

**INSTITUTO TECNOLÓGICO Y DE ESTUDIOS
SUPERIORES DE MONTERREY**



**TOWARD A GROUP EMPOWERMENT MODEL IN
MEXICAN ORGANIZATIONS: A STRUCTURAL
EQUATION MODELING APPROACH**

DOCTORAL DISSERTATION

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Monterrey, N. L.

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MODELING APPROACH**

by

Joel Mendoza Gómez

Dissertation

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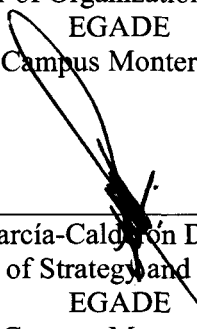
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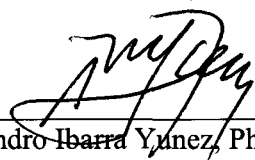
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Dedication

To my beloved parents, Don Manuel (†) y Doña Lupita, for setting a shining example throughout their hardworking lives and for their constant endeavor to provide us with the best

To my son, Joel Rafael, with all my love and gratitude for his participation in this project

To my beloved sister, Eva, with gratitude for her assistance in this project and to her family for their loving support

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ABSTRACT OF DISSERTATION

GRADUATE SCHOOL OF BUSINESS ADMINISTRATION AND
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DE MONTERREY, CAMPUS MONTERREY

Degree: Doctor of Philosophy Program: Doctoral Program in Management

Name of the Candidate: Joel Mendoza Gómez

Main Advisor: Ricardo Flores Zambada, Ph.D.

Title: **TOWARD A GROUP EMPOWERMENT MODEL IN
MEXICAN ORGANIZATIONS: A STRUCTURAL EQUATION
MODELING APPROACH**

A model of group empowerment within the context of Mexican organization is proposed and empirically tested. Studying groups in the workplace has attracted increasing attention during the last years from academics and practitioners. The construct of group empowerment has been scarcely studied; however, group motivation is a crucial element for the group effectiveness. The study of group motivation has not completely covered the process through which group empowerment is generated. Social values and norms are elements that might influence this process. Additionally, there is no reported study of group empowerment in the Mexican organization context. In the theoretical perspective of work group effectiveness, a series of variables are conceived as causes of group effectiveness. Thus, the proposed model in a heuristic way describes a series of hypothesized relationships among the variables incorporated. Therefore, the proposed model includes variables from the organizational context, group

structure and group processes, such as: group mental model, group coordination, and group membership. Group empowerment that includes six dimensions: potency, meaningfulness, autonomy, impact, group trust, and group affective tone. Group effectiveness, conceived as performance outcomes, such as: productivity, proactivity, and customer service; then, conceived as attitudinal results: group satisfaction, teamwork, and team commitment. Five organizations from Monterrey, Mexico gave their authorization to apply all the instruments designed to measure the variables of the study and recollect the information from their employees. Partial Least Squares (PLS) approach of structural equations modeling is utilized to prove the hypotheses proposed. Results of the study expand the conceptual work in group empowerment and contribute to the work group effectiveness stream of theory. Additionally, results provide information that can be utilized to design more effective work groups in the context of Mexican organizations.

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Abstract en Español

Un modelo de empowerment grupal en el contexto de las organizaciones mexicanas es propuesto y probado empíricamente. El estudio de los grupos de trabajo en las organizaciones ha generado una creciente atención durante los últimos años, tanto de académicos, como de directivos. El constructo de empowerment grupal se ha estudiado en un menor grado, sin embargo, la motivación en el grupo es un elemento crucial para la efectividad del grupo. El estudio de la motivación en el grupo no ha cubierto completamente el proceso mediante el cual se genera el empowerment grupal. Valores y normas sociales son elementos que pueden influir en este proceso. Además, no se encontró estudio alguno del empowerment grupal en el contexto de la organización mexicana. En la perspectiva teórica de efectividad de los grupos de trabajo, un conjunto de variables son concebidas como las causas de la efectividad del grupo. De esta

manera, el modelo propuesto de manera heurística describe un conjunto de relaciones hipotéticas entre las variables incorporadas. Por lo tanto, el modelo propuesto incluye variables del contexto organizacional, de la estructura del grupo y de procesos del grupo, tales como: modelo mental, coordinación y membresía en el grupo. El empowerment grupal que incluye seis dimensiones: potencia, significado, autonomía, impacto, confianza y tono afectivo. La efectividad del grupo que es concebida como los siguientes resultados del grupo: productividad, proactividad y servicio al cliente; también, es concebida como resultados de actitud, tales como: satisfacción en el grupo, trabajo en equipo y compromiso con el equipo. Cinco organizaciones ubicadas en Monterrey, México autorizaron la recolección de información de sus empleados, mediante la aplicación de todos los instrumentos diseñados para medir las variables del estudio. Un enfoque de modelación de ecuaciones estructurales, Partial Least Squares (PLS), se utilizó para probar las hipótesis propuestas. Los resultados del estudio incrementan el trabajo conceptual del empowerment grupal y contribuyen a la corriente teórica de efectividad del grupo de trabajo. Además, los resultados proporcionan información que puede utilizarse para diseñar grupos de trabajo más efectivos en el contexto de las organizaciones mexicanas.

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Chapter 1

Problem statement

In this chapter, a general overview of the Mexican business context is described; also, the base theory of the problem statement will be presented. These concepts include the multiple perspectives of empowerment- social, organizational, and managerial. Also, the theoretical building and empirical evidence of individual psychological empowerment construct are assessed. In addition, information about the group empowerment construct and empirical support are going to be reviewed. Furthermore, it includes analyses of an integration of a literature review about Mexican culture, organizations, and work culture. Additionally, the problem research, the problem questions, and the problem objectives will be presented and discussed.

1.1 Mexican business environment, organization and management characteristics

In this section, a general overview of the Mexican business context is described with the purpose of establishing some relevant characteristics about this context that illustrate the changes it has gone through during the last years. Also, a characterization of the Mexican organization and management is presented.

Mexico has been considered a latter participant in world trade because it begun its participation in the middle 1980's when Mexico became a member of the General Agreement of Tariffs and Trade (GATT). This late participation was a disadvantage to benefiting in full from the increasing world trade, particularly, the commercial relationship with the United States. Looking for a modification in this relationship, in 1991, Mexico starts commercial negotiations with both Canada

and the United States that culminates with the beginning of NAFTA in 1994.

NAFTA was considered a tool for implementing the gradual modernization of the productive capacity and increasing the productivity of the Mexican economy. In just a few years, the Mexican economy has gone from an almost closed economy to a most open one. This commercial openness made a main transformation in the profitability of several economic activities, dramatically changing the business environment in which Mexican organizations perform (SECOFI, 1996).

Along this line of reasoning, Arrieta (1994) identified three elements that constitute the basis for the transition of the new stage of the Mexican industrialization. With the implementation of these elements, the industrial transformation is trying to break the older patterns of technology, quality, and competitiveness in the Mexican organizations. These elements are the following: technology renovation, changes in the work organization, and modernization in management and organization systems. It is considered that just one of these elements, the one related to work organization has been adequately implemented, and that this transformation has been concentrated in larger firms (Arrieta 1994). This situation has generated a smaller group of modern firms that are exporting, and a larger group of firms that have not changed which are selling in the internal market.

Continuing with her argumentation, Arrieta (1994) identified some effects of the technological modernization on the productive capacity of the economic activities. A group of Mexican firms are introduced into the global economy; accordingly, these firms have higher levels of exports and imports and form part

of international industries that have their productive processes segmented. This group operates its productive processes with higher levels of automated and computerized controls. Another effect is related to the increase of manufactured non-durable consumer exports as an alternative to industrial growth. The last consequence is the diversification of differentiated industrial strategies. This differentiation could be represented as a continuum that has two extremes; one of the extremes is represented by the strategies of the modern and exporting groups already mentioned, and the other extreme is integrated by the strategies of firms serving the domestic market.

Mexican organizations are now experiencing challenges resulting from the structural changes of the environment. De la Garza (1998) in a study about organizations' new strategies, work process controls, and flexibility from twenty one successful and competitive Mexican organizations, considers that the main conclusions of his research are the following: market pressure and increasing competition, both from firms that sell abroad and from those that serve the domestic market, cause organizational and work process changes; thus, the competitive tendencies from the studied organizations are cost reductions and product quality. Another conclusion that stem from these successful organizations, is that they consider a specific reason for modernization the increased control in work process that management gains substituting previous existing practices that were characterized for a greater worker control. Other specific motives for modernization were higher production costs, an excess of workers in the organization, and liquidity problems caused by the 1994 Mexican economic crisis.

There have been two general strategies identified by the organizations studied: first, a change of strategy in labor relations that created workers' involvement, implied new forms of organizing work with flexibility in labor relations, and different ways of negotiating with unions that represent workers. Second, a strategy oriented to cost reductions and a better use of labor intensiveness. It is considered that this second strategy involves a work process organization that resembles issues from Taylor's scientific management. Labor relations also reflect authoritarian decision-making management and lower worker and union involvement (De la Garza, 1998).

Another point of view about Mexican organization and management, derived from a literature review about the Mexican context which integrates foreign and native perspectives is presented as follows: integrating both perspectives allows us to identify a series of characteristics that illustrate a continuum for the Mexican organization and management. At one end of the continuum the traditional side, at the other, the modern view.

These characteristics are considered the result of three sources of influence that were identified in the literature review. The first source of influence is Mexican culture, which includes the traditional values, such as: family, religion and interpersonal relationships (Kras, 1995). The presence of these values allows the specific identification of a native category of organization denominated "familista" –related to family- and a style of management denominated "familista," as well (DelaCerde & Núñez, 1998). The second is the fore-mentioned transitional process that the Mexican economy has been passing

through the last 20 years (SECOFI, 1996). This condition has generated a change in the business context through an increased competence and a market pressure for the Mexican organization (De la Garza, 1998). The third influence is the growing utilization of organizational and managerial theories and practices coming from other cultural contexts, mainly from developed countries (DelaCerde & Núñez, 1998). Therefore, organizations from these countries have become of utmost importance to the economic world due to the implementation of these theories and practices.

In this fashion, the Mexican organization illustrates an economic diversity reflected mainly on the size of the organization. Thus, a larger portion of Mexican organizations are small and medium sized and mainly oriented to the local market. A smaller segment of larger size organizations are oriented to the international market (Arrieta, 1994). The small organization is depicted in a traditional way because the strategy of top management is influenced by cultural context (Suárez-Núñez, Gamboa, & López, 1998).

Theoretical frameworks developed in overseas contexts have been utilized to study Mexican organization and management. In the foreign perspective of the literature review, the references studied were focused on the traditional Mexican organization. However, in the Mexican perspective, the studies reviewed were focused on the modern Mexican organization. For example, the existence of case studies about culture in Mexican organizations that are oriented to examine the building of quality and excellence that the Mexican organizations are making to fulfill their main goals (e.g., Davila, 1999; Santos, 1999).

By integrating both perspectives in the topic of management systems, it is considered that two dimensions characterize these systems: authoritarian and participative. Employing these dimensions, we found a modern sector integrated by organizations that support workers' participation, and also, a traditional segment that is integrated by organizations that are authoritarian where workers' participation is not important (De la Garza, 1998).

The above arguments become a reason to integrate foreign frameworks and elements of Mexican culture to the study and research of the Mexican organization and management practices; hence, these arguments also stress the importance of human resources in the implementation of these new approaches of work and organization management; and in addition, on the improvement of the current practices of management in the traditional Mexican organization. In this sense, a high involvement practice related to participation, like empowerment, may help to improve the effectiveness of these human resources that could be considered as an interesting alternative that has to be studied in the present Mexican business context.

1.2 Empowerment: Social perspectives

Empowerment has been conceptualized in a broad and diverse manner, and it has been mentioned in social, politic, religious, biological, organizational, and personal contexts. Social injustice, social groups' interaction, and people in a state of powerlessness are some examples of the conceptions that are comprised by the extent of empowerment.

Reviewing the evolution of the meaning of the empowerment construct in the last 30 years, diverse perspectives have been identified which are mentioned as follows: social change, as a solution to the problems of society or as a radical resolution to consequences of a centralized control of communities, or as a solution to minority groups in a state of powerlessness (Bartunek, Bradbury, & Boreth, 1997; Conger & Kanungo, 1988; Spreitzer, 1997). A political perspective related to democracy and participation. Associated to participation, it has been conceived as a state of stability or change, or, as a state of harmony or conflict. This aspect may generate a dynamic and broad perspective of empowerment (Collins, 1996).

Continuing the description of empowerment perspectives, other perspectives are mentioned as follows: a religious perspective, as the liberation theology which states that each person is responsible for her/his own destiny (Spreitzer, 1997). In a biological outlook, as the need to take control of life that human species have to fulfill (Denton, 1999). Finally, in a psychological perspective that includes human agency and personal domain, and control (Spreitzer, 1997).

Considering these non-organizational views of empowerment, this theoretical construct could be considered as comprising both individual and social elements. Thus, the diversity of empowerment perspectives above mentioned may be explained as such: in a sense of social change, the state of powerlessness caused by institutions of the establishment could be surpassed incorporating an action of empowering individuals to get the expected social change.

Consequently, the situation of powerlessness could be the result of unequal forces of the members of the social groups that generate a conflict of interest which might be solved by empowering individuals or groups that are at a disadvantage.

Argumentation about the focus of empowerment toward a state of stability or change, or harmony or conflict is useful in the study of empowerment in the organization. There are some critical arguments about utilization of empowerment in these grounds; also, there are some arguments in behalf of its use. This focus on empowerment might clarify the subject of its utilization in organizations that is going to be analyzed in the following pages.

1.3 Empowerment: Organizational perspectives

Empowerment is not a new phenomenon. This concept could be considered as a rejection of the classic scientific management model of management, as the upbringing of a democratic humanism that followed after the negative consequences of Taylorism or Scientific Management (Wilkinson, 1998). Another argument is related to pragmatic matters linked to organization effectiveness because line workers are near everyday problems, and thus, they can design solutions of which management are not aware (Wilkinson, 1998). Another argument is related to assuring that organization members have enough control. Understanding this human need of control is necessary to integrate personnel to the organization (Denton, 1999).

A different point of view conceives the origin of the concept of empowerment related to organizational developments or to change contributions that are translated in a series of managerial and organizational theoretical

developments, some of which are the following: socio-technical systems, job enrichment, worker autonomy, analysis of control and internal power of the organization, and employee participation (Honold, 1997).

These organizational perspectives and the assumptions on which they are based illustrate the settings that help empowerment to grow in the organization. Some of these settings are as follows: a focus in full individual growth, a higher recognition of the individuality of the person, and greater job satisfaction. As a result, all of these factors are intended to obtain a better individual performance that increases the organization effectiveness. However, these arguments of academics and organizational consultants are criticized as narrow, because, considering empowerment as a management instrument; they leave out the social sciences of this topic (Collins, 1996).

1.3.1 Empowerment as a management tool

Several meanings of empowerment add more confusion to the utilization of empowerment as a management tool (Stewart & Manz, 1997). Most of these meanings result from the organizational perspectives mentioned above. In that sense, empowerment has been conceived as a way to share power (Conger & Kanungo, 1988; Flores Zambada, 1995; Spreitzer, 1997); as a psychological construct (Conger & Kanungo, 1988; Flores Zambada, 1995; Honold, 1997; Spreitzer, 1997; Wilkinson, 1998); as related to leadership or to the behaviors of a leader empowering his/her followers (Flores Zambada, 1995; Honold, 1997); as a perspective that incorporates workers' involvement and participation (Claydon & Doyle, 1996; Flores Zambada, 1995); as collaborative work (Honold, 1997); as a

change process oriented to fulfill a need of change in work processes (Honold, 1997); and, as sharing information (Wilkinson, 1998).

Other perspectives are mentioned as follows: empowerment as a bottom to top problem solving (Wilkinson, 1998); as job autonomy (Claydon & Doyle, 1996; Wilkinson, 1998); as self-management (Wilkinson, 1998); as ownership of work (Claydon & Doyle, 1996; Denton, 1999); as a process oriented to goals, and as solution to manage the organization in a turbulent environment (Collins, 1998).

As the above paragraphs show, the study of empowerment as a managerial tool may be considered as diverse. Some identified perspectives are the following: leadership, psychological, sharing power, and self-management, among others. Besides, these perspectives emphasize the multidimensionality of the empowerment construct. However, the existence of critical standpoints about empowerment could be explained through the incorporation of the social context perspective and the framework related to harmony or conflict, and to change or stability.

1.4 Individual empowerment: Psychological perspective

The evolution of theoretical contributions and empirical evidence on the building of the psychological empowerment construct will be presented in the following paragraphs. This evolution is mainly focused on individual empowerment.

