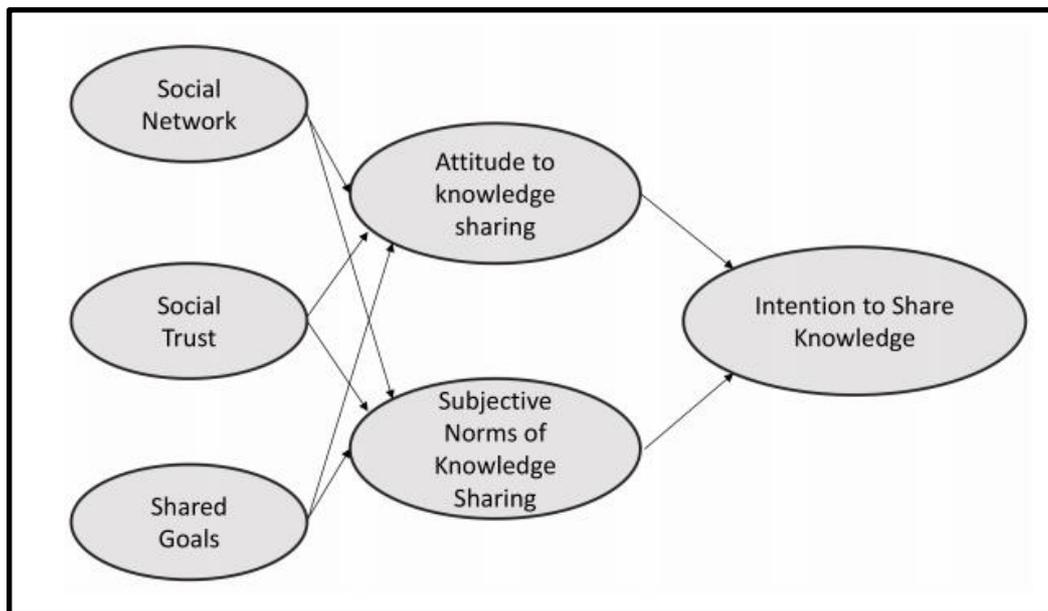


Figure 3.7

#### 3.6.2 Organizational performance

Between groups or organizations, employees' trust creates positive impacts on performance, especially on sales and customer service.

Those who are trusted are more likely to engage in positive behaviors to support the organization and to demonstrate trust.

This type of member becomes more willing to take responsibility. If the management can trust its employees, collective trust can improve organizational performance.

To reach these objectives, virtual teams require a shared perception to be trusted by management. In this step, it is really important that human resource staff develop a uniform approach to procedures such as recruiting and training, but most importantly adopting coaching.

Coaching is a managerial approach that places emphasis on knowledge, experience and decision-making, encouraging management to give a key role to other members of the group to determine how to reach goals.

It shows that managers trust experience and ability of members and allow increasing trust with the directional level.

After this improvement, it is necessary to set up some parameters and policies for workplace behaviors in order to support managers, staff and business objectives.

Sharing performance and financial information sends a powerful and positive message to members, instead of a tight approach that shows lack of trust.

The study defines some evidence to prove that control-oriented management styles and high-involvement favor employees to participate and cooperate in decisions, leading to positive results, whilst a feedback of manager outcomes is required.

### **3.6.3 Innovation processes.**

The role of trust in innovation processes is important because it pushes people to make efforts to innovate, creating higher expectations and positive attitude to achieve common objectives amongst the group. It impacts on global beliefs and develops organizational behaviors that take care of wellbeing. In fact, a good climate in a virtual team supports creativity and innovation, which takes part in IT operations and business processes as strategies (Clegg *et al.*, 2002).

Innovation trust plays a key role on innovation processes, through sharing ideas and beliefs with the members and giving them all the opportunity to listen, be informed, to understand, but especially, to be engaged and suggest some possible solutions.

