

# A MODEL FOR EVALUATING AFFECTIVE RELATIONSHIPS IN DISTRIBUTED WORK

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## Abstract

*The Information and Communication Technologies (ICT), like groupware systems, intranet or videoconference, enable team members to work on the same project but from different places. Some teams are called virtual because they exist only through the network. As the work is geographically distributed, bonds and relationships between people become more important. Indeed, the lack of face-to-face communication and common settings can alter the relationships between people and, as a result alter their cohesiveness and performance. The scope of this article is to propose a model that could investigate the presence of emotions and assess their role in distributed teams' performance. We combine a model of cohesiveness with the Emotional Intelligence Theory to create our framework. We also study the emotions expressed by individuals and the possible communication of these emotions within their team. Eight hypotheses, which have not yet been tested empirically, are presented.*

*Keywords: distributed work, emotions, cohesiveness, performance.*

## 1 INTRODUCTION

Emotions and affective relationships between employees represent a relatively recent area of research. Research on this subject has grown extensively for about ten years (Briner 2004). Indeed, emotions and affect within organizations were ignored or excluded for a very long time (Fineman 2000, Rafaeli and Worline 2001). The wide-spread Cartesian tradition made people think that emotions were inappropriate in the workplace and that they could be awkward. So, people were supposed to leave their emotions and feelings at home (Soares 2000). Nevertheless, reason and passion are not two distinct things that humans manage to separate (Damasio 1994). Therefore researchers have lead several research on emotions in the work setting. Hochschild (1983), with her book, *The Managed Heart* and then Fineman (1993), with his book, *Emotion in organizations* are considered as the pioneers in this field. Nowadays there are a lot of articles and books which deal with emotions. In addition, some firms are relying on coaches and consultants to manage their employees' emotions or to enhance the atmosphere at work.

Emotions are all the more important that a new form of work is developing: the distributed work. As the work is geographically distributed, bonds and relationships between people become crucial (Goleman 2002). The Information and Communication Technologies (ICT), like groupware systems, intranet or videoconference, enable team members to work on the same project but from different places. Some teams are called virtual as they just exist through the network. This lack of face-to-face communication and common settings can alter the relationships between people and as a result alter their cohesiveness and performance.

In what extent does distributed work have an influence on emotions and affective relationships that people develop at work? The scope of this article is to propose a model that could evaluate the presence of emotions and assess their role in distributed teams' performance.

This paper is structured as follows. In the second section we will present a literature review on distributed work and emotions. The third section gives a description of our research model, our different hypotheses and our future methodology. In the final section, we will present the contributions and limitations of our research and give some suggestions for future research.

## 2 DISTRIBUTED WORK AND EMOTIONS

### 2.1 Some research on emotions at work

After our literature review, we realized that most of the research studying emotions at work is made in a co-location framework. That means that employees work in the same building or in the same office. Consequently, the communication is mainly face-to-face and emotions shared between individuals are direct. Research on emotions has particularly been lead in the "service" industry. Indeed, employees who perform a service have a lot of face-to-face communications with customers. These employees constantly need to manage their emotions as customers' ones. Hochschild (1983) calls this type of work an "emotion labour".

For instance, Hochschild (1983) studied airline flight attendants and highlighted the fact that these individuals have to keep their smile and their joy even if inside they don't feel happy and if customers are angry. This can lead to a split personality or alienation. Soares (2000) studied tears in jobs like cashiers, nurses or hairdressers and noticed that people often cry at their work. Most of the time it is because of stress, injustice, violence or harassment.

Nowadays, though co-location work is still the principal type of work, we see in the same time the development of a new type of work: the distributed work. Therefore, it seems to be relevant to study what the emotions are in this new framework. In fact, as few research study emotions in groups we will also focus our model on distributed teams.