The focus of this work is psychological empowerment as a managerial instrument. Several perspectives of this construct have been identified; however, psychological empowerment has increased its importance because of its

consequences of growing participation and responsibility, issues that are related to an intrinsic personal motivation, and to beliefs of competence and self-determination. Academic research on this topic has been increasing. The evolution of relevant models of empowerment that has been identified in this literature review will be reviewed in this section.

In addition, psychological empowerment has been considered as part of a cybernetic system. The inputs of this system are leadership, structural and relational perspectives. The processes are the dimensions of psychological empowerment. The outputs are results generated from all the four perspectives. This system generates the possibility to consider only one stream of research that illustrate the four-empowerment perspectives, and does not consider them as separate streams of research, as they are at the present moment. (Flores Zambada, 1995). The cybernetic system is illustrated in Figure # 1.

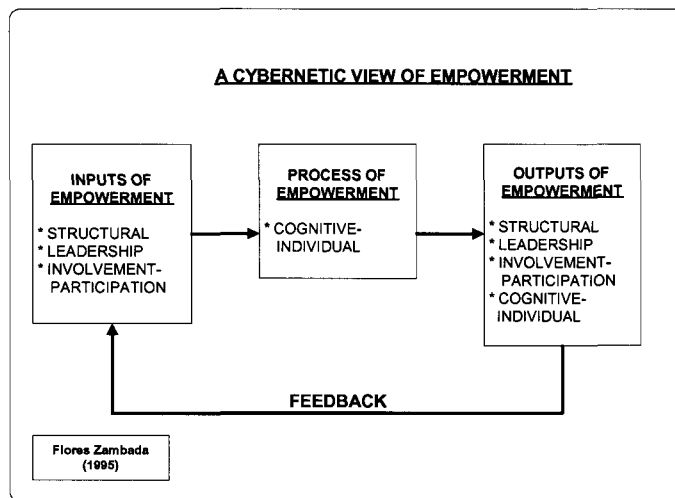


Figure # 1. Perspectives of empowerment

The emphasis in this section of the study is on the individual or intrapersonal cognitive aspect; however, the systemic perspective illustrates the

complexity of this multidimensional construct because the intrapersonal process is influenced by several variables that intervene in this process.

1.4.1 Assumptions of psychological empowerment

Psychological empowerment has been considered as belonging exclusively to the work milieu. Spreitzer (1997) identified the following assumptions: first, empowerment is not a personal trait; it is a set of cognitions determined by a work context. Second, empowerment is a continuous variable; meaning that employees exhibit a higher or lower degree of empowerment; thus, the dichotomous option is not possible, as either they are empowered or not. Accordingly, psychological empowerment is a result exclusively of the work sphere; thus, it is not generalizable at other ambits of human life. Besides, psychological empowerment has been considered as an individual interpretation of the objective conditions of work; hence, this interpretation is beyond a verifiable reality (Spreitzer, 1995b; Thomas & Velthouse, 1990). In this approach, the psychological empowerment construct is constrained to work context, to the influences of organizational elements that integrate the process, and to employees' interpretation.

1.4.2 Definitions of psychological empowerment

From the series of relevant models of psychological empowerment mentioned above, the theoretical building of the construct will be developed in this and the following paragraphs. Conger & Kanungo (1988) in their seminal work propose the first academic model, as they conceive empowerment as a motivational construct; they include processes of enhancing feelings of self-efficacy in their definition of empowerment. Thomas & Velthouse (1990)

continue the development of the construct, as they coincide with Conger & Kanungo by considering empowerment as an intrinsic motivation construct; thus, they include changes in cognitive variables, named task assessments, in their definition of this construct.

Following Conger & Kanungo and Thomas & Velthouse, Flores Zambada (1995) builds a model of empowerment in a context of Mexican organizations. He incorporates the notion that individuals make an assessment from social reality in addition to task assessments to his definition of the construct. In the same line of reasoning, Spreitzer (1995a, 1995b, 1996 and 1997) stresses in her definition of intrapersonal empowerment, the existence of four cognitions directly related to the individual' work. Spreitzer, also, emphasizes that psychological empowerment allows employees to take control of their lives; additionally, she conceives that...“this component is believed to be the most important mediator between behavior and social structure” (Spreitzer 1995b: 610).

Finally, in the model elaborated by Thomas, Jansen, & Tymon (1997), self-management is considered as the previous behavior of the four dimensions of the empowerment; hence, they conceive empowerment as the result of a series of cognitive activities that integrate a self-management process.

A synthesis of the above arguments can be taken from Flores Zambada, when he establishes that ... “empowerment captures an evolutionary management trend that departs from the conceptualization of workers subordinated to the job and the organization requirements also proposes a philosophy that reconciles people and the organization's needs and interests through the design of structural

forms, organizational processes, and policies, which stimulate genuine and integral human growth that motivates individuals and makes the organization more competitive in an environment characterized by complexity, turbulence, and change.” (1995:44).

A conceptualization of empowerment such as this establishes a personal framework that addresses an integral and human individual growth, which motivates an increased human agency. Also, this conceptualization determines an organizational framework that addresses the interaction of the human growth to organizational structures, processes and policies. These frameworks allow the shaping of the boundaries of the psychological empowerment in a changing, turbulent and complex environment.

1.4.3 Dimensions of psychological empowerment

Dimensions or elements that integrate the psychological empowerment construct become another main issue in the relevant models reviewed which portray one perspective of the theoretical building of the construct. Conger & Kanungo (1988) identified just one dimension- self-efficacy. However, Thomas & Velthouse (1990) incorporated in their model four dimensions of the construct that they identified as task assessments. These dimensions are the following: Meaning, Competence that is similar to Self-efficacy, Choice, and Impact.

Spreitzer also conceived four dimensions of the construct, as follows: Meaning, Self-determination, Impact, and Competence. “Meaning is the value of a work goal or purpose, judged in relation to an individual’s own ideals or standards. Self-determination is an individual’s sense of having choice in

initiating and regulating actions. Impact is the degree to which an individual can influence strategic, administrative, or operating outcomes at work. Competence, or self-efficacy, is an individual's belief in his or her capability to perform activities with skill" (1995a:1443).

1.4.4 Antecedents and consequences of psychological empowerment

Once dimensions of psychological empowerment have been identified in relevant models, the next step in this analysis is recognition of the antecedents and consequences of this construct. Conger & Kanungo (1988) establish in their model that the individual beliefs of self-efficacy could be increased through utilizing management techniques. The antecedents of this model are the following: contextual conditions, such as, supervisory style, reward systems, and work design. Managerial techniques, such as: participative management, goal setting, and job enrichment, among others. Self-efficacy information provided to the worker and removing conditions of powerlessness. These antecedents generate workers' empowerment defined as feelings of self-efficacy. The model consequences are initiation of and persistent behaviors toward reaching the goals' task.

The next relevant academic model is developed by Thomas & Velthouse (1990). In their cognitive model, they integrate the relationship between six elements: environmental events and interventions as antecedents; task assessments as empowerment, global assessments and interpretive styles as influences in the construction of empowerment, and behavior as a consequence of empowerment.

Also, environmental events supply data to the worker about the consequences of his behavior.

The essence of the Thomas & Velthouse' model is the cycle integrated for the following elements: The individual in order to mould his task assessments utilizes the data concerning impact, competence, meaningfulness, and choice. These task assessments, the four dimensions of empowerment, generate the individual's behavior then this behavior affects environmental events, and so on. Thomas & Velthouse (1990) present a series of deliberate attempts or interventions to produce psychological empowerment through variations in the environmental events which are organized into four categories: leadership, delegation, job design, and reward systems.

A comparison shows some differences and similarities between these two first relevant models. The differences are as follows: the Thomas & Velthouse' model incorporates three additional psychological dimensions to the self-efficacy or competence dimension from the Conger & Kanungo' model. Another difference is interpretive styles, which are included in the Thomas & Velthouse' model, that allows to conceptualize empowerment as a social construction that differs from the objective vision of giving efficacy information to empower individuals acknowledged in the Conger & Kanungo' model. Furthermore, global assessments from the Thomas & Velthouse' model give a broad antecedent about individual empowerment beliefs and feelings that are not related only to task motivation. Similarities of these models are circumscribed to elements of

organizational context that are incorporated in the theoretical explanations of both models.

For the building of the empowerment construct, the third relevant model is developed by Flores Zambada (1995) for the Mexican context based in the concepts of Conger & Kannungo (1988) and Thomas & Velthouse (1990). In this model, empowerment is considered as a social and an individual construct, and it is denominated as a socio-cognitive model of empowerment because of the incorporation of the social-cognitive elements. The model adds two important elements of the Mexican organization; one of them is social context, and the other is social network. Social context is denominated social assessments; these social assessments are assessed by the individual's interpretation of his social situation within the organization. Social network represents the structural characteristics of the organization from the point of view of all the members of the network.

Flores Zambada (1995) considers the existence of three social networks that integrates the social structure, as follows: 1) reputation network, 2) communication network, and 3) friendship network, with the existence of three social assessments in the socio-cognitive model: 1) respect, 2) communication and 3) friendship. Flores Zambada describes below the effects of these two variables incorporated to the socio-cognitive model: "These social assessments in turn influence how the individual perceives his task (task assessments) regarding impact, competence, meaningfulness, and choice. At the same time, in a highly collectivist culture, the cognitive impact of the social-assessments component by

the individual is expected to directly influence how the individual will behave at work.” (1995:82).

Thus, social assessments are incorporated to the basic cycle of Thomas & Velthouse’s (1990) model that includes environmental events, task assessments, and individual behaviors. In relation to the other two models mentioned above, the contribution of this socio-cognitive model is the incorporation of social aspects and their influence on individual psychological empowerment, in a collectivist context, such as Mexican culture.

Another relevant model is displayed in the several studies elaborated by Spreitzer (1995a, 1995b, 1996, 1997) based on her doctoral dissertation relating psychological empowerment to work context. Her model is also based on the seminal work of Conger & Kanungo (1988) and Thomas & Velthouse (1990).

Spreitzer (1997) includes a basic psychological model similar to the Thomas & Velthouse’s model. First, in this model, the antecedents’ variables of psychological empowerment are identified; then, it establishes that these variables influence the empowerment dimensions; finally, the empowered individual might create the following consequences: an increase in the individual effectiveness performance; an influence toward the upper level of the organization; and a behavior related to innovation and the questioning of status quo. Variables that are identified as antecedents are mentioned, as follows: social structure of the work context, organic organizational structures, accesses to system power sources, like information, resources, the support of higher level management, and an organizational culture that values the organization’s human assets.

Spreitzer (1995a) incorporates to the antecedents of empowerment, personality traits and work context variables. The personality traits are self-esteem and locus of control. The variables of the work context are information sharing and the structure of rewards. On the other hand, Spreitzer 's study (1996) presents six work unit social structural characteristics that create an empowering work context, as follows: 1) low role ambiguity, 2) working for a boss who has a wide span of control, 3) sociopolitical support, 4) access to information, 5) access to resources, and 6) a participative unit climate.

The arguments of Spreitzer's model addressed the importance of work context, an element that is incorporated in all of her studies. Another related issue is the explicit exclusion of her simplified model, which includes antecedents and consequences, of the interpretive styles and global assessments of the Thomas & Velthouse's model; these elements are not necessarily part of the work context that she utilizes in her building of the empowerment construct. As mentioned above, assumptions of Spreitzer's model are just related to the work context. Besides, this situation strongly supports the identification of antecedents' variables related to the empowerment structural perspective considered as sharing of power. Considering this issue, a thorough study of the relationship between both perspectives –psychological and structural- is necessary according to Spreitzer (1997).

Finally, in the model elaborated by Thomas, Jansen, & Tymon, (1997), they conceive empowerment as the result of a series of cognitive activities that integrate a self-management process. A description of this process is mentioned,

as follows: initially, the process starts with a commitment to a meaningful purpose; next, a sense of choice to select between alternatives; then, the enactment of behaviors, monitoring quality and behaviors of performance; finally, monitoring the progress of work purpose. Therefore, the self-management process becomes a substitute of an external process of control and supervision; besides, a self-management process addresses intellectual and cognitive elements of the person.

This model emphasizes two elements of empowerment, the first being the task. Empowerment dimensions of choice and monitoring quality and behavior performance represent this element. The other element is task purpose. Empowerment dimensions of meaningful purpose and monitoring progress toward purpose represent this element. Thomas, et al., (1997) establish that both task and purpose are basic elements that integrate an explanation of individual intrinsic motivation. In addition, this model differs from the others due to the fact that the explanation is focused on the interaction of its four dimensions or elements through the feedback process; however, this model explicitly does not consider context variables as relevant to influence an empowerment process.

Through synthesizing the relevant models, the dimensions that integrate the psychological empowerment can be appreciated. The construct dimensions are mentioned as follows: an individual belief that he/she thinks is capable to do a job; that he/she thinks that his/her work makes sense; that his/her work will have an impact on the organization; and, that there are choices about the options to perform his/her job. These dimensions play a mediator role between context

variables and consequences of the empowerment. Thus, crucial individual role beliefs and their motivation are addressed, seeking expected results; consequently, clarifying the empowerment construct's function as a management tool.

Also, in the above description of empowerment relevant models, the construct evolution was mentioned through the identification of differences and similarities in the conceptualization of the psychological empowerment construct. Figure # 2 illustrates a model that displays a graphical synthesis of the evolution of this construct.

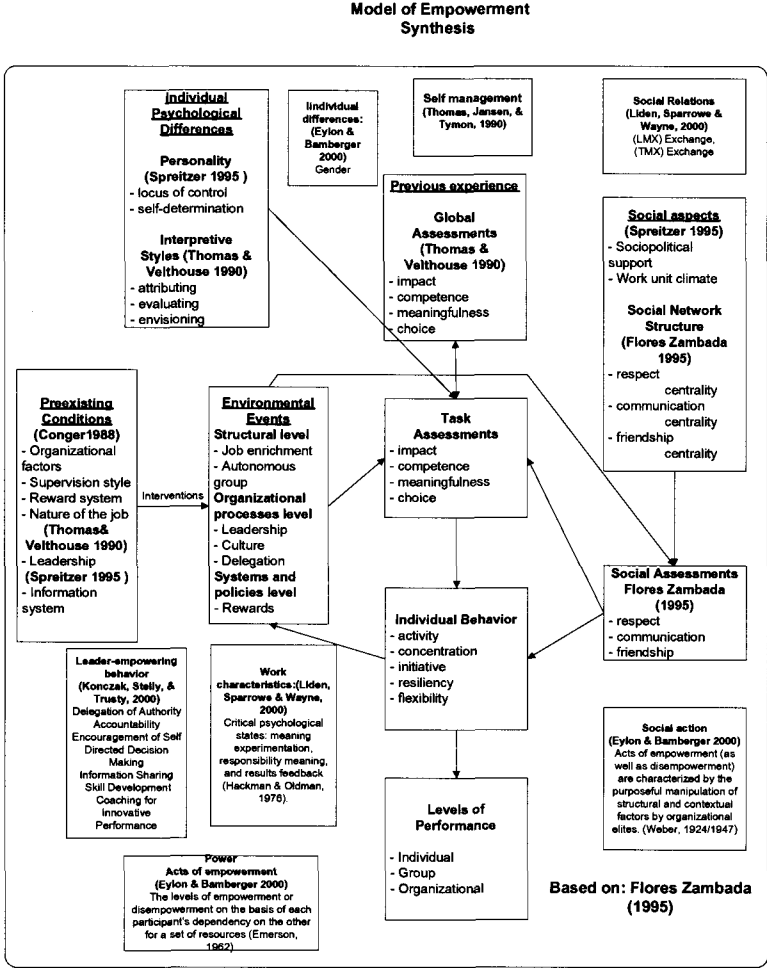


Figure # 2. A synthesis of the psychological empowerment construct

Other relevant element in theory building is construct validity and the implementation of empirical research of the studied construct. In that sense, the following lines will mention these elements that were obtained from a literature review of this topic.

1.4.5 Empirical support of psychological empowerment

Spreitzer (1995) validated the psychological construct of empowerment finding support to the existence of four distinct dimensions, and also, finding support to the fact that each dimension contributes to an overall construct of psychological empowerment.

Based in the work of Spreitzer (1995), Kraimer, Seibert & Liden (1999) developed a study to establish the construct empowerment validity as a single overall measure. They examined the construct validity of scores on Spreitzer's Psychological Empowerment scale. A confirmatory factor analysis (CFA) of data from a sample of 160 nurses showed substantial support for Spreitzer's four empowerment dimensions: meaning, competence, self-determination, and impact.

In contrast to Spreitzer's findings, Kraimer et al (1999) presented that the results of their study indicated that self-determination is a precursor of impact. Finally, their study found that the four dimensions of empowerment are differentially related to organizational commitment and career intentions, providing evidence for the predictive validity of the empowerment scale scores.