If we consider innovation as a business outcome, we should strategically consider the impacts that it has on Information technology operations and business process operations as strategic innovations, both of which will be discussed in the following paragraphs.

This environment is stimulating for members and for meeting member's point of views, to overall increase the possible solutions for managers in generating and implementing ideas.

This approach permits the collection of ideas from people with different personal lives, jobs and organizational characteristics.

How it was analyzed previously, trust has multiple roles, but for innovation processes the most recognized roles might be (Clegg *et al.*, 2002):

- a predictor of innovation, where people make suggestions and promote implementations for future benefits,

- a moderator among members in different stages of the process between different characteristics, skills and idea suggestions,
- Creating outcomes, when people who are developing the project, implementing ideas, support innovation with the intention and belief of benefitting.

One of the most common points is represented by the importance that members must be aware that they will benefit in terms of personal or group outcomes. If they know this, they will be more likely to make effort, ideas, love and creativity and if not, they will not be innovative.

It pushes to create a *psychological contract*, where members believe that they are entitled to receive, or should receive employers' promises that could be explicit or implicit.

We analyzed the importance of trust among members in a group and now, we are going to study what the main impacts of trust are with external parties, and specifically the effects that they have on innovation.

When an organization or group start to cooperate with another one to develop a project, it is important to refer to Williamson and the theory of transaction costs

In this case, other control mechanisms are cited, such as contracts and trust. They try to safeguard parties from opportunistic behaviors and reduce goal incongruences in inter-firm collaboration (Clegg *et al.*, 2002).

Managing uncertainty in supply-chain relationships is essential, because in supply-chain processes there is more opportunity to create innovation in terms or productivity, logistic, speed, quality or/and time.

Trust and contract are related to innovation and virtual teams, and their supplier should collaborate to achieve common goals, but it is difficult defining a balanced equilibrium for both parties.

Organizations need to cooperate and at the same time to keep themselves safe. Without a contract, this could create opportunistic behaviors and a defined contract cannot stimulate innovation.

Before going further, I would like to introduce the importance of some elements in this topic:

- Supply chain represents knowledge-intense activities, where suppliers can be a source of innovative ideas and technology tools. Their interactions allow firms to innovate. The main point is that suppliers should be involved in product/service

development to enhance performance. For this reason, developing a good information system that can connect all members and suppliers where they can communicate continuously could create advantages.

- Contracts are formal, written agreements between two or more business partners that provided a legally bound, institutional framework in which included are specified rights, duties and responsibilities. They prescribe roles, obligations, outcomes, penalties and punishments.
- Trust refers to decisions taken in common agreement, but it represents a risky situation. It could be a useful ingredient to avoid conflicts and establish long-term relationships, integration and innovative performance.

After identifying the most important elements, we are going to study their contribution on performance (Clegg *et al.*, 2002).

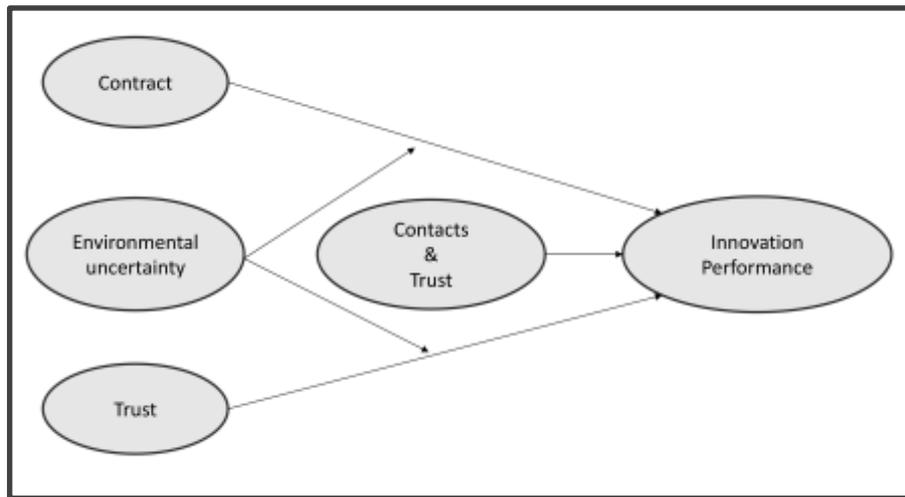
Contracts can create opportunity to develop opportunistic behaviors through articulated clauses or when they are excessively detailed, because they reduce exchange knowledge and it can be costly if they should monitor all of the partners' actions and block innovation. Trust represents the other side, flexibility and innovative but higher risk, potentially pushing parties to share objectives, ideas, knowledge and risks within the project.