### 2.2 Distributed work

Distributed work is not something completely new as it already existed in the Roman Empire, but the progress made in ICT has enhanced this phenomenon (O'Leary, Orlikowski and Yates 2002). Distributed work and remote work are synonymous in that they describe a type of work where employees are not all in the same space to perform on the same project. For example, members of a team can work in the same country but in different buildings, or in different countries. In this paper, we will use the term distributed work. The following table gives some definitions of distributed work.

Researchers	Definitions
- Cramton (2002)	"The defining characteristic of a distributed work group is that it incorporates members who are based at locations remote from each other. Sometimes group membership is distributed evenly across locations, one member at each location. Often, however, there are clusters of people at locations." (p.192)
- Townsend, DeMarie et Hendrickson (1998)	"Groups of geographically or organizationally dispersed coworkers that are assembled using a combination of telecommunications and information technologies to accomplish an organizational task." (p.18)
- Walther (2002)	"Distributed teams typically work on extended tasks over some period of time, and temporal variations affect the way such relationships work in a variety of potent ways." (p.235)

Table 1. Some definitions of distributed work

The distribution of work has promoted the development of virtual teams. “Virtual teams are groups of geographically and/or temporally dispersed individuals brought together via information and communication technologies” (Piccoli and Ives, 2003, p.365). These teams intensively use ICT to keep in touch and to do their work. Incidentally, affective relationships have a crucial role within distributed teams because people attach the utmost importance to bonds and trust when performing work without face-to-face communication. So evaluating the nature of emotions and the communication of these emotions in distributed work is a phenomenon that should be investigated. Our model should try to answer this question, but beforehand we will define the concept of emotions.

### 2.3 Emotions

The word “emotion” was first defined in the seventeenth century by Descartes in his book *Les Passions de l'âme* (1649). He presented emotions like an agitation of the soul. These emotions are also conflicting and incompatible with reason. This conception of emotion has changed with time as other philosophers, sociologists, and biologists paid attention to this phenomenon. It seems that emotion has many functions for humans. In 1872, Darwin asserted that emotions are a mean for humans to survive and to adapt to their environment. Damasio (1994) showed that to behave rationally, people need emotion. Emotions are also a rich medium of communication as emotions can be expressed with gesture, language, or behaviour (Stanley and Burrows 2001). Emotions help to build interpersonal relationships (Parkinson 1996). That is why we suppose that individuals who share emotions will also have closer relationships, although emotions and affective relationships are different concepts. De Dreu and al. (2001) identify three social functions for emotions: they develop social bonding, they help express our need for social support, and they reflect the establishment of our social position.

Though there is no consensus on the number of emotions, ten are generally considered to be the most common: (a) anger, disgust, contempt, (b) joy, surprise, excitement, (c) fear, distress, guilt, and shame (Stanley and Burrows 2001). Emotions can also be (a) negative, (b) positive or (c) neutral.

Emotional Intelligence (E.I.) is a research stream that began to develop at the end of the 1980's. Emmerling and Goleman (2003) assert that this stream is composed of three main theories: the emotional quotient created by Bar-On (1988), the mental abilities developed by Mayer and Salovey (1990), and the emotional competencies of Goleman (1995).

Mayer and Salovey (1990) are the first to define what E.I. is. The definition generally used is the one they formulated in 1997: E.I. is “the ability to perceive emotions, to access and generate emotions to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions to promote emotional and intellectual growth”. Therefore, an individual who has E.I. knows his emotions, can interpret them, express them to others, and finally manage to regulate his emotions and those of other people. Goleman (2002) studied I.E. in the work environment and he suggested that emotions can explain the difference of performance between employees. Indeed, a study lead by researchers of Yale showed that the decisions taken were better when affect and emotions were positive than when they were negative (Goleman 2002).

In addition, Goleman (2000) highlighted the role of leaders in expressing and diffusing emotions. In effect, their position gives them a bigger influence on employees. Therefore, their emotions will tend to be transmitted to others. This process of “emotional contagion” has been particularly studied by Pugh (2001). He showed that customers manage to catch employees' emotions. For instance, a happy employee will influence positively the satisfaction and mood of customers. Parkinson (1996) showed that the way we perceive emotions of others will also influence our own emotions.