Considering that the relationship between leader behavior and the experience of psychological empowerment has not been investigated, Konczak, Stelly, & Trusty (2000) discussed the development of an instrument designed to

measure empowering leader behavior, and the relationship of the instrument to some theoretically variables. They identify the following six dimensions of leader empowering behavior in their study: delegation of authority, accountability for outcomes, encouragement of self-directed decision-making, encouragement of self-directed problem solving, information sharing and skill development, and coaching for innovative performance. Thus, they confirm that the scale of leadership they developed appears to be a psychometrically sound instrument for providing managers with feedback on behavior relevant to employee empowerment.

Spreitzer (1995) found support to the hypothesized relationships among self-esteem, access to information about the mission of an organization, access to information about the performance of a work unit, and an individual performance based reward system are positively related to psychological empowerment. Moreover, psychological empowerment is positively related to managerial effectiveness and innovative behaviors. There was no support to the relationship between locus of control and psychological empowerment.

Flores Zambada (1995) found in his study that social network structure variables are significantly related to social assessment variables, and also that social assessment variables are significantly related to task assessment variables. Contrary to his expectations, he found no support for the relationship between social assessment variables and task assessment variables to behavior variables. Additionally, he found some support to the hypothesized relationship of social

assessment variables and behavior variables that is statistically stronger than the relationship of task assessment and behavior variables.

Spreitzer (1996) found general support to her hypothesized expectations that individuals who perceive a high degree of role ambiguity in their work, work for a boss with a wide span of control, perceive that they have a high degree of social political support from key organizational constituencies, and work in departments that have a participative climate, will report a higher level of empowerment than those individuals who are in the opposite situation. Contrary to her expectations, the relationship of accesses to resources is not related to a higher level of empowerment.

Studying service workers in private clubs, Corsun & Enz (1999) found data that show that supportive peer and customer relationships are predictive of higher levels of employees' experienced empowerment. Both organizational and employee-customer relationships accounted for significant variation in the dimensions of empowerment: meaningfulness, influence, and self-efficacy. They utilize the psychological perspective of empowerment and consider that influence is related to autonomy; however, this empowerment dimension subsumes the related notions (in service environments) of self-determination and impact. On the other hand, there was no support to the relationships between a supportive work environment created by the organization, and employee-customer value congruity to service workers' experienced empowerment.

Incorporating social cognitive theory and the work of Spreitzer (1995), Koberg, Boss, Senjem, & Goodman (1999) found that tenure with the

organization will have a positive association to feelings of empowerment; however, neither education nor gender, neither race nor locus of control were related to feelings of empowerment. Likewise, they found partial support to the relationship among perceived group effectiveness, worth of group, intragroup trust, leader approachability, and mutual influence having a positive association to feelings of empowerment. Also, they found support in the relationship between organizational ranks to feelings of empowerment. Additionally, they found support to the relationship between feelings of empowerment that were associated with increased satisfaction and perceived productivity/effectiveness at work and decreased propensity to leave the organization.

Siegall & Gardner (2000) state the general hypothesis of their study, as follows: the nature of horizontal and lateral interaction and employees' perceptions of the organizations' direction and needs would be related to all four psychological components of empowerment. They surveyed 203 employees of a manufacturing firm (159 hourly, 44 salaried), and the results of this survey are the following: the contextual factors were found to be significantly related to elements of psychological empowerment, so communication with supervisor and general relationships with company were significantly related to meaning, self-determination and impact, but not related to competence. Teamwork was related to meaning and impact. Concern for performance was related to meaning and self-determination, though, these associations varied by type of job.

Eylon & Bamberger (2000) defining empowerment cognitions specifically as self-efficacy, found that the level of self-efficacy is greater among those subject

to empowerment acts than among those subject to disempowerment acts. Contrary to their expectation, there was no support to the moderation by gender between the effects of disempowerment / empowerment acts on self-efficacy. As they expected, they also found significant differences between job satisfaction and performance for women exposed to empowerment acts than for women not exposed to such acts; and for men exposed to empowerment acts than from those not exposed to such acts. In the same line of argument, they found that job satisfaction and performance are lower for men subject to disempowerment acts than for men not subject to disempowerment acts, and for women subject to disempowerment acts that are not different from those not subject to such acts.

Liden, Sparrowe, & Wayne (2000) found strong support to their hypothesis that job characteristics are positively related to the empowerment dimension, contrary to their expectations, they found no support to their hypothesis that TMX (team-member exchange) is positively related to the empowerment dimension; as such, they also found partial support to the relation between LMX (leader-member exchange) with the empowerment dimension. They expected to find that the empowerment dimensions were positively related to work satisfaction, to organizational commitment, and to job performance ratings, but they only found partial support to these relationships. Finally, they expected that the empowerment dimensions (meaning, impact, competence and self-determination) mediated the relation between the independent variables (job characteristics, LMX and TMX) and work outcomes (board satisfaction, organizational commitment, and job performance), but they also found partial support for these relationships.

The evidence of construct validity and the empirical results presented above, and the theoretical evolution synthesized in Figure # 2, establish a sound base for the construct of individual empowerment, and for the relationships of this construct to variables antecedents and to variables consequences in a nomological network, confirming at the individual level the significance of studying individual empowerment.

1.5 Group empowerment

As it was mentioned before, there are multiple perspectives of empowerment, in this sense, in the literature about groups, there are references about empowered groups or teams or about the empowering of group or team members (e.g., Wellins, Byham, & Wilson, 1990), but, almost all of these references are not linked to psychological group empowerment. Related to this construct, the only conceptual model that is reported will be reviewed in the following section to clearly establish the base elements of this construct.

In the only conceptual model of psychological group empowerment proposed by Kirkman & Rosen (1997), they consider that the study of empowerment at the group level has been insufficient. As a consequence, there is a need to elaborate a construct of group empowerment to move forward in its use in organizations and, also, in the development of additional research of this topic. In this model, a work team is defined as: "a group of individuals who work interdependently to solve problems or carry out work" (Kirkman & Rosen, 1997:132). Empowerment is defined as a task augmented motivation resulting from an individual's positive orientation about his/her work.

In this model of empowered teams, the focus is on establishing a full understanding of the underlying psychological processes that influence employees' behaviors. Factors as external leadership, human resources policies, and aspects of the organizational structure are related to team empowerment, which is considered as the team perceptions of the four cognitive dimensions. These four dimensions of team empowerment are the following: potency, meaningfulness, autonomy, and team impact. Thus, an empowered team has outcomes as job satisfaction, productivity, commitment, and customer satisfaction. The development of this model of group empowerment was aimed to explain empowerment in production or service work groups (Kirkman & Rosen, 1997). The team empowerment model includes three stages. The first stage includes organizational and job characteristics identified as the antecedents of this model. The second is team empowerment. The third one, identified as the consequences, is work team effectiveness in the organization. Figure # 3 presents the model.

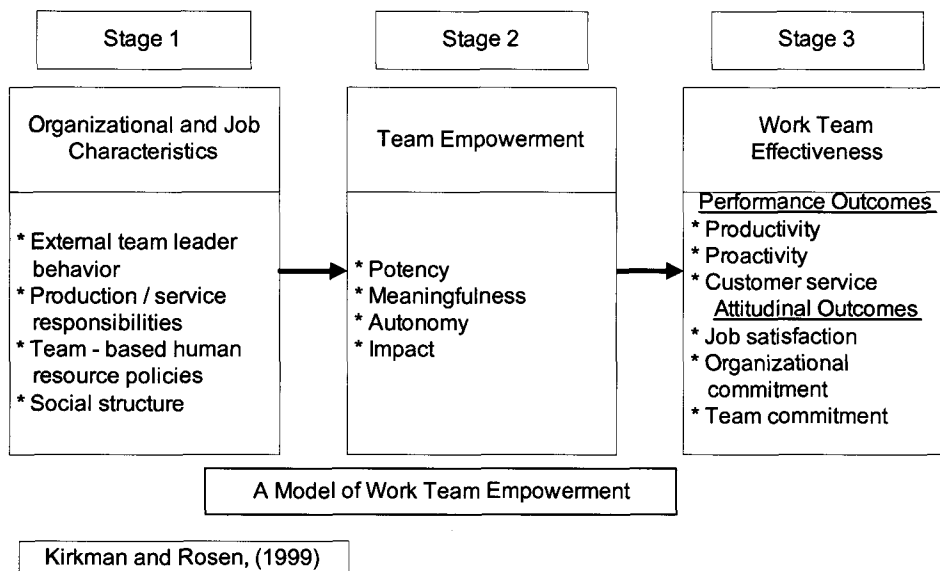


Figure # 3. A model of work group empowerment

The first phase of the team empowerment model identified four characteristics that may act as antecedents to team empowerment because they would likely affect the four dimensions of team empowerment. These four characteristics are the following: 1) External team leader behavior refers to a leader that has a supervisory role, but he is not a member of the team he leads. His behavior affects positively or negatively on the team empowerment. 2) Production / service responsibility refers to the degree that a team has in the day – to – day regulation of its work. The amount of that degree would probably produce a high or a low team empowerment. 3) Team – based human resources policy refers to rewards, training and any other human resource policies based in teams' performance, which support team empowerment. 4) Organizational/Social structure refers to the degree that members of a team have sociopolitical support and accesses to strategic information of the organization. The magnitude of that degree would probably produce a high or a low team empowerment (Kirkman & Rosen, 1999).

The second phase of the model is developed at the team level, and contains four related dimensions that parallel the dimensions of empowerment that have been specified at the individual level of analysis. These dimensions create shared beliefs of feeling enhanced work control in team members; they are related because they are likely to be mutually reinforced (Spreitzer, 1995). The four dimensions of the empowered team are the following:

Potency is the collective belief of a team that it can be effective.

Meaningfulness refers to a team's experiencing its tasks as important, valuable,

and worthwhile. Autonomy is the degree to which team members experience substantial freedom, independence, and discretion in their work. Impact: team members experience impact when a team produces work that is significant and important for an organization (Kirkman & Rosen, 1999:59).

These dimensions are similar to individual empowerment, but they are different because they represent construals at the group level. In addition, a difference between self-managing teams and empowerment teams is established, based on the above dimensions, while self-managing teams just present autonomy's dimension. Empowerment groups add the other three dimensions.

The third phase, identified as the consequences, is the work team effectiveness in the organization. Work team effectiveness in the organization consists in performance outcomes and attitudinal outcomes. Performance outcomes include productivity, proactivity, and customer service. Attitudinal outcomes are job satisfaction, organizational, and team commitment (Kirkman & Rosen, 1999).

Empowering groups instead of empowering individuals require group level constructs as an alternative to individual constructs looking to implement organizational interventions. Besides, organizational changes and development interventions should be the focus in aligning reward and appraisal systems toward group performance, through creating a collaboration process within groups and helping teams to turn into groups of learning to support empowered teams. Also, the empirical support of this model is relevant to the theoretical building of this construct.

Building their conceptual model of group empowerment, Kirkman & Rosen (1997) utilized as a basis, four models of group effectiveness reviewed by Goodman, Ravlin, and Argote (1986). The first model, developed by Nieva, Fleishman, and Rieck (1978) includes external conditions, members' resources, team members' characteristics, task demands and characteristics as factors that influence team performance. The second model, from Gladstein (1984) establishes that quality of group process – communication, support, conflict, strategic discussion, individual inputs weighting and management constraint- are determined by group composition – members' skills, heterogeneity, and work and organization tenure-and by group structure –role and goals clarity, work norms, work control, group size and group leadership- and by resource availability – training, technical support and markets served- and also, by organizational structure - group rewards and supervisory control. The relationship between group process and group effectiveness – performance and satisfaction - is moderated by group task – complexity, environmental uncertainty and interdependence- (Goodman, et al., 1986 in Kirkman & Rosen, 1997).

The third model is the influential socio-technical model developed by Cummings, (1978), and Trist, (1981). Issues such as the following: organizational arrangements – number of shifts, worker schedules, group size and utilized machinery -, task conditions – physical environment of work – and group characteristics – demography and members cultural background- influence the following aspects: task abilities – workers technical skills-, and group interaction –pattern and group activity of group members-, and also, supervision and

leadership – formal and informal leadership quality. Group effectiveness is determined by interrelationships of both series of variables. In this sense, autonomous work groups have as a result effective workers, and group effectiveness in the work place is associated to task optimization and social ends (Goodman, et al., 1986 in Kirkman & Rosen, 1997).

The fourth model studied is from Hackman, (1983; 1986). This model includes three leverage points for group effectiveness. First, group design: task structure, group composition and group performance norms. Second, organizational context: compensation, education and information systems. Third, group synergy: low process losses and high synergistic process gains. These three factors influence process criteria of effectiveness - level of effort on group task-, - knowledge and skill applied to task- and appropriateness of task performance strategies. The relationship among process criteria of effectiveness and actual group effectiveness, and acceptable output in which members can continue to work together, and members' needs are satisfied is moderated by material resources availability -sufficient vs. insufficient- (Goodman, et al., 1986 in Kirkman & Rosen, 1997).

The above models of work group effectiveness show different perspectives, variables, and their relationships to explain group behavior and its outcomes. However, group motivation does not appear as a variable that influences group behavior. It is considered that the four dimensions of empowerment in the individual perspective imply that individuals could sustain a feeling of ownership over their work, experiencing a sensation of impact from

their work that is largely meaningful to themselves. These issues create a sense of intrinsic motivation in the worker that, in turn, should generate a higher performance. In the perspective of the group, it is necessary to consider the possibility that the construct of group empowerment could parallel the outcomes of individual empowerment. In this sense, based in Kirkman & Rosen (1997:136), Table # 1 illustrates a comparison of dimensions of both individual and group constructs.

Table # 1. Individual empowerment concepts at the team level

Individual	Team
Self-efficacy (Conger & Kanungo, 1988) Competence (Thomas & Velthouse, 1990)	Potency (Guzzo et al., 1991, 1993) (Guzzo & Shea, 1987a, 1987b)
Meaningfulness (Hackman and Oldman 1980; Thomas & Velthouse, 1990)	Team Meaningfulness (Hackman, 1987; Pearce and Ravlin, 1987; Trist, 1981)
Choice (Thomas & Velthouse, 1990) Self- Determination (Deci, 1975; Deci, et al., 1989)	Team Autonomy (Hackman, 1987; Pearce & Ravlin, 1987). Boundary and Task Control (Trist, 1981)
Impact (Thomas & Velthouse, 1990)	Team Consequences (Hackman, 1987)

Kirkman & Rosen, (1997:136)

1.5.1 Empirical support of group empowerment

Empirical results obtained about the group empowerment model (Kirkman & Rosen, 1999) offer support to the group empowerment construct; hence, almost all the hypothesized relationships of this conceptual model that were the base of the research were found significant. In this sense, the evidence found support the following relationships: the more that an external team leader exhibits encouraging leader behaviors, the higher the level of a team’s production/service responsibility. The more an organization implements team-based human resources policies, and the more that a team’s members are embedded into a well-developed

social structure, the more the team's members will experience team empowerment.

Also, Kirkman & Rosen (1999) found support to the following relationships: the more that a team's members experience team empowerment, the more productive and proactive, the team will be. Also, the more that a team's members experience team empowerment, the higher will be the team's level of customer service, the team's level of job satisfaction, of organizational commitment, and team commitment. Additionally, they found mixed support to the hypothesis that team empowerment consists of four distinct dimensions. Being the only model reported until now, it is necessary to study this construct in depth and in different contexts to confirm and generalize its results.

To summarize, it is considered that the individual constructs of empowerment (competence, meaningfulness, choice, and impact) all have theoretical analogs in the groups' literature (potency, meaningfulness, autonomy, and impact). However, no single model of group effectiveness includes all four empowerment constructs. In this line of reasoning, the theoretical and empirical elements mentioned above generate a basis that encourage continuing the study of the psychological group empowerment.

1.6 Mexican culture

To characterize Mexican context, one of the focal points of this study, the main results of the integration of a literature review about these topics, including foreign and native perspectives, will be presented in the following paragraphs. This literature review includes the results of a search in databases of articles

written in other countries about the topics mentioned above. Moreover, it includes a review of books and articles written by Mexicans. The main aspect of this integration of perspectives is the identification of concepts, instruments, results and interpretations that this integration produces by looking for the Mexican reality. In this section, mainly, the results of this integration related to Mexican work culture are described below.

An antecedent or a cause of Mexican work culture is the Mexican culture; in this case, the existence of an array of essential values is recognized for the Mexican, such as, family, religion and interpersonal relationships (DelaCerde & Núñez, 1998; Kras, 1995). These values are the result of the integration of the indigenous and Spanish cultures (Olivé, 1999; Rodríguez & Ramírez-Buendía, 1992). On the other hand, it is considered that these values are in conflict with western values that have been assimilated and incorporated in the Mexican development that stem from industrialization, urbanization and a higher level of education. Accordingly, this conflict of values could be an explanation of the cultural diversity identified within Mexico (Rodríguez & Ramírez-Buendía, 1992). Consequently, integration of both perspectives gives an idea about a culture characterized by traditional (Hofstede 1980, 1993, in Volkema, 1998; Kras, 1995; Wilson, 1993) and modern issues that have to be considered as essential to the study of Mexican culture.