With trust, they can reduce transaction costs from the start, if everything is going to be correct and develop an effective and transparent system to enhance performance.

Managers know that in the real world, it is not possible to use only trust or contracts but for achieving goals both parties require a balance using of them.

We understand that an excessively detailed contract stops innovation, so contracts should be more flexible and leave a little bit of space for trust. Trust gives the ability to maintain relationships after contracts and creates continuity, but at the same time, trust cannot be codified. This means that it is possible to create different expectations that lead to using contracts.

### Conceptual model.



**Figure 3.8**

I would like to introduce another variable that is represented by environmental uncertainty. It requires flexibility among parties, to manage and create good performance and sometimes, structured contracts are not able to accomplish this. In this case, trust is vital for improving innovation (Wang, Yeung and Zhang, 2011).

#### **3.6.4 Developing outsourced projects.**

Trust limits the need for a structure by reducing opportunistic behaviors, but the exclusive focus on trust could result in some very dangerous outcomes.

Projects should be balanced between trust and a structural control; that is essential.

Relationships between parties can involve confidence and positive attitude to cooperate, to be confident on other behaviors that the other part will perform. Especially in virtual reality, communication between parties is vital and many projects fail because of lack of prior relationships or lack of communication amongst suppliers and clients (Sabherwal, 1999).

We have already explained that in virtual teams, things can be made more difficult, due to short-term objectives, lack of prior experience and of course, lack of face-to-face communication.

If there is a good, transparent system that helps to manage this, challenging and exploiting communication between parties, they can overcome issues.

We know that distrust has a negative impact on performance, whereas trust improves performance and the interests of everyone involved cooperating in order to achieve common goals. To lead participants working together there are two different sources to be considered (Sabherwal, 1999):

- Contracts, written or oral but they are understood by all,
- Psychological contracts are unwritten and a largely unspoken set of expectations.

Trust usually supports psychological contracts, if it mixes with structural control. They are then able to manage unexpected problems.

The secret of good and effective cooperation is defined by balancing structure and trust between parties, because too much control leads to loss of trust, but on the other hand, an excessive use of trust can cause damage to projects.

Now we are going to analyze four types of trust identified by Sabherwal (Sabherwal, 1999):

- Calculus-based trust is centered on rewards and punishments associated with forecasted results of a project. With this approach, all parties know the previous objectives to achieve and they can help each other to get them, facilitating the building of a strong relationship;
- Knowledge-based trust depends on the level at which parties know each other. For example, if they had a prior experience, or if they gained credibility for some results or demonstrated ability. The level of courtship or if they had some initial face-to-face meeting before starting the project,
- Identification-based trust relates to the importance of understanding common goals, a mutual understanding of objectives can lead to creating team efforts and team building to emphasize the importance of those elements,
- Performance-based trust depends on the beginning of the project, if the team reaches deliverables and previously, both parties define common quality assessments to define future related feedbacks.

Each organization/group pursues its own objectives while concerned about its own lack of reaching them. For this reason, the right balance between trust, structure and performance is required.

It is necessary to maintain cooperation and efficiency whilst avoiding issues that relate to a lack of involvement, understanding or opportunistic behaviors.