As a consequence, we find this theory particularly salient for our research as it shows that emotions are worth studying in organizations. This stream also shows that emotions can be transmitted, so they can affect others, and they can play a role in performance.

### 3 THE RESEARCH MODEL AND THE HYPOTHESES

#### 3.1 The research model

In order to assess the effects of distance on relationships at work, and more particularly on the emotions expressed in distributed teams, we built the following model.

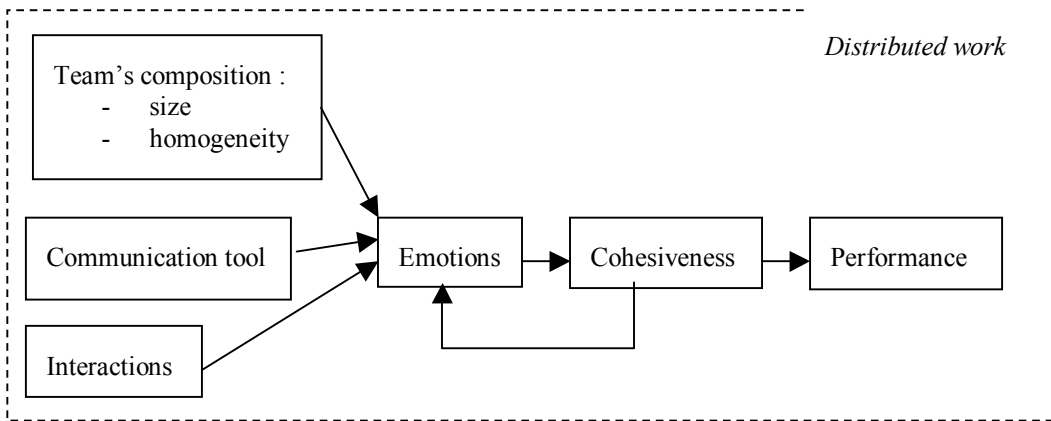


Figure 1. Our research model.

Our model relies on the Emotional Intelligence theory, presented previously, that considers emotions like a source of success and performance for employees. We focus on one dimension of Mayer and Salovey's definition of E.I (1997): the ability to express and exchange one's emotions. Therefore we will study the "communication and interaction" dimension: we want to investigate emotions in distant relationships and the influence of one's emotions on others. Consequently, the "regulation and management" dimension of one's emotion is out of the scope of this paper. The recursive loop between emotions and cohesiveness should reflect the possible phenomenon of "contagious emotions". Even if emotions will be measured at an individual level, our model integrates a collective level with cohesiveness and performance of the team.

Our framework is also based on the "cohesiveness model" of Dolan and al. (2002) that we adapted to our own research. The researchers identify eight variables that could affect the cohesiveness of a group. We decide not to take into account external factors (i.e. threats, competition with other teams) and elements linked to a longitudinal study (i.e. turn over, agreement on the goals, success) in order to have a model not too complex. Therefore we just keep the three variables that are the most salient for our research: the group's homogeneity, the group's size, and the interactions.

As we study distributed work, individuals will tend to rely much more on ICT to communicate with their colleagues. Consequently, we add the variable "communication tool" to determine what technologies are used by individuals and assess the nature of emotions regarding the tool. We are now going to introduce the hypotheses linked to our model.

#### 3.2 The hypotheses

We formulate eight hypotheses that could be tested in future research.

- *H1a: The increase of the team's size will have a negative impact on the expression of emotions.* Small teams seem to communicate easier, keep in touch regularly, and develop relationships. They also have better internal cohesiveness and express their opinion more often (Dolan and al. 2002). Furthermore, several research showed that the increase of the group's size have a negative impact on

the quality of members' relationships (Yap and Bock 2005). Therefore, we will try to show if these arguments for offline communities are also true for online teams. We suppose that in small virtual teams, individuals express their emotions more than in big teams.