1.6.1 Mexican work culture

The analysis of Mexican work culture from both perspectives, native and foreign, will be presented in the following paragraphs. In this sense, the

conclusions about the work culture are going to be extracted from both the characteristics of the Mexican manager/employee and of the Mexican worker. These characteristics include values, attitudes, and behaviors, among others, that were reported in the studies from the mentioned perspectives.

1.6.1.1 Mexican manager/Mexican employee

For the Mexican executive, the Mexican perspective displays an evolution from 1950 to the beginning of this new century. Even though the studies are not analogous because of different methodologies, their results allow one to describe the different elements that characterize the mentioned evolution.

In the native perspective through empirical evidence, one finds support in studies with managers, employees and graduate students related to the following: organizational commitment is present in an organization (Arias Galicia & Belausteguigoitia, 1999; Littlewood, 2000); a report of employee satisfaction in higher echelons of an organization, (Arias Galicia & Platas Reyes, 1999); Mexican managers with a type “A” behavior (Torres Solís, 2000); a higher degree of machiavelism in women than in men (Madrugal, Gómez, & Venegas, 2001); managers of a pharmaceutical industry utilizing several influence tactics congruent with higher or lower level of personnel in their every day work (Carrasco, 2000).

In the foreign perspective studies with managers, employees and graduate students, we found empirical evidence regarding the following relationships: a higher social desirability, and a lower degree of moral reasoning in Mexican graduate students (Dozier, Husted, & Manrique, 1992); a more participative style

of managers using information technologies, though, these Mexican managers did not modify their thinking style (Leidner, Carlsson, Elam, & Corrales, 1999; Mejias, Shepherd, Vogel, & Lazaneo, 1996). Related to conflict solution, Mexican managers are prone to autocratic and confrontational tactics (Cropanzano, Aguinis, Schminke, & Denham, 1999). Mexican negotiators from small organizations perceive themselves as more flexible, less structured, and with a general orientation compared to their North American peers; on the other hand, Mexican negotiators from large organization consider themselves at the same level of their North American peers (Husted, 1996). In relation to questionable business practices, Mexican graduate students have a similar level of social desirability that their North American peers, but related to moral reasoning they have a lower level (Husted, Dozier, McMahon, & Kattan, 1996). Related to negotiation of ethical behaviors, Mexican managers estimated some behaviors as less appropriate than that of their North American peers; however, Mexican managers perceptions exhibit a bigger difference between appropriate and effective behaviors; also, Mexican managers reveal a larger incongruity between what they say and what they do (Volkema, 1998). Finally, Mexican purchase managers exhibit a significant difference in some purchasing behaviors than those of their North American peers, despite the fact that it was expected that the difference would be displayed in all contrasted behaviors (Tadepalli, Moreno, & Trevino, 1999).

1.6.1.2 Mexican worker

Cultural factors are considered as a strong influence in shaping Mexican work attitudes (Rodríguez & Ramírez-Buendía, 1992). A Mexican workers' differentiation is attributed to geographical location. Also, Mexican workers' lack of participation is endorsed by an attitude of resignation and compliance resulting from a paternal and authoritarian Mexican managers' approach (Rodríguez & Ramírez-Buendía, 1992). Besides, in the native perspective, Mexican worker's motivations and attitudes are assessed utilizing the Maslow theory (Díaz-Guerrero, 1994).

In this native perspective performed to study the Mexican context, there have been identified, related to work culture, two different portions of this perspective that have the following characteristics: the first portion is a series of reports prepared from 1950 through 1980 that were analyzed by DelaCerde & Núñez (1998). The second portion consists in a series of studies completed during the last few years.

Related to the first portion, DelaCerde & Núñez (1998) warn us in their analysis about these studies, which have to be taken carefully, in order to avoid inadequate generalizations presented by the following conclusions: the Mexican worker does not value himself; he searches for material rewards and job security (Díaz Guerrero, 1975). Besides, the social status of work has large importance for Mexican people (Fayerweather, 1959). A Mexican works to support his family, as financial security prevails over any other kind of need (Slocum, 1971). On the other hand, a Mexican worker is inclined to have superior needs such as opportunity to improve, development of his own ideas, job security, and a clean

work site (Arias Galicia, 1970). The work preferences for the Mexican urban worker from the sixties were promotion opportunities, learning and job security, interesting work, adequate work conditions, enough salary to satisfy their needs, and a good relationship with his boss (Kahl, 1968). A Mexican organization that presents conditions of domination and dependence inhibits achievement capabilities of its workers. In a study of line industry workers and supervisory personnel, a relationship was found between job satisfaction and promotion opportunities related to internal mobility (Andrews, 1967). Management skills and knowledge were found as important factors, but interpersonal relationships showed no relevance (Otalora, 1979). Finally, the main characteristics of the Mexican worker are to be responsible, to be active, and to be intelligent, organized and punctual (Alducin, 1986).

From the second portion, in reports completed during the last years, the following elements are presented-values and attitudes from the Mexican worker related to commitment- have the following behaviors: working better, working with commitment and responsibility, “echarle más ganas” improving their skills and interested in their work, and active in participating with initiative and involvement. It was found that these behaviors were related with the following cognitive elements: amenable environment, personal recognition or valuation, development or increased knowledge, support from peers and managers, to attain achievements, and to work out challenges. In addition, those behaviors were related to the following affective worker’ states: satisfaction, feeling well, feeling happy and cheerful, and feeling proud (Castañeda, 2001). Another study relating

transformational leadership, followers' empowerment, formalization and communication to Deming' points 1 and 8 –perseverance creation and fear decrease- respectively, significant relationships were found among some of the mentioned variables (Godina, Villanueva Sánchez, Flores Zambada, & Toro Palacios, 2000).

On the other hand, reviewing more akin research, it was observed that the results of a study of leadership and quality people illustrate that a Mexican worker is in a transitional stage (Galarza Serrano & Flores Zambada, 2000). Finally, studies of Mexican workers' motivation and satisfaction illustrate a traditional view of Mexican work culture (Arechavala & Madrigal, 1999; Saleme, Rouquete, & Pérez, 2000).

In the foreign perspective, one point of view about concepts related to work culture reflects characteristics from Mexican culture that influenced the Mexican worker. These issues are noted, as follows: working for a Mexican is a means, not an end; interpersonal relationships are very important to a Mexican; (Paik & Teagarden, 1995, in Pelled & Xin, 1997), temporary dimension for a Mexican is peculiar, among others.

In a conceptual study comparing diverse cultures, it is stated that the Mexican worker does not have a strong preference for work, that he places a strong worth on earnings from work and promotions; that he puts more commitment in work, and that he would be less productive because of decision-making centralization, but that he would be more productive in relation to

promotions, financial rewards, and to the occurrence of social reunions (Pelled & Xin, 1997).

Empirical research, from a foreign study, found unexpected relationships in the topic of work commitment. One of them is a positive relationship between worker participation and commitment; this relationship was expected in the opposite direction. In the same way, a positive relationship was found between worker commitment and organizational effectiveness that was also expected to be opposite. In this study, a positive relationship was found among worker commitment and age, work tenure, and work satisfaction. However, there was no relationship among worker commitment, female genre and workers level of education (Harrison & Hubbard, 1998). Another study done in several auto motor settings from diverse countries, the Mexican worker was identified as an unskilled worker due to a low degree of skills and personal development activities (Wilkins & Pawlowsky, 1997).

Reports from Mexican maquiladora settings represent a special situation in this characterization of the work culture in Mexico, because the context in these settings generally includes a foreign perspective of management practices, mainly, due to the foreign origin of these organizations which influence the behavior of Mexican managers, employees, and workers.

One of the studies states that “people problems” clearly illustrate problems with Mexican workers in this perspective (Teagarden, Butler, & Von Glinow, 1992). Besides, it is perceived that a generational gap exists amid Mexican managers (Sargent & Matthews, 1998). Another result from these settings is

cultural differences that characterize Mexican organizations' amid members of different levels of organizational structure (Teagarden, Butler, & Von Glinow, 1992). Hybrid systems –including native cultural elements- of implementation of quality programs, and work organization related to foreign practices are another example mentioned in these studies (Kenney, Goe, Contreras, Romero, & Bustos, 1998).

“Maquiladora” settings are considered as a better occupation option to the Mexican worker than small business settings. Wages and benefits that are offered from “maquiladoras” seem superior to alternative employments (Sargent & Matthews, 1999). Also, it seems that human resources practices of “maquiladoras” are directed to modify initial circumstances that Mexican workers possess when they start working (Teagarden, Butler, & Von Glinow, 1992).

A series of contradictory points of view about work culture are present in the above paragraphs. These contradictions could be considered as a basis for the conclusion that can be arrived in this section which is related to the traditional, (Fayerweather, 1959; in DelaCerde & Núñez, 1998), modern, (Frech, 1991; Zúñiga, 1995) duality that was already mentioned above. Also, these contradictions are related to the point of view that identifies another category – in conflict, or in transition, - (Kras, 1990) that could be incorporated to the mentioned duality.

In this sense, a Mexican manager/employee and a Mexican employee present the same characteristics as the ones mentioned above. In the native perspective, managers are classified as modern. Executives are classified as

traditional and modern in the foreign perspective; generally, in this perspective the manager is considered as a traditional one (e.g., Kras, 1990; Stephens & Greer, 1995, in Sargent & Matthews, 1998).

Empirical research from Mexican studies found evidence that characterize the Mexican worker as traditional. On the other hand, foreign perspective shows an adequate characterization of traditional Mexican at work. But, empirical research, from a foreign study, found evidence that characterizes the Mexican worker as modern. According, to these arguments, the duality traditional- modern could also be applied to the Mexican worker.

1.6.2 Mexican group conceptualization

Another element studied about the Mexican context is related to the concept of group for the Mexican; thus, the description of this conceptualization will be presented as such. The elements of the review of this topic shed some conclusions in both perspectives in relation to the concepts of collectivism/individualism and in relation to the concepts of group/team.

1.6.2.1 Mexican collectivism/individualism

In the Mexican perspective, Mexican collectivity is related to background of community life specially linked to family in the indigenous antecedent of the Mexican (Olivé, 1999). Another element of collectivity is the significance for the Mexican of interpersonal relationships that establishes the existence of a “we”, which is very real for the Mexican (Díaz-Guerrero, 1994). Also, the value of respect is integrated in the essential values of Mexicans and amalgamated in Mexican social networks (Díaz-Guerrero, 1994). On the other hand, it is

considered that Mexicans have a higher sense of clan instead of team, an aspect that is associated to affection, security and of acceptance; nevertheless, these elements are far from the elements of efficiency and cooperation that the concept of team requires (Rodríguez & Ramírez-Buendía, 1992).

In the native perspective related to Mexican individualism, the Mexican acceptance of the splitting of economic issues from moral issues is considered; thus, this Mexican orientation is more individualistic (Rodríguez & Ramírez-Buendía, 1992). Another element considered is that a Mexican person, because of his historical background, shows little or no respect to the institutions, revealing undisciplined behaviors in social issues situations that originate a non-cooperative behavior in the social sphere (Rodríguez & Ramírez-Buendía, 1992). Antecedents of a stratified society generate a search for a privileged status and power that orient the Mexican in the direction of individualism (Rodríguez & Ramírez-Buendía, 1992). Another individuality element for the Mexican is the prevalence of distrust in spite of an amenable appearance of the Mexican. Besides the lack of commitment, Mexican individualism is considered contrary to a fitted integration in a work group (Rodríguez & Ramírez-Buendía, 1992).

In the foreign perspective, it is considered that Mexican individualism is illustrated when the Mexican worker shows little respect to emergent leadership that starts in a group (Sargent & Matthews, 1998). In the overseas perspective, Mexican collectivity is confined to familiar domain and not to the sphere of the organization (Paik and Teagarden, 1995, in Sargent & Matthews 1998). Consequently, collective cultures emphasize the in-group and not the out-group;

finally, it is considered that the emotional reaction of the Mexican worker is higher toward the group than to the individual (de Forest, 1994; in Harrison & Hubbard, 1998).

1.6.2.2 Mexican group/team concepts

In the Mexican perspective related to group/team concepts, there are references that teamwork involves new values to the Mexican worker resulting in a confrontation between tradition and modern ideas (García Garnica, 2001). In the Mexican perspective related to unconstructive group/team concepts, it has been mentioned that the only way for the Mexican to advance is individualism.

In the overseas perspective, there are comments that consider that the individual is the base of the Mexican organization because people distrust teamwork. In the foreign perspective, it is considered that Mexican culture generates a distinct perspective of group, than the perspective held in countries such as United States and Canada. Thus, it is considered that the Mexican group is based on consensus (Kras, 1995). This state of affairs has guided other researchers to propose the implementation of a “mariachi circle” that incorporates Mexican culture to acquire a higher organizational effectiveness (Sargent & Matthews, 1998). In another study, there is a remark about participation of Mexican workers in continuous improvement teams stating that their negative perceptions of participating are modified –the boss could not solve the problem- so their participation becomes a positive issue (Harrison & Hubbard, 1998).

In a maquiladora setting, it is considered that workers are formally organized in teams, but they do not consider themselves as a part of a team;

consequently, it is considered that there is a lack of basis for self-organization. In another maquiladora site, they had to have a change of incentives to individual incentives because collective incentives did not work out to improve workers' effectiveness.

In reviewing the literature, it was found that only two empirical studies have specifically studied workgroups in Mexico. The first one studied Mexican managers' perceptions about the problems of implementation of self-organized teams in Mexican organizations. The first problem was the workers' level of responsibility. Their perception was that there is a non-responsibility culture at this level because of contradictory circumstances to the principles of self-control that these teams require. Another problem is at the managers' level because self-management teams require a process of sharing power, and this perception of losing authority from the managers' point of view is the basis of these teams (Nicholls, Lane, & Brehm, 1999).

The second study reviewed was concerning implementation of participative workgroup in a Mexican industrial organization. The results of the study illustrate a higher degree of democracy in the organization since a comparison of the traditional system and the participative system show that group cohesion and power distribution in groups of a participative system were, to a great extent, higher than they were in groups of a traditional system (Flores Zambada, 2000).

The above arguments represent a series of contradictions about Mexican collectivism and individualism; Mexican management researchers, as well, have

considered this issue. The next question is a sample of this concern: “How can we reconcile the Mexican individualism that obstructs participation of Mexicans in workgroups with the named cultural tendency to collectivism that is clearly observed in the Mexican family network?” (DelaCerde & Núñez, 1998: 98). It is obvious that the answer to this puzzle requires in depth research of this topic; nevertheless, there seems to be present a higher tendency to collectivity in affective issues. Alternatively, rational issues seem to be related to individualism, but this deliberation does not leave out a simultaneous occurrence of both aspects as an essential component of the Mexican culture, and the behavior of Mexicans in groups.

The characterization of Mexican work culture, and the conceptualization of the Mexican group described in the above paragraphs, form part of the elements that integrate the basis for the beginning and implementation of a study of the group empowerment construct in this Mexican context.

1.7 Research problem

This section includes the arguments that are considered to establish the statement of the research problem. It also contains the theoretical gaps that are considered in the actual development of the theory of this topic. Furthermore, it comprises the research questions and objectives of the study.

Top management of organizations is continuously looking for key activities that allow their organizations to obtain a competitive advantage. Human resources have been considered one of the main sources of competitive advantage for organizations. Workers’ unique knowledge, motivation to act, and the

relationship of organizations' strategy and workers' unique knowledge, and their motivation to act (Pfeffer, 1998) would be characteristics of a work force that could generate an advantage to organizations.

The evolution of systems of management in the organization has been classified in two types: the first type is denominated a control system, and the second type is conceived as a participative management (Lawler, 1992). A comparison of both systems illustrates a contradictory view of the mode of human resources management in the organization. The former emphasizes obtaining organizational results through workers' supervision and control. The latter considers that a participating worker and an organizational context which promotes that participation is the way to manage the work force, to obtain an increased organizational effectiveness.

A high involvement organization (Lawler, 1992) is the consequence of the argument of workers' participation. This kind of organization provides organizational conditions that establish a context that encourages the growth of participation and involvement through the implementation of high involvement practices. These perspectives of human resources management in the organization assume that people in the organization could be conceived as a unique asset of the organization that could create a competitive advantage for the organization.

Mexican organizations are not an exemption in this search for a competitive advantage. Mexican organizations in the last 20 years have faced a business context that has been drastically changed. The Mexican economy has been in transition going from a closed economy to an open economy; this fact has

changed the competitive environment for the Mexican organization (SECOFI, 1996). Furthermore, the Mexican organization also faces two other kinds of influences that are making the performance of the organization more complex. One of them is the influence of foreign theoretical developments and managerial practices that have helped foreign organizations improve their organizational effectiveness. The second influence is the Mexican culture and its effects on management, on organizations and work culture, and the feasibility to generate conditions that allow creating a competitive advantage (DelaCerde & Núñez, 1998).