### **3.7 Outsourcing performance solution.**

#### **3.7.1 Effects in performance of initial and ongoing trust.**

Trust has a critical role in the impact on success of outsourcing, mutual trust and sharing of knowledge.

Now it is time to study what mutual trust is. It is defined as a temporal dimension of initial trust, initial distrust and knowledge sharing, referring to the extent trust places in partner organizations by members of the group. It determines the nature of many buyer-seller relationships, strategic alliances and working relationships.

It is different from inter-personal trust in that it is related to individual trust in another person.

We should consider it, to build and sustain a flexible and long-term relationship, in order to create and add values, improving quality on relations and trust.

A key factor to develop it, is represented by knowledge sharing, that should be a mediator among parties, because it involves tangible (example: equipment, facility, services, etc.) and intangible knowledge (example: knowledge, technical know-how, etc.) and push virtual teams and clients closer in terms of sharing risks.

They are activities to transfer or disseminate knowledge from a member, group or organization to one another. We should remember that knowledge is considered a critical resource that must be managed properly, and we can consider knowledge as processes, routines, tools, tacit, explicit, complex, independent, systematic, formalized and embedded in organizational systems.

In fact, mutual trust is beyond rules and agreements and it is difficult to capture in a contract but nonetheless, it plays a key role.

Another element previously cited is *initial trust* that is not based on prior experience with parties, but on institutional cues that enable one party to trust another without firsthand knowledge.

It was previously discussed that trust is useful to develop long-term relationships and facilitate exchange of knowledge in this dynamic process.

Initial trust should be the first step of this long path, as it normally happens in virtual teams where there is no prior experience of working together and they must manage this lack of trust with cognitive processes like analyzing reputation instead of experiential processes. In this case, the same could happen with your customers and suppliers.

Sometimes people have positive feelings about each other that can support the creation of a reciprocal trust. Lee tried to explain the main steps of how initial trust forms (Lee, Huynh and Hirschheim, 2008) :

1. Calculated-based trust, making choices in order of derived costs and benefits,
2. Knowledge-based trust, analyzing knowledge experience of partner,
3. Institution-based trust, defining security, guarantee of the counterpart,
4. Cognition-based trust is based on feelings and first impressions.

The risk inherent to trust is represented by propensity of people towards cheating and opportunistic behaviors across relationships, especially if they have incomplete information.

What all these issues create is *initial distrust* that can be viewed as having confident negative expectations toward someone.

It happens when one party is unwilling to believe others because the counterpart does not behave in a predictable way. Most of the times, it happens because people are not honest, benevolent or because they want to achieve better outcomes and thus, are not reliable.

These behaviors can lead to bad relationships, but thanks to the research of Lee, we can say that initial distrust does not have a direct effect on performance, because most of the time people start a new relationship with this approach, keeping low expectations and waiting for a better understanding of whether the partner is trustworthy or not (Lee, Huynh and Hirschheim, 2008).

When the client and provider must work together to achieve a common goal, they are creating a sphere of mutual dependency that leads both parties to mutual benefits and risk sharing.

Mutual dependency contributes to knowledge sharing and increasing mutual trust in a relationship.

With a good system of sharing knowledge and the right balance between contracts and trust, projects can be successful in terms of quality, innovation, satisfaction, cost reduction, and efficiency for both parties. To evaluate success of a project, one should consider if they have achieved the forecasted objectives.

The last point to be analyzed is the different views of both perspectives: provider and client.

The service receiver always tries to find the best choice that matches best with its needs, but it must consider the degree of replaceability of the provider and the switching costs and risks of changing provider, something that is often costly. For clients, initial trust and distrust are important to select providers, because what they know that the success of own project is based on provider's service, for this reason they must be more aware about credibility and risks that will occur into the relationship.

The point of view of the provider is different because he/she must show their good reputation and knowledge to be selected, but the focus will be more on long-term prospective to see if there are possibilities of advantages for the business.