- *H1b: The higher the homogeneity of the group, the more individuals will express their emotions.*

With distributed work most of the teams are heterogeneous, as members can come from different countries or can come from different companies. As a result, individuals' culture (organizational or national) will be different and this can alter communication between employees. For example, in Japanese firms, co-located work is preferred and encouraged (Evans and Wurster 2000). In addition, the cultural barriers like language can limit the communication between employees (Furst, Blackburn and Rosen 1999; Barni 2003). On the contrary, in homogeneous teams people may have the same culture and the same language which can enhance cooperation and communication (Dolan and al. 2002).

- *H2: The expression of emotions will be more or less developed depending on the communication tool.*

The Media Richness Theory (MRT) considers that face-to-face is the richest medium of communication, whereas other media like e-mails are leaner and not adapted to all types of communication (Daft and Lengel 1984). Furthermore, distance combined with intermediated communication depersonalizes interactions (Hinds and Bailey 2000). Nevertheless, the MRT has several limits. In fact, oral communication is not always richer than written communication. Markus (1994) showed that the potential of e-mails was underestimated by the MRT. It seems that written communication on computer is richer when individuals use instant messenger tools. Indeed, Anis (1998) asserts that dialogue in quasi-direct mode makes spontaneous communications easier. Individuals will be able express their emotions and impulses. Instant messenger tools also provide smileys and other tools that enable individuals to better express their emotions. Other research shows that intermediated communication can be as rich as face-to-face communication (Moreland and Myaskovsky 2000). Furthermore, how individuals perceive the technology is also important to determine its richness (Carlson and Zmud 1999). Actually, Carlson and Zmud (1999) show that if individuals perceive the ICT as a rich one, they will use it in a richer way. Therefore, distributed work is not incompatible with emotions and relationships. But we argue that it will depend on the technology used to communicate.

- *H3: The higher the interaction, the more individuals will share emotions.*

Individuals who have regular interactions will know each other better and will develop affective relationships (Dolan and al. 2002). They will also express their emotions easier. Social relationships tend to develop with the increase of interactions, but these interactions should be maintained otherwise affect will disappear (Nahapiet and Ghoshal 1998).

- *H4a: When individuals express positive emotions, this enhances the cohesiveness of the team.*

When people exchange positive emotions like joy or empathy, this strengthens the bonds between them and enhances the cohesiveness. De Dreu and al. (2001) notice that emotions create social bonding and, particularly when emotions are positive, they tend to bring people together.

- *H4b: When individuals express negative emotions, this have an undetermined impact on the cohesiveness of the team.*

On the contrary, emotions like jealousy or anger will increase frictions within teams, and individuals may want to leave their team. A study lead with 143 students working in teams showed that the presence of "envy or jealousy" has a negative impact on the cohesiveness of the group (Duffy and Shaw 2000). However, negative emotions like anger can be justified in some situations. For example, anger can be a good way to reveal a difficult situation and therefore it can help resolve a crisis. Consequently, we don't predict the influence of negative emotions on the cohesiveness of the team.

- *H5: The higher the cohesiveness in the team, the more individuals will express their emotions.*

Researchers showed that when people have a lot of interpersonal relationships (that is likely to be in teams) they express their emotions quasi-systematically. They also develop respect for each other (Dolan and al. 2002). Moreover, the more cohesiveness, the more the affect will be present: emotions, moods, and feelings will be intense (Goleman 2002).