Empowerment could be considered a high involvement practice (Spreitzer, 1996), but empowerment has also been conceived in diverse spheres of society as means to solve political, social, and educational problems. Along this line of reasoning, empowerment has different meanings that are generally considered as beneficial to groups or individuals who have implemented them. Thus, the foundations of this concept have attracted academics and practitioners to translate this idea to organizational settings, and utilize it as an instrument to solve organizational challenges and problems.

Hence, the translation of this concept to the organizational environment was made; nonetheless, this translation has also been carried out with different meanings that make the utilization of this concept more confusing (Collins, 1996). In this sense, empowerment has been conceived as a mode to share power, as a way to participate and involve, as an action of leadership to empower followers, and as a psychological state of the individual (Flores Zambada, 1995). Conceived

as a psychological state, empowerment has been mainly related to intrinsic motivation task; also, as a process that allows individuals to achieve control over their life.

Individual psychological empowerment is conceived as a series of beliefs or cognitive processes of the individual that generate, in the individual, behaviors that improve their performance (Spreitzer, 1996). These beliefs are constrained to work context and related to their tasks, as follows: a sense of meaning, competence, self-determination, and impact. Organizational interventions, personality traits and context variables have been considered antecedents that generate these beliefs. Consequently, empowered individual behaviors' generate consequences, such as: innovation, and increased organizational effectiveness, among others (Spreitzer, 1997).

Empirical evidence of the construct of psychological empowerment has found support for significant relationships between context variables and personal traits, in addition to the four dimensions of psychological empowerment for individuals in diverse organizational contexts and in hierarchical levels. It has also found support for significant relationships between the four dimensions of empowerment and variables related to organizational effectiveness (Spreitzer, 1996). This support for a mediating cognitive and motivational process is important from the practitioner's point of view because empowerment could be considered as a management tool that would be utilized to improve organizational effectiveness.

Even though psychological empowerment at the individual level has been profusely studied, at group level it has barely been studied (Kirkman & Rosen, 1999). Only a few conceptual and empirical studies have been carried out. Given the significance that this construct has achieved and the relevance that work group has also achieved, it is imperative to study empowerment at group level in great depth.

In the only conceptual model of group empowerment reported (Kirkman & Rosen, 1997) four dimensions are also identified that create shared beliefs of feeling greater work control in team members. These dimensions are the following: potency, meaningfulness, autonomy, and impact (Kirkman & Rosen, 1999). These dimensions are similar to individual empowerment, but are different because they represent construals at the group level. In addition, the difference between self-managing teams and empowerment teams is established solely based on the above dimensions; while self-managing teams just present an autonomy' dimension, empowerment groups add three other dimensions to that one.

Variables considered as antecedents of dimensions of empowerment are the following: external team leader behavior, production / service responsibilities, team – based human resources policies, and social structure. Consequences or results from group empowerment are team performance and attitudinal outcomes. Performance includes productivity, proactivity and customer service; attitudinal outcomes are job satisfaction, organizational and team commitment (Kirkman & Rosen, 1999).

Empirical results obtained about the group empowerment model (Kirkman & Rosen, 1999) offer support to the group empowerment construct; hence, almost all the hypothesized relationships of this conceptual model that was the base of the research were found to be significant. Being the only model reported until now, it is necessary to study in depth this construct in other contexts to confirm and generalize its results.

The work group has attracted attention from academics and practitioners as a means to improve organizational effectiveness. Groups, also, have a tradition of study that originates in contexts outside organizations (Cartwright & Zander, 1968a). Recently, by studying organizational groups, there has been an increased awareness as groups have been considered another way to organize work to be more productive. These studies have been influenced both by the need to get a competitive advantage and from the success of Japanese organizations, due to the fact that their work organization is mainly based on work groups and their related idea of teamwork (e.g., Cohen & Bailey, 1997).

Work and team groups have also been studied from several angles (Shaw, 1976). Group composition, structure, and size, among others, are examples of characteristics of groups: cohesion, and integration, and some others are examples of group processes. Both characteristics and processes are relevant partial elements that have been studied to explain group functioning and performance. Another angle of studying organizational groups is incorporating diverse theoretical elements to build an integrated framework that has been generally identified as a model of work group/team effectiveness (Salas, Burke, & Cannon-

Bowers, 2000). These models have encompassed some distinctive characteristics about its functioning, and these models have hypothesized some significant relationships between variables that stand for distinctive characteristics and variables of organizational effectiveness; such as, self-managing teams and autonomous work teams.

In relation to the study of groups, in a perspective of multilevel theory is the building of collective constructs, which results from interaction, mutual dependency or interdependency between individuals that integrate a collectivity; thus, for that reason this interaction generates a behavioral pattern that is above the individuals involved. This pattern becomes a structure of the collective construct that is considered as an open system which allows integration of broad collective constructs (Morgeson & Hofmann, 1999).

It is conceived that a collective construct is integrated by a structure that results from the interaction of an individual's continuing encounters; and, by a function which is an output from interaction or group structure. In this sense, a collective construct could be studied by its function in different levels of analysis; even though, the structure in each of these levels is dissimilar (Morgeson & Hofmann, 1999). The above arguments state the possibility that by studying collective constructs, emphasis could be placed either in their function or in their structure; hence, the possibility of a trade off between both elements of the construct exists.

1.7.1 Collective constructs interaction/structure gap

The conceptual development of group empowerment (Kirkman & Rosen, 1997) in this perspective of collective constructs could be considered as exclusively focused in the function of the construct, leaving out the study of the elements of the structure of the construct; thus, the study of group empowerment construct has not covered the process through which group motivation is generated to allow a larger control and capacity of their collective performance.

Current arguments of theory of empowered work groups and its identified function as a collective construct assume that interaction structure is given; therefore, there is no explanation of the process that generate beliefs in the group. Besides, the study of this interaction structure must include the context in which interaction is carried away (Morgeson & Hofmann, 1999), considering that this context establishes the limits that restrict the work group empowerment construct.

Individual empowerment is germane to organizational context and individual cognitive processes (Spreitzer, 1996). This association generates a belief in the individual that he has greater capacity and control of his work performance. In this sense, a question appears about the likelihood of whether or not group members can create and share these beliefs of greater capacity and control for their own group. In the building of this construct, the path is not established about links among organizational context, structure, and group process which produce these shared beliefs (Gist, 1987). Therefore, as such, individual empowerment is believed to be an intrapersonal process; then, group empowerment could be considered as an interpersonal shared process in a collective aggregate frame of reference (Spreitzer, 1996). Thus, it is important to

study this shared interpersonal process to advance in the study of empowered groups, since it is linked and integrated to a collective or group construct.

1.7.2 Group motivation gap

Psychological empowerment has also been linked to an intrinsic motivation task; in this line of reasoning, group empowerment has also to be associated to intrinsic motivation; however, there are remarks that studying intrinsic group motivation has not been theoretically examined carefully. As a result, this construct lacks depth. It has been observed that most of the current models of motivation developed in organizational behavior assume that a motivated person behaves rationally by looking to maximize his utility. This rational calculative perspective conceived as a collective motivation left out other issues that also influence group motivation.

In this calculative rational perspective of group motivation, an element that has to be considered is collective efficacy. This issue is similar to group potency, due to the perception that low collective efficacy of the group produces a tendency of group members to reduce their highest effort since the expected reward could not be achieved (Shamir, 1990).

In this line of argument, a reservation appears associated to conceptualization of group motivation; since, at the individual level, the evolution of the intrinsic motivation construct has been linked to competence, self-determination, personal growth, etc. These issues properly match an individual's perspective and his intrinsic motivation; nonetheless, at the group level, intrinsic

motivation requires a broad perspective that includes group characteristics and processes (Shamir, 1990).

Values and social norms of people that integrate groups and social identification with a group are elements proposed to incorporate the group motivation construct. Both elements –values and social norms and social identification with a group- in addition to enlarging group intrinsic motivation perspective, also, allow integration of group context cultural elements (Shamir, 1990).

Along this line of reasoning, values such as responsibility and cooperation, among others values that individuals in other cultures could incorporate and internalize are a motivational basis for a collective performance of individuals in their group. Likewise, a psychological identification of the members with the group more than with themselves is another motivational base for the group that originated from group cultural context (Ashford & Mael, 1989). Even though these arguments emphasize individual motivation in groups, there are other issues of incorporation in the building of an intrinsic group motivation to consider in cultural context facets.

1.7.3 Cultural aspects gap

Theoretical perspectives referring to cultural aspects and their significance in relation to work motivation consider that even though cultural variables present difficulties in their measurement and definition, their absence in work motivation models restrict these models from obtaining their intended purpose.

Implicit in this argument is the questioning of the assumed cultural values that are part of building the theoretical constructs. Cultural values of western perspective that have been incorporated since their conceptualization have not been questioned in this perspective. Merely, there have been critical approaches that consider empowerment as an ideological instrument developed by the management of organizations (Collins, 1996).

In cross-cultural models of work motivation are emphasized differences that result from cultural differences between compared countries. On other hand, there are models which their aim is identification of cultural elements that have an effect on work behavior. Thus, a model of Japanese management style identifies cultural and social elements as generators of a psychological component moderated by affective and cognitive issues. These psychological elements create learned values and attitudes shaping work and management behaviors (DelaCerde & Núñez, 1998).

Another work motivation and behavior model based on cultural elements considers that cultural differences within a country have a direct influence, both in individual factors or characteristics, and in context variables. Thus, people that incorporate into the work milieu depict a series of values and norms derived from their cultures. Consider also that values and norms are not homogeneous for the members of the culture because of the probability of the existence of individual cultural differences (Steer & Sanchez-Runde, 2001).

Following this line of reasoning, the influence of Mexican culture has been identified in management, organizations and work culture. This influence has been

conceived in a general way as a duality of forces. One feature characterizes Mexican culture portraying traditional values, attitudes, and behaviors (Kras, 1995); another feature, describes modern attitudes, behaviors and values that integrate Mexican culture. This duality provokes a management and organizational structure that is derived from tradition, denominated as “familista,” as a derivation from family values that are considered one of the essential values for Mexicans (DelaCerde & Núñez, 1998).

As a result, a traditional Mexican worker that considers work as a means to obtain earnings to support his family is not involved and intrinsically motivated. In fact, modern Mexican organizations are now investing and competing abroad and using recent managerial techniques created and implemented in other cultural contexts, mainly from developed countries. The kind of Mexican worker from these organizations is involved and committed, and he is trying to obtain self-realization through his work within the organization.

Only one study of individual empowerment linked to the Mexican context has been reported (Flores Zambada, 1995). This model incorporates a social network of organization to the Thomas & Velthouse model of individual empowerment as a distinctive element from Mexican culture that influence Mexican workers’ empowerment (Flores Zambada, 1995). Nonetheless, there is no reported study that links Mexican culture with group empowerment. In this sense, incorporating Mexican culture elements to the construct of group empowerment could assist in a more profound understanding of the functioning of the group in the context of Mexican culture.

1.7.4 Summary of research problem (theoretical gaps)

In summary of the above, these are the arguments that endorse the study of group empowerment in the Mexican context:

The study of group empowerment construct has not completely covered the process through which group motivation is generated to allow a larger control and capacity of their collective performance.

Values and social norms, and social identification within a group, in addition to enlarging a group intrinsic motivation perspective, also, allow integration of group context cultural elements.

Absence of cultural variables in work motivation models restricts these models from obtaining their intended explanation.

There is no reported study of group empowerment in the Mexican organization context. Thus, incorporating Mexican cultural elements to the construct of group empowerment could assist in a more profound understanding of the functioning of the group in the context of Mexican culture.

1.8 Research questions

The research problem is stated in the following questions that illustrate the theoretical discussion mentioned in the above paragraphs:

Which elements of group structure create conditions for the existence of group empowerment?

Which group processes create conditions for the existence of group empowerment?

Is performance of work groups in the Mexican organization related to implementation and development of group empowerment?

1.9 Research objectives

Research objectives are stated as follows:

To propose a model of Mexican group empowerment to expand the study of the empowerment construct, specifically at the level of work group, taking into account aspects of group structure and group processes and cultural elements of the Mexican worker in groups, within the context of Mexican organization.

Evaluate empirically the model of Mexican group empowerment.

Chapter 2

Theoretical framework

In this section, the theory about groups utilized to build the proposed model will be presented. It comprises, basic elements of group theory related to collective constructs and collective sharing, such as: reality of groups, two types of groups, -social sharedness and shared reality. Also, the work group effectiveness theory is described. It additionally includes elements related to work group effectiveness that will be included in the proposed model. Finally, elements of group concept and national culture issues are noted.

2.1 Group Theory: Are groups a real phenomenon?

Group theory has been developed in its modern version since the beginning of the twentieth century, but it starts with an interesting debate; Cartwright & Zander (1968a) state that the reality of groups was questioned in this modern origin. There were two positions related with the reality of groups and the reality of the individual. There was no doubt about the real existence of the individual, but the essential point was about the real existence of groups. The controversy was focused in the following question: Are groups a real phenomenon or are they an abstract conception?

This debate points toward a confrontation of philosophical perspectives in relation to the existence of social phenomena. In favor of the position that the institutions, culture, and groups are real and separated from the individuals that integrated them, are philosophers like Durkheim and Comte who contributed to the creation of Social Sciences. Social Sciences like Economics, Political Sciences

and Sociology accept that institutions like the ones mentioned above are real objects of study. (Cartwright & Zander, 1968a)

Psychologists, like Allport, represent the opposite opinion, which establishes that just the individuals are real and groups and institutions are, "...sets of ideals, thoughts, and habits repeated in each individual mind and existing only in those minds" (Allport in Cartwright & Zander, 1968a:12). The argument establishes that terms like "group mind" and "culture" are similitudes between individual minds; therefore, individuals cannot be a part of a group because groups exist just in the mind of the individuals.

These opposing points of view permitted the development of research instruments that allow the advancement of the science and clear the discussion of this debate. In the case of the research on groups until now, the knowledge attained allows a more ample view of reality (Cartwright & Zander, 1968a). Furthermore, in the evolution to study groups, some perspectives have been developed that respond the question of the reality of groups. Some of these perspectives will be discussed in the following paragraphs.

2.2 Two types of groups from levels of analysis in social science

One of these perspectives that could generate an explanation of group reality is related to the levels of analysis in social science. Conceiving the existence of seven levels of analysis -intraindividual, individual, interindividual, group, organization, institution, and social system- this approach emphasizes the existence of two types of groups determined by two different considerations about

these levels (Månson, 1993). Before expounding on this group determination, the following definitions of the levels of analysis in social science are presented:

(1) Intraindividual level. Here, the scientist studies how subindividual entities, such as biological, chemical, or psychological factors, influence each other in the individual.

(2) Individual level. Here, the individual is the basic entity of study. The individual is seen as a self-containing system, which influences other individuals and these influences explain what is happening in the social life.

(3) Interindividual level. Here, the relation between two or more humans is the basic object of study. The individual in itself is seen as "an empty abstraction," and significant parts of what is happening on levels 1 or 2 are explained by what is happening on level 3.

(4) Group level. Here, structured relations between humans are the focus of study. This means that on this level, the researcher studies individuals and their relations, though in a very special way. The group must, in one way or another, be a structured system, which has well defined boundaries to other relations or other parts of social life.

(5) Organizational level. An organization is an intended social system, with goals and means, organizational plans and patterns, with different positions and roles. An organization is differentiated from other levels exactly in that it is consciously created in order to fulfill some explicit tasks. As everyone knows, it is a totally different question if these tasks are fulfilled, and if the chosen means or organizational plan is the best for the fulfillment of the tasks.

(6) Institutional level. The concept of social institution is one of the most important concepts in (Durkheim-inspired) sociology. It indicates a superindividual, and, from the point of view of the single individual, unconsciously created entity of social life.

(7) Social system or macro social structure level. At this level, "whole" societies, often some kind of national state or even system of national states, are the objects of study. A social system is often conceived of as being a system of social institutions, which, especially in structural functionalist analysis, are regarded to fulfill some "functional requisite" for the equilibrium of the social system.

(Månson, 1993:257)

Thus, the first kind of group is shaped by the influence of the first three lower levels of social reality, and it is characterized by personal relations that are connected to interpersonal roles that are determined by their own group norms, and they are not influenced by superindividual positions. The three upper levels of analysis shape the second type of group. This group is influenced by the superindividual social structure in which the group is embedded, and the group is characterized by participant behaviors and influence processes mediated by an

organizational or social institution. Members of the group could be interchangeable, but their person, goals, and ambitions also influence the group (Månson, 1993). Along this argumentation, these two types of groups could be incorporated in the analysis of this work. For instance, in a collectivistic culture the influence on the determination of the group will be established by the three upper levels of analysis; contrary wise, the group in an individualistic culture will be determined by the first three lower levels of analysis (Earley & Laubach, 2001). Hence, perspectives linked to both types of groups will be included in this theoretical framework. One of these perspectives is collective constructs.