Initial distrust affects more clients than providers because most of time providers are working on other projects and they have a long-term vision. Instead, receivers want fast results(Lee and Choi, 2011).

To achieve great results, both parties must invest in creating good relationships from the beginning and keeping a high level of quality. Relationships should be flexible and based on contracts and trust, but one must be careful because trust is vital from the very start all the way to the final stage for both organizations.

Now we are going to study how trust evolves during the path from initial trust to ongoing trust.

Ongoing trust is defined as dynamic and is whether it is likely that a first impression is going to change. Parties start to have prior experience and communication and it is a positive belief where parties are exchanging information effectively.

About ongoing distrust represents the negative belief when other party does not accept the results because they are not the expected ones.

When provider reaches customers' objectives, the ongoing relationship improve in terms of trust, quality, credibility, expectations and cost obtained by achieving common goals and maybe a competitive advantage. If it does not happen, it will be more likely that ongoing distrust is established and this has negative impacts of outcomes and in particular on relationships.

We know that providers and receivers have different level of trust, but it will be balanced this difference, it is beneficial to use knowledge sharing. This facilitates achievement of more effective interactions and relationships that will impact on ongoing trust (Lee and Choi, 2011).

With this approach, we can see that both parties are sharing risks together and they will face all the obstacles to achieve ongoing trust that will lead to a successful project.

### **3.7.2 Define a proper governance.**

After analyzing the impacts and reaching the objective of trust and contract, it is necessary to consider the importance of governance.

With governance, we consider a practice or a set of activities institutionalized to reduce uncertainty and achieve better performance in the outsourcing relationship between client and provider.

Organizations, especially if they are working in outsourcing processes, are interested in achieving governance effectiveness that permits the mediation and balance of the effects of contracts and relationships.

This process allows decision-making on investments but furthermore, an increase in satisfaction, reduction of cost and an increased performance in situations of high uncertainty (Kim *et al.*, 2013).

To be effective it needs to be structured in a way that allows value delivery, effective use of resources, risk management and defining correct measurement. If it is created properly it will manage exchange relationships between parties that are always trying to keep lower costs of transaction, in fact, sometimes to manage cost it is useful to create control alliances.

Practices can improve over the time and reach a better performance if they change and adapt with the environment.

As we said before, the role of the contract is central because they can have formal control on processes, procedures, service levels and performance measurements.

The problem is, when they are complex, they threaten a decrease in trust in relationships and also lack of control mechanism. In outsourcing processes, there is a formal written agreement named Service Legal Agreement that tries to help develop trust and relationships.

In this contract, one will find specific details of exchange services/products, financial matters, monitoring, communication, possible solutions in case of disputes that can leave some freedom to both parties, but at the same time permit the design of a specific path to follow in order to reach final goals.

Contracts alone are not enough to solve complex issues but trusting relationships can do it, achieving quality of service, sharing beliefs, values, expectations, responsibilities and obligations. It can facilitate adjustments, follow behaviors more effectively and are less costly in uncertainty situations (Kim *et al.*, 2013).

It is vital to balance flexibility and control to cope with the changing of environments and always maintain relationship strength with parties.

### **3.7.3 Hybrid: relational-contractual governance.**

Activity expectations like SLA help to define expectation at a more detailed level by assigning granular obligations so that the satisfaction can be safeguarded. This is an important step to avoid opportunistic behaviors and to increase the level of satisfaction.

It is focused more on short-term, whereas trust focuses more on long-term objectives such as cooperation and reducing risks with less focus on day-by-day operations.

In absence of trust, this kind of process may not exist due to the inability to monitor all the operations which leads to facing a high level of risks and hazard problems, but with trust these issues can be managed (Rai *et al.*, 2012).

Being specific in contracts can be useful to achieve shared understanding between parties and to reduce costs, increase service quality and access to expertise. With the definition of overall goals and objectives, it can create benefits for both parties. Now trust is partly

important in the processes, because after planning the projects, it is likely that something is going to be changed, adapted or modified as trust permits to adjust goals and process from written contracts allowing the opportunity to reach final goals and satisfaction.