- *H6: The higher the cohesiveness (thanks to emotions communication), the higher the performance of the team.*

For this research, performance will be evaluated with a three-dimensional index: budget, delays, and quality (Martin, Furumo and Pearson 2004). Therefore, an efficient team will finish its project without exceeding the budget and the delays; and the work will have high standards of quality. A lot of research showed that cohesiveness is directly linked to groups' efficiency and performance. From 1931, Hawthorne studies lead by Elton Mayo highlighted the fact that human criteria are more important than material criteria to increase productivity. Individuals' affect, their mood, and emotions can alter their work. Incidentally, positive emotions tend to increase cooperation, honesty, and performance (Goleman 2002). Furthermore, Staw and Barsade (1993) assert that employees who express positive emotions can make better decision and increase their managerial potential in comparison with individuals who express few emotions. Therefore, we suppose that the combination of emotions and cohesiveness can have a positive impact on teams' performance and they can help to reduce the effect of distance.

The following table gives a synthetic view of our research.

<b>Categories</b>	<b>Specifications of our model</b>
Theory	Emotional Intelligence
Emotions' function	1. Focus on the "communication, exchange" dimension of the emotions 2. Focus on the emotional contagion processes
Type of work	Distributed work, virtual teams
Objectives	1. Determine if individuals in distributed teams exchange emotions (if so, which one?) 2. Show that emotions are contagious and can affect the cohesiveness of the group 3. Evaluate the impact of emotions combined with cohesiveness on teams' performance

*Table 2. Specifications of our model*

### **3.3 The methodology**

We intend to do a case study in a company organized around distributed team work. We will create a questionnaire in English because it is the language most used in international business. This questionnaire has three parts: the first section asks questions on the characteristics of the distributed team and the ICT used for work; the second section deals with emotions felt at work and cohesiveness; the third section should evaluate the perceived team's performance. Lastly, we ask general questions (i.e. age, gender, length of service, position in the company, and the company location). The questionnaire is a good methodology to study a large sample. Nevertheless, we may try to triangulate our quantitative data with qualitative ones. For instance, it could be relevant to do an in-depth analysis of a team's communication through the team's oral or written conversation made with ICT.

## **4 CONCLUSION**

This research can have several contributions for firms. Affect within distributed teams seems to be an important variable. Indeed, as individuals don't have much face-to-face communication, physical signs like a smile or an embrace are nearly inexistent (Sy, Côté, and Saavedra 2005) and cohesiveness is more difficult to build. We argue that team members can manage to express their emotions and to develop relationships regarding the team's composition, their interactions, and the types of ICT used. This research can highlight the different ICT used by employees to express their emotions and the

nature of emotions depending on the ICT. This could encourage designers to integrate more social cues (i.e. emoticons) or video/audio possibilities in “lean” Information Systems.

If we manage to demonstrate in this research the phenomenon of “contagious emotions” between employees, this can motivate individuals to enhance the management of emotions. Goleman (2002) especially encourages leaders to develop their emotional potential as they can have a great influence on their colleagues. Empathy and joy will be transmitted to others and this will enhance the group’s atmosphere. Distributed teams are often heterogeneous teams. As a result, employees should try to manage this diversity in order to keep a good cohesiveness. Emotions and relationships can help to overcome these barriers.

However, our research presents some limitations. First, we didn’t take into account personality. But, this factor can alter the relationships between people and the expression of one’s emotions. Indeed, some employees won’t express their emotions not because of the distance or the composition of their team, but because they are shy. Furthermore, Parkinson (1996) asserts that culture and socialization can modify individual’s emotional reactions. In a broader sense, we didn’t include individual characteristics, like the four types of experience presented by Carlson and Zmud (1999). Second, we consider in our model that emotions represent a variable that has a direct effect on cohesiveness. But emotions may just be a moderator or a mediator variable and don’t have such an impact on cohesiveness.

To conclude, we encourage other researchers to broaden the frame of our model. First, the eight variables of Dolan and al.’s model could be investigated. Second, it could be interesting to measure the effect of the organizational setting on emotions exchanged between individuals. For instance, a friendly organizational culture can make relationships between employees easier. Furthermore, individuals can work together on a same project but can come from different companies. Therefore, emotions in inter-organizational projects could be studied.

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