2.3 Collective constructs

Collective constructs is another theoretical element that is related to the levels of analysis mentioned above. Collective constructs is a theoretical development oriented to go in depth in the study of groups. The basis of this theoretical component is the interaction of the elements that integrate the collective. In this posture, the term collective is defined as follows: "...to describe any interdependent and goal directed combination of individuals, groups, departments, organizations, or institutions. In other words, the model to be outlined is applicable to any set (or grouping) of entities and, thus, represents a general model for developing multilevel theories" (Morgeson and Hofmann, 1999:251).

This model about collective constructs postulate that these constructs have a structure and a function. The structure is the result of the interaction of the individuals, as their interdependence establishes a context of interaction. This

context then helps to generate a behavior pattern among the individuals involved. The structure of the collective action appears as a result from this behavior pattern and surpasses the individual of the collective. The function of the collective construct consists of the elements of the reality that the researcher is looking to explain (Morgeson and Hofmann, 1999). By integrating both elements it is possible to study groups in a multilevel perspective.

The emphasis on individual interaction to produce a collective action of this theoretical perspective allows one to consider the influence of the levels of analysis. In this case, this interaction may be located at the first three lower levels. Hence, in this perspective the collective actions that a group develops influence the context around it and also influence the members that integrate the group as their interaction is the essential element of the group. On the other hand, this influence of the levels of analysis is observed and studied by academics that study collective sharing.

2.4 *Collective sharing*

A pervasive argument about the formation of a group is collective sharing. It seems to be implicit or explicit that scholars are in agreement, about the study of groups, regarding the fact that within members of groups exists some kind of sharing that allows them to become a group. In this line of reasoning, two perspectives about the origin of that collective sharing have been identified. One of them is social sharedness, and the other one is shared reality (Levine, Higgins, & Choi, 2000; Tindale & Kameda, 2000). Both perspectives will be explained in the following paragraphs.

2.4.1 Social sharedness

Social sharedness has been related to the degree that group members share cognitions, preferences, identities and some others issues. The existence of sharing allows one to distinguish the group level from the individual level. It is considered that the intensity of sharing within groups influences on essential group results in a positive manner; the more the sharing, the more the influence. Also, a collective choice could be the result of a shared task representation. Relevance of task representation on group processes is associated to degree of sharedness within a group. These arguments imply that the group has to be conceived as an information-processing system (Tindale & Kameda, 2000).

A likely explanation about how does social sharedness take place is related to social networks and exchanges that naturally happen in networks. Close proximity when exchanging preferences with others probably generates category labels associated with preferences that produce the emergence of social identities, which also tend to generate greater communication that should lead to better information sharedness (Tindale & Kameda, 2000).

Also, the notion of social sharedness is considered as implicit in social identity theory. The social identity theory emphasizes notions of self-categorization that establishes a salient group identity that is related to group consensus through social influence processes. Group membership is the base for people to categorize themselves on different levels. Group norms turn important, as membership in a specific group is outstanding. In addition, group identity generates a model of a typical group member that also creates a behavior, or an attempt to behave as in the model. In this sense, group membership entails social

sharedness at a wide level of a group, and also, at specific levels of group that facilitate definition of group (Tindale & Kameda, 2000).

Social identity theory states that individual identity with the organization is considered as a social identification that is similar to drives such as meaningfulness, connectedness, empowerment, and immortality that might be fulfilled by the organization. Furthermore, an individual could have identification with his/her work group, work area or union. This argument allows conceiving the existence of two kinds of identity: a general identity associated to organization, and specific identity related to several subgroups that integrate the organization (Ashford & Mael, 1989).

Social identification is conceived by Ashford & Mael, (1989: 21) as such, "...is the perception of oneness with or belongings to some human aggregate." Implicit in this definition are comparative and interpersonal elements that support a social identification. There are four relevant principles of social identification: first, identification is a cognitive construct that is not related to affective states or specific behaviors, which creates in the individual a perception of psychological relation to the group. Second, individual identification is not related to group success or failure; nevertheless, individual identification with a group persists even though the group has great failures. Third, identification is different from internalization because the latter refers to value and attitude incorporation of individual to him/herself. On the other hand, identification in a framework of social categories is related to the question "who am I"? Fourth, it is considered

that identification with a group is a process similar to identification with a person (Ashford & Mael, 1989).

The above arguments establish a basis to consider social sharedness as a result of membership identification with a group; however, the assumption of groups as an information processing systems stresses the importance of mental models that result from this shared information. Hence, the importance of clarify the relationship between mental model and social identity by explaining the relationship between group identification and group processing information. The clarification of these relationships may be possible by considering the three upper levels of analysis.

2.4.2 Shared reality

The other element of collective sharing is shared reality which is considered both as an aspect that defines group characteristics and as an essential goal group. In this sense, shared reality is critical to integration, preservation and operation of groups. Social or shared reality is associated to group actions as a precondition to actually acting as a group; it is also associated with group endeavors to reduce discrepancies in order to attain a convergence (Levine, et al., 2000).

Shared reality is developed during group interaction that produces group activities, such as: reaching a decision, producing a product, implementing a new idea, and so on. For example, shared reality in solving a group problem must be reached both to conceive a shared solution and a shared line of attack to obtain a solution. In sharing reality, the possibility to reach agreement is assumed between

group members. The following theoretical argument, “the shared reality perspective is consistent with an emerging trend toward viewing cognition as an interpersonal, as well as, an intrapersonal process” (Levine, et al., 2000: 89) is an explanation of group behavior linked to sharing reality. Also, shared reality may be interpreted as a social construction within group as members’ interactions generate a shared reality. The construction of a collective mind (Weick & Roberts, 1993) as a result from heedful interrelations of airplane crews may be an example of shared reality.

In addition, the study of shared reality has been considered as divided in two categories. One of them is regarded as motivational, and the other one is related to information processing. Motivational constructs call attention to members’ beliefs concerning how well integrated they are as a group, and how well the group can execute their task. Examples of this category are group potency, group aspiration level, collective efficacy, etc. Information processing constructs are related to the way information, members’ expertise, and responsibilities are shared in respect to group activities and in their influence in process and structure of the group. Examples of this category are the following: transactive memory, group schemata and shared mental models (Peterson, Mitchell, Thompson, & Burr, 2000).

The above arguments establish a basic difference regarding the two perspectives identified in relation to collective sharing which will be mentioned as follows: Social sharedness explains the process of sharing basically through self-categorization and social identity from members of a group. However, shared

reality is conceived as a result of group interaction and members' agreement or consensus, issues that are not considered in social sharedness. These two perspectives may be linked to Månson's (1993) argument in favor of two kinds of group. One group will be determined by the influence of the three lower levels of analysis: intrapersonal, individual and interpersonal. The three upper levels of reality analysis –organizational, institutional, and social- are the influences that determine the other group. According to these points of view, social sharedness is originated by the supra levels of reality; however, the lower levels of reality originate shared reality.

2.5 Work group / Work team.

Work groups have been considered as a managerial instrument, and in this regard, three streams of organizational thought that help paved the way to utilize the work group in the industrial context are identified as follows: the approach of Human Relations, the Socio-technical Systems approach, and the Lean Management approach. The evolution of the utilization of the work group in an economic context has been considered as a result of ideological interests (Moldaschl & Weber, 1998).

In this argument, it was considered that in the Human Relations approach, the work group was developed to incorporate the participation of individual worker and to mitigate the conflict between the interests of management and workers. In the Socio-technical Systems approach, the concept of the semi autonomous group was developed. This concept of group allows the incorporation of the needs of the workers and represents a possibility of reducing the above-

mentioned conflict between the interests of management and workers. In the Lean Management approach, the work group is an essential element in the process of reduction in the utilization of people and resources that this efficiency oriented approach promises to the management of industrial organizations (Moldaschl & Weber, 1998).

As a result of the above argumentation, it is possible that the global competition between the economies and their organizations has been the motor to the increasing utilization of the work group. This concept promises augmenting the efficiency of the organizations, and a better integration of the goals of the workers with the goals of the organizations. On the other hand, the study of work groups from an academic angle has incorporated multiples perspectives as a result of an ample scope of the theme. In this regard, several theoretical contributions from academics have been identified.

Some of these perspectives are summarized in the following approaches: the social psychological approach relating to social and psychological implications of the interaction of the team members; the socio technical approach pertaining to the technical and social work implications of the relationships of the team members; the ecological approach concerning the relationships of the group members with the organizational environment; the human resource approach relating to the human capabilities of the group members; the technological approach considering that the technological advance in the organization has an effect in the work group; the lifecycle approach that considers the evolution of the group and its effect on its members; the functional or task oriented approach

concerning team roles and functions; and an integrative approach involving multiple models or approaches (Paris, Salas, & Canon-Bowers, 2000).

Furthermore, the study of work groups has not been exempt of criticisms. A disapproving view of the interaction within teams was developed by Sinclair (1992). This critical perspective of the work group points out that the utilization of the work group is a result of a team ideology. This ideological position about groups has not considered that groups are contextual and the existence of conflict between members. This team ideology considers that the utilization of the work group without considering the context of the organization, and the assumption of the existence of consensus between the members of the group in the team group has not always been the reality of groups in the organizational context. In the same line of reasoning, work groups are considered as an extension of the managerial control. This argument consider that the influence of the group control on the members of the group is considered even stronger than managerial control aspect that generates a concertive control which demands that group members act in concert (Barker, 1993; Wright & Barker, 2000).

2.6 *Work group / Work team effectiveness*

Studying groups in the workplace has attracted increasing attention during the last years from academics and practitioners (e. g., Katzenbach & Smith, 1993; Salas, Burke, & Cannon-Bowers, 2000). The scope of the work group theme is one of the most ample in the academic literature because it has been profusely studied; thus, it comprises so many elements (Peterson, et al., 2000); accordingly,

to study work groups makes it necessary to focus in just a few elements, and in this sense, a work team effectiveness design will be utilized in this study.

An approach of work group / team effectiveness consists in the design of a theoretical framework that includes a series of variables that are conceived as causes of group effectiveness. Generally, this framework is a heuristic model that displays the hypothesized relationships among predictor variables and group effectiveness, as in this case, the criterion variables. (e. g., Cohen & Bailey, 1997; Sundstrom, DeMeuse, & Futrell, 1990)

Elaborating the definition of work group, several key elements have been incorporated as follows: a small group or a set of two or more or a collection of individuals; interdependent individuals in their tasks, interacting adaptively; sharing responsibility for outcomes or having a common goal (Cohen & Bailey, 1997; Salas, et al., 2000; Sundstrom, et al., 1990). These elements form the basis of a definition of work group. Along this line, the following definition of work group will be utilized in this study: "a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems (for example, business units or the corporation), and who manage their relationships across organizational boundaries" (Cohen & Bailey, 1997: 241).

2.6.1 Types of teams

Considering the activities that teams do or the span of duration of teams, among others characteristics of teams, several classifications of types of teams

have been conceived. The following are two of these classifications. The first classification of teams is work teams, parallel teams, project teams and top management teams (Cohen & Bailey 1997). The other classification of groups is as follows: production groups, service groups, management teams, project groups, advisory groups, and action and performance groups (Sundstrom, McIntire, Halfill, & Richards, 2000).

A comparison of some of these different labeling types of teams shows a similitude in the contents of the labels. Hence, the label of work teams that are defined as continuing work units responsible for producing goods or providing services is similar to the label of production and service groups. In the same situation are parallel teams and advisory groups that are defined as the pulling together of people from different work units or jobs to perform functions that the regular organization is not equipped to perform well.

On the other hand, the comparison shows the existence of similar labels that are mentioned as follows: top management teams that are defined as responsible for the overall performance of a business unit, and project teams that are defined as time limited groups. Just one of the categories does not have an equivalent; thus, the action and performing groups in this category, consists of groups that conduct complex, challenging, and time-limited performance events. As a result, to study a work group requires, among other elements, to consider the activities that the team conducts and the time span of duration of the team responsibilities.

2.6.2 Work group or work team?

Some academics make no distinction between the term work group or work team for identifying the group's action in the organization, but they prefer to use the term work group. The popular management literature prefers the use of the term team, (Cohen & Bailey, 1997; Sundstrom, et al., 2000). For other academics, the distinction is important between group and team because there are differences among them related to task interdependency, structure, and time span, stressing the significance of these differences to understand teamwork (Salas, et al., 2000).

Along this line of reasoning, another point of view presents a distinction between the term work group and work team. "A work group is the one in which their members' interaction is principally to share information and take decisions with the purpose of helping each member to develop in his area of responsibility"... "A work team generates positive synergies utilizing a coordinated effort. The individual's efforts produce a higher performance than the total sum of the individuals' inputs." Robbins (1996: 347).

This distinction reflects some of the elements that are part of the integration of a group. The element in this case is the degree of organization and interaction of the group (Guzzo & Dickson, 1996) that generates the difference in both descriptions of a group (team). The literature review of this theme in this study identifies several work groups or work teams that present differences of this kind. Along this research, some of them will be discussed and both terms will be used interchangeably (Guzzo & Dickson, 1996; Sundstrom, et al., 2000).

2.7 Work group / Team effectiveness heuristic framework

Extensive literature exists on the effectiveness of work groups in organizations (for some reviews, see Cohen & Bailey, 1997; Paris, et al., 2000; Salas, et al., 2000). From these types of reviews derive theoretical frameworks that incorporate, according to their goals, the elements that are incorporated in the mentioned framework. In the following lines and paragraphs, a heuristic framework developed by Cohen & Bailey (1997) to analyze the effectiveness of teams will be described as an example of this type of work group effectiveness heuristic framework.

In this model, group effectiveness is a function of environmental factors, design factors, group processes and group psychosocial traits. The environmental factors are the external characteristics in which the organization is embedded. The design factors are those aspects of the organization that the managers could modify to improve performance. These factors are related to task design, group design and organizational context. Processes are interactions within members of the group and external with other groups or levels of the organization. Group psychosocial traits are the perception characteristics of the team members. Norms and shared mental models are examples of these psychosocial traits. Effectiveness includes performance, attitudinal, and behavioral outcomes (Cohen & Bailey, 1997).

The relationships in this heuristic model are described as follows: environmental factors have a direct influence on design factors. Design factors influence both the processes and the group psychosocial traits and also affect organizational effectiveness. Between group processes and group psychosocial

traits exist a mutual influence and both affect directly the organizational outcomes (Cohen & Bailey, 1997).

The relationships depicted in this model are an example of the complex aspects related to the study of team effectiveness. Taking as a basis this heuristic model, to extend the study of each of the elements that integrate this model, and to get acquainted with the variables that are considered as influential in the team effectiveness is indispensable to review other team effectiveness models. Additionally, to propose a model of group empowerment applying a design of work team effectiveness is necessary to establish the theoretical framework that includes the variables of interest that produce work group effectiveness. Consequently, this section will incorporate both, the review of the variables of other team effectiveness models, the variables of the proposed model, and the theory related to them.

Based in the above mentioned elements, the variables will be grouped in four categories: first, context variables that include design factors and organizational variables; second, group processes that include internal processes; third, group psychosocial characteristics that include group members perception characteristics; finally, team effectiveness variables.

2.7.1 Context variables: Environmental and design factors

Environmental and design factors will be considered simultaneously because in other models these factors are integrated to the organizational context. This element will be reviewed first because it is one of the elements predominant in other group effectiveness models. Related to this element are issues that pertain

to the environment or the organization in which the team is inserted, like culture, climate, training/education systems, rewards system, and information systems (Paris, et al., 2000). Also, external environment factors, such as technological advances, markets, and competitors. Along this line, also, supervisory practices, and the role of leaders that form part of the context when they are policy driven (Sundstrom, et al., 2000). Additionally, physical environment, organizational arrangements, and technological systems are variables considered in the organizational context (Paris, et al., 2000).

Work group task design is another element that predominates in these models. The issues considered in this factor are mentioned as follows: task characteristics, group autonomy, decision-making, self-management, performance feedback, and goal setting (Sundstrom, et al., 2000). Other issues of this element are monitoring behavior and feedback (Salas, et al., 2000). Group composition is another element of the heuristic models that is considered as part of the design factors. This element comprises issues such as number of members, collective expertise, group members' ability, heterogeneity, and stability of membership (Guzzo & Dickson, 1996; Sundstrom, et al., 2000).

Another element related to the organizational context but directly related to the group is the structure of the group because this structure may be considered in the work group design (Gladstein, 1984; Shaw, 1976). Group structure can be studied in two perspectives; the first perspective consists of structure oriented models that are focused on the invariant elements of the structure; these models emphasize certain kinds of elements of the group structure as the power relations

(Collins & Raven, 1968). The other perspective, identified as process oriented models, consist in the study of the interaction of the group members (Collins & Raven, 1968). The results of this interaction are status, social roles classified as perceived, enacted, and expected, and additionally, leadership is conceived as part of the group structure (Shaw, 1976).