In fact, trust substitutes the need to specify objectives because it reduces provider self-interest and the firm acts to achieve mutual adjustment in following main tasks, but as was mentioned before, contracts are vital to reduce opportunistic behavior and have a better understanding of need in both organizations.

In the case of conflict between parties, they should have previously created some well-defined procedure to solve it in an effective manner, avoiding future implications on collaboration.

Nowadays, some contracts specify the incompleteness of business and technological uncertainties. This means that they deal with unanticipated situations with flexible contracts, where there are clauses that describe different situations like changes in pricing or organization conditions.

In this way, they can improve confidence and long-term cooperation, encouraging investment and the development of strong networks.

There are elements in relational and contractual governance that can be substituted and could be important to know in order to avoid duplicating them and to make processes fit better with client in a more effective way. We consider relational and contractual governance vital because they allow parties to achieve satisfaction and good outcomes.

At this point we are going to differentiate two different strategies: Information technology outsourcing (IT) and Business Process Outsourcing (BPO) (Rai *et al.*, 2012).

Information Technology Outsourcing is typically service based and focuses on reduction costs in operating processes. These processes are mature with no strategic point of view, less risky, easy to define and outsource, especially outcomes can be measured easily.

The crucial point on IT processes is integrating and coordinating knowledge between firms, where contractual mechanisms have a crucial role.

Business Process Outsourcing is focused on performance, efficiency and effectiveness of an entire business in terms of production and managing strategic resources. BPO are more complicated to define and develop because they involve different processes and complex pricing mechanisms.

We consider BPO satisfaction as a key to measure them because it represents the level of trust, information sharing, activity and objectives expected into the relationship.

BPO is created for clients, they have a broad range of business objectives, innovation and business transformation (Rai et al., 2012).

Providers get in touch with the client's core business and generally BPO are stipulated for medium/long term durations. For that reason, they are less contract defined, integrated with specific customer's need. They are more effective where outputs are not easily measurable and in highly uncertain environment. Benefits are represented by leveraging capabilities that align structural processes and resources with partners, exchange private information and knowledge, and trust-based mitigation risk.

#### **3.7.4 Alignment outsourcing solutions with business strategy.**

We are analyzing the importance of outsourcing because the Alignment of outsourcing strategy and business strategy creates benefits, makes the organization proactive, agile and reactive to responding to customers' needs.

When we talk about benefits, this relates to positive performance in terms of proactive and reactive behavior in response to customers' needs, reduction costs, improving velocity, etc.

Outsourcing is continuously growing in our world and it is useful to reach a sustainable competitiveness thanks to a flexible control in circumstance change.

This strategy gives many advantages to organizations such as cost-saving, service quality, effective human resources, new technologies and tools, an increase in flexibility and can allow achievement of competitive advantages.

Below are some of the most common stages defined (Lee, 2006):

- The Cost focus stage represents the number of core businesses that should be minimized by external firms, could be represented by technology know-how, relationships, achieving profitability in a contract with negotiation and avoiding zero-sum game (when the price is so low that they are not permitted to make profits);

- The Quality focus stage is important to perceive dissatisfaction at the first stage and in this way we can manage and improve relationships from the very beginning. In this phase money is not the most important thing but it is "the fitness for purpose", where one considers if the investment in outsourcing is a "fair return" or not, giving priority to quality instead of saving-costs.
- The Innovation focus stage shows different technological approaches that parties can use, develop and improve to reach objectives and calculate risks and costs that they will have to face.

In fact, strategies can take economic, technological and strategic advantages with the improvement of relationships and mutual trust.

Each organization must be aware that there is a high level of risk of failure, because of the lack of defined and clear objectives, a common understanding and well-planned system allow managing errors with dynamics to align contracts and relationships' expectations.