2.7.1.1 Context variables of the proposed model

The context variables in this study include factors related to the task, the group and the organization that can be directly manipulated by managers to generate the circumstances for effective performance. It is believed that these variables influence group effectiveness through the group processes. In the following paragraphs, the specific variables that are included in the proposed model of group empowerment will be mentioned.

Work team design has been incorporated in several studies of work groups (e.g., Gladstein, 1984; Guzzo & Shea, 1992), and it will be incorporated in the proposed model. The essential point of this theme is the influence that characteristics of job design have on the motivation of the group members (Campion, Medsker, & Higgs, 1993). One of the issues of this element is self-management which is related to the feature of autonomy. Another issue considered in this element is participation which stresses the involvement, and the degree of participation of group members in decision making. Another characteristic is task variety, or allowing the group members to utilize different skills when they have the opportunity of perform different tasks. Task significance enhances the belief of group members that the task they perform has significant

consequences for the organization. Finally, whether or not the task that the group members carry out is a whole or a separate part of the work, the group members may perceive a task identity or task differentiation (Cummings, 1978) that has an effect in their motivation (Campion, et al., 1993).

Organizational context has been also considered in several models of work group effectiveness. One element from this context is managerial support; groups require resources that management controls; top management and cultural organization must encourage the utilization of work teams; an external leadership role that stresses group member's facilitation is another aspect related to organizational context (Campion, et al., 1993). In this regard, the proposed model includes external team leader behavior that refers to a leader that has a supervisory function, but is not a member of the team he leads; and, in this sense, his behavior influences team empowerment (Kirkman & Rosen, 1999).

Production / service responsibility is another element of the organizational context included in the proposed model. This concept refers to the degree of responsibility that a team has in the daily regulation of its work; thus, the extent of that degree would probably produce a high or a low team empowerment (Kirkman & Rosen, 1999).

Related to managerial support is a team – based human resources policy that refers to rewards, training, and any other human resource policies which supports team empowerment. Additionally, organizational/social structure refers to the degree that members of a team have in sociopolitical support and accesses

to strategic information of the organization. The magnitude of that degree would probably influence team empowerment (Kirkman & Rosen, 1999).

The group structure design will be incorporated to the proposed model. This structure is aligned to the perspective of structure oriented models that are focused in the invariant elements of the structure (Collins & Raven, 1968). Group structure design in this model is related to different empowerment perspectives— leadership, power, and involvement/participation- from the psychological perspective (Flores Zambada, 1995), with the purpose of considering all the perspectives of empowerment in this study. Furthermore, the incorporation of status is related to Mexican culture. In addition, group composition is another variable incorporated in the group structure design.

2.7.2 Group processes

Group processes are related to the way that the group functions, including interactions and relationships between group members. The interaction of group members has been identified in the study of work group as group processes, emerging processes, internal activities or interaction processes (Ancona, 1993; Campion, et al., 1993; Cooper, 1975; Hackman & Morris, 1975). Group processes are internal or within the group or external implying the relationships between groups or with other organizational elements. Group processes form part of the input-process-output perspective which has been one of the dominant view of groups historically (Campion, et al., 1993).

Group processes are other elements predominant in these group effectiveness models. These processes are characterized by a continuous face to

face interaction; thus, in this study, these interactions are identified as face to face processes. Group internal processes that were included in these effectiveness models are the following: task cohesion, performance norms, communication, team interactions, potency/team self-efficacy, and team spirit (Paris, et al., 2000). Also, clear and concise communication and coordination of collective interdependent actions are variables considered in this element (Salas, et al., 2000). Other processes included consist of conflict and collaboration, social integration, collective efficacy, and group norms (Sundstrom, et al., 2000). Furthermore, group motivation and group goal setting are processes that pertain to this element (Guzzo & Dickson, 1996).

On the other hand, external group processes are utilized to explain group effectiveness. Thus, boundary management form part of these processes (Paris, et al., 2000). Variables such as external integration, coordination, and communication accomplished by group members outside the group are also considered in this part of the model (Sundstrom, et al., 2000).

When group members work together, the quality of the group outcome could be a superior one or an inferior one as a result of the quality of the interactions of the team members. In this regard, the effectiveness of the work group is related to their group interaction or face to face processes. A position about group processes has been conceived as a pessimistic way; in this posture, group processes harm the effectiveness of the group, generating some process losses; thus, the existence of these losses prevent the group work to reach the optimal output. Another more optimistic position considers that the interaction

processes generate a synergy which produces an outcome that is better than the sum of the output that individuals produce. This aspect is considered as a process gain (Hackman & Morris, 1975). In this sense, group processes reflect an emergent unfolding of a multilevel complex of behavior that grows out of what the group members accomplish (Barrett-Lennard, 1975).

2.7.2.1 Group processes of the proposed model

Group coordination is the group interaction or face to face process that will be incorporated to the proposed model. An essential group process is coordination of collective interdependent action (Salas, et al., 2000). Group coordination as an interaction or face to face process is defined as the activities of collaboration, synchronization, and discussion that team members carry out to perform successfully (Anette, Cunningham, & Mathias-Jones, 2000). This process also includes programming the group activities in order to perform efficiently (Peterson, et al., 2000). Group members develop an agreement upon work processes that eliminates the need of a continuously checking the work among the group members. Hence, the result from a practice of good interactive skills resembles effective group coordination that generates a positive impact on group effectiveness (Hyatt & Ruddy, 1997).

2.7.3 Group psychosocial traits

Group psychosocial traits comprise several specific characteristics of the group that reflect the perception of the group members (Cohen & Bailey, 1997). This category includes group characteristics such as norms, cohesion, shared mental models, group motivation, and group identification, among others (Cohen

& Bailey, 1997). This label is not commonly utilized in team effectiveness models, but its utilization emphasizes essential elements for the functioning of the groups. Additionally, in the group model perspective of input-process-output, these traits, as being part of the process element, directly influence the output of the group.

2.7.3.1 Group psychosocial traits of the proposed model

Three essential group psychosocial traits will be incorporated in the proposed model: shared mental model, group identification, and group motivation. These characteristics will be explained in detail in the following paragraphs.

2.7.3.1.1 Group psychosocial traits: Group shared mental model

A theoretical development of team research that has been considered as a ‘hallmark of the nineties’ is the group shared mental model; because this concept “...constitutes a significant and unifying thread underlying much of the current work in the field...” (Paris, et al., 2000: 1055). Hence, this construct will be incorporated in the proposed model. In this regard, a conceptualization of a mental model and issues related to this concept are described as follows.

Mental models, as a cognitive process, have been incorporated to study work groups. The mental model is conceived as a broad mental representation of the operation of a system. The mental model helps group members to adapt to difficult and changing task conditions. Organized knowledge is the base of the structure that individuals utilize to interact with their context. They help people to describe, explain, and predict events in their environment. Mental models are associated with small groups as systems of information processing. Mental

models, at the group level, imply the knowledge which other members have; in this sense, mental models affect group performance in relation to the degree of shared knowledge by group members (Tindale & Kameda, 2000).

Related to the content of mental models, two perspectives are considered to explain the elements that group members do to integrate their mental models. The first perspective points toward the conceptualization of team members of what is happening on the situations which they confront. The other perspective calls attention to what team members are going to do about what they perceive or grasp. In this regard, a mental model can be conceptualized as a theory of situation or as a theory of action, or as both concepts in a multiple mental models option (Díaz-Guerrero & Szalay, 1993; Klimoski & Mohammed, 1994).

Four kinds of mental models have been identified that could be important for team operation. The equipment model is associated to familiarity with functions and operations of the equipment used by the team. The task model is linked to approaches for task performance. The team interaction model is connected to sharing so members can coordinate activities and have effective communication. Finally, the team model is related to knowledge, talents, predilections and inclinations of the team members (Cannon-Bowers et al., 1993; in Tindale & Kameda, 2000). The four types of models described above can be viewed as reflecting two major content domains: the first are team-related characteristics of the situation (the team interaction and team models); second, task-related aspects of the situation (the equipment and task models). This distribution is also consistent with the idea that teams develop two paths of

behavior: one related to teamwork and another related to task work. Thus, in order to be successful, team members not only need to carry out task related responsibilities well, but also must work well together as a team (Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000).

Mental models are conceived as shared knowledge. It is possible to view such models as sets of declarative and doable knowledge. Such knowledge could be about traditions, customs or other aspects of culture as well (Díaz-Guerrero & Szalay, 1993). However, in the mental model of shared knowledge, this knowledge has to be organized at least minimally. Additionally, as a group passes through a series of phases in its formation, the sharing reflected in its mental model might be different on each of these stages. Another feature of the mental model is linked to the degree of abstraction that the knowledge has, ranging in degree of abstraction from a level related to a specific level that allows the individual to categorize effectively, to a level of higher abstraction. In this regard, the investigator needs to identify the level of abstraction from the mental model which he is trying to measure (Klimoski & Mohammed, 1994).

A shared mental model allows an individual to utilize a process of categorization which is fast, efficient, and takes less mental effort. In this sense, mental models allow an individuals' sense-making of a situation to take adequate action. Hence, the individual conceptualizes according to the complexities of the situation, and the complexities of the manner to respond to that situation. As mental models are considered as an emergent characteristic of the group that is more than just the addition of individual models, a group mental model is

essentially a group level experience. In addition, the group mental model represents internalized beliefs and perceptions of group members that reflect a collective thinking about a situation or phenomena (Klimoski & Mohammed, 1994).

From the concepts of collective sharing stated above, it appears that mental models have two sources of origin: social sharedness and shared reality; this aspect may also be explained by the perspective of the two types of groups and the conclusions derived from it: a mental model that originates from members' interactions, and a mental model that comes from social forces and influences.

2.7.3.1.2 Group psychosocial traits: Group identification

Another group psychosocial trait is group identification. This characteristic is focused to explain the identity process that an individual passes through to incorporate and pertain to a group. This process consists of the following aspects: Alignment of behavior could be considered as a result of an automatic response to cognitive and emotional alignment that can be produced by a process of social identification. When individuals form part of a team, in addition of the presence of behavioral issues, there also exists the presence of cognitive and emotional processes (Lembke & Wilson, 1998).

In this perspective, group membership is the consequence of an emotional investment and a cognitive change that individuals decide to realize by means of identification with a group. In this sense, identification with a team is considered as an adaptive psychological process to social stimuli that does not come from an interpersonal dynamic process. In social identity theory, a group with a social

identity is described as “a collection of individuals who classify, define and evaluate themselves in terms of a common social category membership” (Hogg & Abrams, 1993: 184 in Lembke & Wilson, 1998). In this perspective, group members could realize behaviors such as cohesion, cooperation, and so on influenced by psychological focus, but they are insufficient to generate teamwork that is conceived as a dominant social identity or a common purpose.

In this point of view of social categorization, individual identification is with the group though not with its members; hence, interaction as a result from task interdependence is not enough. There must be a collective perception of a common purpose, and that this collective perception would have an impact. Identification of a collective purpose of a team as a whole is a necessary condition in a business context to understand the work that has to be performed. Thus, adopting a social identity allows a better comprehension of tasks and behaviors required to get team results (Lembke & Wilson, 1998).

Traditional work group models leave out of their arguments cognitive and affective processes. They just explain the process of how teams work, and interaction within the team is emphasized. In this sense, the cognitive process of unification goes unnoticed. Also, it is necessary to assume that a group/team has its own cognition that makes the integration process easier. The above arguments accentuate a requirement to develop a theory about cognitive process that a group undergoes (Lembke & Wilson, 1998).

The social identity theory conceives teams exclusively on the grounds of a group membership. Based on this premise, this issue has important repercussions

in motivating individuals. A team behavior could be unified, if their members have a mutual cognitive understanding about their team. A consideration about this issue is stated as follows: “the translation of social identity theory into team management literature posits that the team can be cognitively represented to the self” (Lembke & Wilson, 1998: 930). This argument implies conceiving the group as a whole complex that differs from individuals.

2.7.3.1.3 Group psychosocial traits: Group motivation

Group motivation has been considered as another group psychosocial trait that influences group effectiveness. This trait will also be incorporated to the proposed model. Group motivation has been conceived as the level of effort that a member of the group puts in a group task (Kerr, 2001). In this perspective, the motivation of the group members has been considered as a social motivation because the group members are directing their effort to reach a goal that is valued in the group (Kerr, 2001; Cartwright & Zander, 1968b). Goal formation in a group implies the existence of a member of the group that has a group oriented motive contrary to an individualistic oriented subject. A group oriented motive is backed by the existence of a sense of group achievement, of the existence of altruistic positions instead of selfish positions, and an orientation of a social responsibility from the individual (Cartwright & Zander, 1968b).

Group motivation has been profusely studied in the perspective of group motivation losses caused by some factors that motivate a reduction of the effort of the group members. These losses are also identified as social loafing. Among the factors that reduce the motivation the following are mentioned: the individual

contribution to the group can not be identified; the individual considers his contribution as not necessary; the individual considers that his contribution is more than a fair share (Kerr, 2001). In this line of reasoning, there also exists a position that considers the existence of motivation gains; thus, the level of effort from the group members can be increased. The mechanisms that can be utilized to increase the motivation are mentioned as follows: the group members consider that the outcome is highly valuable; some of the members of the group try compensate the poor performance of other members (Kerr, 2001).

When a group realizes a task or defines a goal, two fundamental motives have been identified; one is cognitive aspects that are oriented to reach an agreement of useful and relevant facts or adequate activities; the other motives are social or motivation elements because the group has to reach a consensus that resolve conflict interests within the group; in this regard, the group members have to balance the task orientation with the group orientation to realize an effective and efficient task or to establish a valuable goal (Cartwright & Zander, 1968b; Kaplan & Wilke, 2001). Consequently, the social motive stresses the motivational elements related to interpersonal activities within the group, and the cognitive motive emphasizes the relevance of the group task.

Empowerment is related to task augmented motivation resulting from an individual positive orientation about his/her work in a perspective of intrinsic motivation. Group empowerment stresses this perspective at the group level. Four dimensions create shared beliefs of feeling enhanced work control in team members; they are related because they are likely to be mutually reinforced. These

dimensions are the following: Potency, consisting of a collective belief of the effectiveness of the group; Meaningfulness, regarding the group tasks as valuable and important; Autonomy is the belief of the group members that they have a higher degree of discretion and freedom in their work; Impact, as feelings of the group members about the importance of their work is important for the organization (Kirkman & Rosen, 1997).

There is recognition that almost all models of work motivation are calculative (Shamir, 1990); the basic assumption in these models is that the individual is rational; thus, he/she tries to maximize his/her utility. However, in relation to other cultures, it is considered that this assumption is not equally valid for all; in addition, there is a consideration that a calculative motivational base may not explain all significant organizational behaviors. Behaviors considered as pro-social, such as: promotion of others' welfare and intentions of assisting others, etc., illustrate a collectivistic motivational orientation because they add to personal interests an interest for others' well being. In this sense, understanding collective actions must include both moral and rational perspectives (Shamir, 1990).

Several current developments in the field of organizational behavior recommend the study of individual contributions to collective actions; some of them are as follows: first, an exposure to non-western cultures that accentuate collectivistic values at work; second, a 'high involvement organization' as a current trend of management that highlights utilizing teams and groups at organizations. This trend reveals a growing recognition of the importance of cooperation and coordination, issues that tie individual and collective motivation.

Third, there is acceptance of a lack of theoretical links between individual and collective action (Shamir, 1990).

2.7.4 Team effectiveness

Team effectiveness is the criterion variable in the work group effectiveness models. The factors that are included in this element are diverse and comprise many dimensions of the effectiveness of the group. One approach to group effectiveness incorporates global concepts such as performance, productivity, effectiveness, and success; also, issues like cohesion and integration, coordination, strategy development, and even trust have been considered criterion variables; in addition, attitudes such as job satisfaction, organizational commitment, and work motivation have been considered as part of the group results; finally, group members behaviors such as turnover, absenteeism, accidents, and prosocial behavior have been included in work group effectiveness (Sundstrom, et al., 2000). Another model incorporates as team effectiveness, variables like performance and group viability (Sundstrom, et al., 1990).

In this regard, the utilization of different indicators of group effectiveness as the ones mentioned above have had the intention of integrating a broad perspective of group effectiveness. Furthermore, these indicators could be classified in two wide categories. One of them includes objective criteria such as productivity, proactivity, and customer service; the other category comprises attitudinal results such as job satisfaction, organizational, and team commitment (Campion, et al., 1993; Kirkman & Rosen, 1999). Another approach consists of measuring group processes or outcomes as complete vision of team performance

(Paris, et al., 2000). Teamwork is a multidimensional construct; it has been equalized as team processes, but has also been considered as an attitudinal outcome (Salas, et al., 2000); along this line, an explanation of this point will be presented in the following paragraphs.