## LIST OF FIGURES

- **3.1 The communication process.**

*What is communication?* (2016) *skillsyouneed.com*. Available at: <https://www.skillsyouneed.com/ips/what-is-communication.html> (Accessed: 9 June 2017).

- **3.2 Importance of information exchange in socialization.**

Ahuja, M. K. and Galvin, J. E. (2003) 'Socialization in virtual groups', *Journal of Management*, pp. 161–185. doi: 10.1016/S0149-2063(02)00213-1.

- **3.3 Sample of prior studies examining Trust in distributed team.**

Sarker, S. *et al.* (2011) 'The Role of Communication and Trust in Global Virtual Teams: A Social Network Perspective', *Journal of Management Information Systems*, 28(1), pp. 273–310. doi: 10.2753/MIS0742-1222280109.

- **3.4 Interorganizational and interpersonal trust.**

Zaheer, A., McEvily, B. and Perrone, V. (1998) 'Does Trust Matter? Exploring the Effects of Interorganizational and Interpersonal Trust on Performance', *Organization Science*, 9(2), pp. 141–159. doi: 10.2307/2640350.

- **3.5 Situational trust types.**

Pantelli, N. (2003) *Situating Trust within Virtual Teams*. 2003.20. Bath.

- **3.6 Different dimensions in Virtual Teams.**

Pantelli, N. (2003) *Situating Trust within Virtual Teams*. 2003.20. Bath.

- **3.7 Theory of reasoned action.**

Chow, W. S. and Chan, L. S. (2008) 'Social network, social trust and shared goals in organizational knowledge sharing', *Information and Management*, 45(7), pp. 458–465. doi: 10.1016/j.im.2008.06.007.

- **3.8 Conceptual model. (Wang, Yeung and Zhang, 2011)**

Wang, L., Yeung, J. H. Y. and Zhang, M. (2011) 'The impact of trust and contract on innovation performance: The moderating role of environmental uncertainty', *International Journal of Production Economics*, 134(1), pp. 114–122. doi: 10.1016/j.ijpe.2011.06.006.

## CONCLUSION

*“ To master the virtual equation and make all the elements work together, you have to become the connector. In fact, your greatest role as a virtual manager is to link the various parts of his/her team to accomplish the goals that lead to its formation in the first place. You may need to shift gears, perform ream tune-ups, realign, and refuel your team's energy along the way.”*

[ Yael Zofi ]

The aim of this research was explaining and analyze better what are virtual teams and reasons to be applied, demonstrating all the challenges that people must face with a broader and deeper analysis about cultural impacts in developing these types of innovative business processes. In the first chapter there is a clear evidence of the cultural characteristics have a meaningful effect on creating an effective team.

I selected some famous and successful companies that use or are based on virtual teams to show off that it has already part on our business and it could be an opportunity to develop performance of a big number of companies.

Another point that it was necessary to understand how some Virtual teams can perform better than other, and it came out that communication is one of the main characteristic that created a successful team. To make it possible, managers must understand how it works, possible goals, rules, roles and how to align each project with the business.

It emerged that technology, information systems have an essential role into the process and they have different impact on communication, because computer-mediated communication can be more effective, if everyone has a proper knowledge on how virtual teams work.

It demonstrated when managers are able to develop a good virtual team, if communication is effective, level of sharing knowledge is high. Other positive points that will be reached in this case are illustrated by innovative processes and high performance. Finally, it is relevant for make or buy decisions, because companies think this approach can reduce fixed costs and keep knowledge inside of the structure and become a competitive advantage strategy versus competitors.

The approach that I decided to use to organize the dissertation could be seen as a flow where first I take into consideration the literature, the theories and different streams that characterized it, and then examples allow to link virtual to real world in one, unique dimension.

All this work would not be possible without the great effort in studying and analyzing the resources kept in the archives of the “RMIT – Royal Melbourne Institute of technology” because they allowed me to read and to go through the already existed books, articles and studies about Virtual Teams and innovative processes.

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