2.7.4.1 Teamwork as an attitudinal outcome

Teamwork has been considered as a multidimensional construct that has some study difficulties. Eight essential skill dimensions are considered to characterize teamwork in most types of teams. These dimensions are the following: adaptability, shared situational conscience, performance monitoring, performance feedback, leadership or team management, interpersonal relations, coordination, communication, and decision taking (Salas, et al., 2000).

A definition following these essential dimensions characterizes teamwork as a shared set of flexible and adaptive behaviors, attitudes and cognitions that generate collective actions, supported by activities of coordination and communication, an encouraging leadership, an interdependent task, and common and clear goals (Salas, et al., 2000).

Teamwork, as it was mentioned above, comprises several dimensions that reflect its multidimensionality. Attitudes is one of these dimensions, and in this regard, team work orientation (Mueller, Procter, & Buchanan, 2000), and team players (Findlay, McKinlay, Marks, & Thompson, 2000) are elements of a normative perspective of groups that stress positive values and beliefs of group members toward the experience of teamwork and the attitudinal outcomes from this dimension. These attitudinal outcomes of teamwork are considered as the

result of a normative dimension of work groups (Findlay, et al., 2000; Muller, et al., 2000) that help to establish a new arrangement on the group, which emphasizes collaborating attitudes and the leaving behind attitudes of conflict or resistance. These attitudinal outcomes are consistent with the premise that a collective orientation of a group is required to be an effective work group (Findlay, et al., 2000).

Along this argumentation, to describe the complexity of teams, member competencies such as knowledge, skills and attitudes related to tasks and teams are identified as generic or specific. Hence, in a situation in which simultaneously task and team competencies are considered as generic, both are labeled as transportable, and in this regard, these competencies are almost generalizable across different types of teams. Among these attitudes are collective orientation and belief in importance of teamwork (Salas, et al., 2000) features that characterize team work as an attitudinal result. In another classification of teamwork dimensions, three dimensions are identified: knowledge or cognitions, skills or behaviors, and attitudes. Along this argument, attitudes embody motivation, collective efficacy / potency, shared vision, team cohesion, mutual trust, collective orientation, and importance of teamwork (Paris, et al., 2000).

2.7.4.1.1 Team effectiveness variables in the proposed model

Work team effectiveness in the organization is considered as consisting in performance outcomes and attitudinal outcomes. Both types of outcomes will be incorporated in the proposed model. Performance outcomes include productivity, proactivity, and customer service (Kirkman & Rosen, 1999). Attitudinal outcomes

are job satisfaction and team commitment (Kirkman & Rosen, 1999), and teamwork (Paris, et al., 2000).

2.8 National culture

This research is not a cross-cultural study; however, this investigation incorporates the premise that national culture influences the behavior at work (Robert, Probst, Martocchio, Drasgow, & Lawler, 2000). This premise has been stressed from the results of theoretical advances from cross-cultural research, and also, because this study has as a social context in the Mexican culture.

In the last years, there has been a change of a position that considered organizational theories and management practices as universal, toward a position that considers these theories and practices as culture bound (Robert, et al., 2000; Steers & Sanchez-Rhunde, 2001). In this regard, cross-cultural research comparing different cultures has been looking to incorporate in its clarifications the effect that national culture could make in determining behaviors and cognitions at work (Kirkman & Shapiro, 2001). Additionally, it has been considered that national culture has explained between 25 and 50 percent of variation in attitudes (Gibson & Zellmer-Bruhn, 2001).

In a similar vein, an integral perspective of a study has to incorporate not only an immediate social context, but also the cultural elements that come from that social context because when people work together and carry out several activities they also need to fulfill their social needs which are originated in part, from national culture (Earley & Laubach, 2001). In addition, there is a call from researchers about the implementation of managerial practices from transnational

organizations, in relation to studying the fit among the values implicit in these practices, with the values held by individuals from other cultures that are subject to these instruments (Robert, et al., 2000).

Culture is a subject that has been considered as very complex and difficult to study. One of the assumptions of this study is that societies vary along of a series of cultural factors. These factors are utilized in cross-cultural research of management; thus, some of the results of this investigation will be mentioned in the following paragraphs.

It has been recognized that national culture can have a great effect on work motivation and job attitudes; however, what is needed is a strong understanding of the relationships among both –culture and work motivation (Steers & Sanchez-Runde, 2001). In this sense, what is needed is to understand how culture determines motivational processes. Also, in relation to work teams, cross cultural research has identified cultural differences in several team processes, such as, social loafing, conflict, goal setting, decision making and participation, conflict and negotiation, and collective efficacy and performance (Earley & Laubach, 2001; Gibson & Zellmer-Bruhn, 2001).

Differences in team processes and practices could be the result of the mental model that group members build on to an specific culture, since these mental definitions could function as a cognitive reference for the mentioned team structure and processes. In this regard, national culture is one of the sources of these mental maps that allows team members to establish procedures of comprehending, processing, and sense making to evaluate the information that the

group receive (Gibson & Zellmer-Bruhn, 2001). In this sense, a shared team model could generate in group members' feelings of positive affect and predisposition to trust, which would stimulate the group's feelings in its potential to produce, affecting group performance (Earley & Laubach, 2001).

Group membership is another element that influences the behavior in work groups. Related to group membership is self-concept theory; hence, an individual's self-evaluation depends, in part on his group membership. Social identity theory establishes that an individual develops a self-image related to positive or negative qualities of a group. Another aspect of this identity theory is the categorization available to an individual of his self-concept associated to the different groups that he considers himself as a possible member. These different groups come from several cultural influences accessible to an individual. An individual identification with a group will make the behavior of the individual more motivated to the work and goals of his group (Earley & Laubach, 2001).

In a contingency approach, about the relationship among participation and national culture, Earley & Laubach (2001) utilized as an example the Japanese participative management techniques. They conceive that these techniques allows one to identify the collective-self of the members of the group as a result of a series of values characterized by collectivism, group orientation, and respect for seniority. This argumentation is based on this collective-self Japanese management style, which is described as management familism or corporate collectivism, implying a high and mutual commitment among managers and employees.

The concept of teamwork differs as cultures of dissimilar countries are compared. It is considered that national cultures influence individuals in diverse spheres and also in the domain of work. It is considered that a national culture has been related to aggression, conflict resolution, conformity and some other behaviors. In a cognitive perspective, national culture is conceived as a series of shared meanings that control individual responses by a set of mental programs in a given context. The framework that results from culture persists even though contextual issues are modified. In this sense, the cultural context of a country has an essential influence in the idea of teamwork that is conceived in that country (Gibson & Zellmer-Bruhn, 2001).

There is evidence of support that group performance beliefs are related to measures of group effectiveness, and that efficacy beliefs have been significantly related to measures of effectiveness criteria compared to other work group variables. Nevertheless, it is not clear the way that efficacy beliefs are shaped by variables of social context. Group efficacy is considered as partially social constructed, and also that the culture of a nation influences the construction of efficacy possibilities (Earley, 1999).

Another aspect involved in cross-cultural research is the influence of intra-cultural variation on values. It is considered that cultural variation on main beliefs inside countries is smaller than the variation between countries. In this line of reasoning, in a situation where the researcher knows an employee's cultural values, he may be able to make accurate predictions (Kirkman & Shapiro, 2001). This existence of intra-cultural variation has been identified in a series of

contradictions that were uncovered above about Mexican work culture and the Mexican concept of group. Thus, these contradictions will be reviewed as follows.

2.9 Mexican work culture and group/team concept

In cross-cultural studies, Mexico has been considered as a collectivistic culture. In a qualitative study of the sense of community in Mexican organizations, the Mexican family is recognized as a central value for the individual. It has been considered that the Mexican family influences its every day living, and also, its work. Participants in this study indicated the existence of a reciprocal relationship among family and organization (Diaz-Saenz & Witherspoon, 2002). This argument endorses the assertion of the collectivity of the Mexicans, but the existence of other arguments state a different point of view.

These arguments against the Mexican group are summarized as follows: the only way to advance for the Mexican is individualism; people distrust teamwork; workers formally organized in teams, but they do not consider themselves as a part of a team; a change of incentives to individual incentives because collective incentives did not work out to improve workers' effectiveness; there is a non-responsibility culture from workers at the level of workgroup.

On the other hand, there are other arguments in favor of a Mexican group that are mentioned as follows: a different perspective of a group is derived from Mexican culture; Mexican group consensus has been considered as a part of this perspective; an increased worker participation as a result of an involvement in the work group; a higher democracy in workplace because of the implementation of participative groups

As a result of these contradictions, it is possible to consider that teamwork involves new values to the Mexican worker, resulting in a confrontation between tradition and modern ideas. Additionally, this situation allows one to expect the existence of an intra cultural variation related to the perspective of the Mexican work group. The Mexican family, as it was mentioned, is a core value for the Mexicans and their sense of collectivity; accordingly, the collective orientation might be related to affective issues generated on the Mexican family. On the other side, Mexican individualism in the organization might be related to rational issues. Furthermore, the contradictions mentioned might allow the existence of both facets simultaneously.

In this chapter, theoretical developments have been presented about group theory, and elements of the work team effectiveness model were discussed. Both theoretical elements form part of the base theory considered to integrate the proposed model of this study. In addition, theoretical elements of the influence of national culture on attitudes and behaviors at work were presented to establish a cultural base of the proposed model. Also, the general components of the proposed model were stated. Thus, in the next chapter the proposed model will be discussed in detail.

Chapter 3

Proposed model of group empowerment

In this chapter, the variables that integrate the proposed model are defined and the theory related to them is reviewed. In addition, the hypothesized relationships from the variables are presented. Finally, a summary of the variables and their relationships which integrate the proposed model and its graphical representation are included.

3.1 Variables of the proposed model

The proposed model incorporates variables from the organizational context, the group structure, and the group processes such as: face-to-face process, information sharing process, identity process, and group empowerment process. Finally, variables from performance and attitudinal outcomes are incorporated.

The logic of the inclusion of the aforementioned elements in this model is stated in the following arguments: contextual variables are considered as the organizational antecedents that influence the group processes, and, as such, they are included in other models of work groups (e.g., Campion, et al., 1993; Cohen & Bailey, 1997).

The group structure is included due to the fact that one of the research questions considers that the current study of group empowerment has not adequately covered this issue. The elements that are included in the group structure address the influence of the group design. Group structure design in this model is related to some empowerment perspectives—leadership, power, and involvement/participation- different from the psychological perspective- (Flores

Zambada, 1995), with the purpose of incorporating these perspectives of empowerment in the study to identify their impact. Furthermore, the incorporation of status is related to Mexican culture. Additionally, as a part of the design of the group structure, a group composition variable is included in the model.

Group processes, denominated face-to-face, are included in this model because group structure significantly determines this type of processes; furthermore, these processes could be considered as non-cognitive processes that are different from other group processes considered in this model; consequently, these processes are also considered in other models of groups (e.g., Campion, et al., 1993; Cohen & Bailey, 1997).

Group processes, denominated information sharing, that integrate this model are considered because, recently, there have been theoretical conceptualization and empirical research about considering groups as information processors in the stream of study related to social sharedness (Tindale & Kameda, 2000). Social sharedness is considered as the degree that group members share cognitions, preferences, identities and some others issues. The existence of this process of sharing is considered a base to establish the difference between the group level and the individual level.

Group processes, denominated identity process, are considered due to the fact that group identification is considered as a psychological process that creates a sense of belonging to the group that is created by a process of social categorization, in which a person builds up based on identification to that social category. Arguments about group motivation establish that social identity could be

a reason for an individual to increase his motivation (Shamir, 1990). Mexican society has been considered as a stratified one due to the fact of its indigenous origin (Olive, 1999); in this sense, social identification or group identification for a Mexican is speculated to be a significant variable in this model.

Group processes, denominated as motivational group empowerment, are the essential constructs of this model. In addition to the four dimensions of the Kirkman & Rosen' model –potency, meaningfulness, autonomy, and impact- two other dimensions are incorporated, affective tone and trust. These dimensions were chosen to integrate the group empowerment construct because they represent social aspects that are considered important for Mexicans. Furthermore, these elements are speculated to affect the feelings of Mexican group members about accepting to belong and to be part of the group. In this sense, in addition to the calculative rational perspective attributed to almost all expectancy models of motivation (Shamir, 1990), these elements are conceived to incorporate emotional aspects to this model of group empowerment motivation.

A group result generated by the group empowerment in this model is teamwork that is considered as an attitude of collective action or an attitudinal component of the group in this model. Therefore, even though, teamwork has been considered as a multidimensional construct (Salas, et al., 2000), in this model it is considered as the result of the group, mainly from group empowerment. This issue that has been considered in other models of teamwork when it is considered that one of the dimensions of teamwork is a shared attitude (Salas, et al., 2000). Also, group empowerment has others consequences as shown in the final output

of this model. It is important to incorporate performance results of the group because of the fact that the group is a generator of attitudes that are integrated in the study of organizational behavior. The definitions of the variables that integrate the proposed model are mentioned in the following paragraphs.

3.2 Variable definition and theory related

3.2.1 Group organizational context variables

Managerial support is defined as the support that top management brings to the organization's teams through the sharing of strategic information and resources. This sharing allows the group to function adequately (Shea & Guzzo, 1987). Group feedback about future developments that affect the performance of the group, and group performance feedback are examples of an organizational context that support the functioning of the groups (Campion, et al., 1993; Hyatt & Ruddy, 1997).

Group job design is defined as a series of characteristics of the task that have motivational elements. Job design has been developed and applied at the individual level (Hackman & Oldham, 1980), but its application has also been considered at the group level (e.g., Campion, et al., 1993; Cohen, Ledford & Spreitzer, 1996; Gladstein, 1984; Guzzo & Shea, 1992). These motivational features of group task design are conceived as a factor that influences the group work effectiveness (Campion, et al., 1993; Cohen & Ledford, 1994).

The group job design elements considered are presented as follows: group job autonomy is defined as a sense of responsibility and also as an increased sense of ownership of the task that may be related to group effective performance

(Campion, et al., 1993; Cohen, et al., 1996). Autonomy allows group members to make decisions about resources in a way that the process of doing the task will help the group be more efficient and effective (e.g., Cordery, Mueller, & Smith, 1991; Goodman, Devadas, & Hughson, 1988; Wall, Kemp, Jackson, & Clegg, 1986). Another element is task variety, defined as the chance that the team member has to carry out several tasks of the group, thereby building flexibility and by letting both attractive and boring tasks be shared among team members (Campion, et al., 1993; Cohen, et al., 1996).

Task significance is another aspect of the job group design that is defined as the beliefs of the group members that the results of the group work are important to the organization; this issue generates cooperation among them to be more effective as a group (Campion, et al., 1993; Cohen, et al., 1996). Finally, task identity is defined as the accountability that group members have for finishing a whole piece of work or as perceiving a task differentiation (Cummings, 1978). In general, all these elements develop a motivational force on group members, and they have as a result increased group effectiveness.

External team leader behavior consists of a supervisory role because the leader is not a member of the team that she/he leads (Manz & Sims, 1987). Team leader behaviors in a facilitator role such as delegation, utilization of group members input, and acceptance of group autonomy increases the group confidence (Kirkman & Rosen, 1997; 1999). Transformational leaders, those who generate high performance expectations in group members, are an element that back up the group processes allowing the group to increase the effort they need

to reach their goals (Burpitt & Bigoness, 1997; Guzzo, Yost, Campbell, & Shea, 1993).

Team production/service responsibilities consist on situations where teams have high production/service responsibilities, such as, deciding production schedules, examining customer feedback, working out quality improvement practices, and adopting ownership for the completion of limited units of work (Kirkman & Rosen, 1997; 1999). A total quality management (TQM) environment drives team members to develop more efficient group processes (Ishikawa, 1985). Related to quality is a team's level of customer connection. Increased customer contact and feedback should make team members demonstrate that a team's work makes a difference for customers (Cummings, 1978).

Team-based human resources policies include team-based rewards, training, and staffing decisions that should support and enhance team processes (Kirkman & Rosen, 1997; 1999). Team incentives provide elements that may enhance the development of the group processes (DeMatteo, Eby, & Sundstrom, 1998). Cross-training for team jobs or the jobs of other teams allows some team members to receive incentives (Wellins et al., 1990). Cross-training results in higher team flexibility and breadth of experience that influence team processes. In addition to cross-training, group members might also train other team members, or assist them in other human resource management processes, such as, training, selection, and performance evaluation that increase the group process gains (Guzzo, et al., 1993; Kirkman & Rosen, 1997; 1999).

Social structure is defined as sociopolitical support that is attained from several constituencies in organizational political networks and is characterized as actions of endorsement, approval, and legitimacy (Spreitzer, 1996). At the team level of analysis, an increasing participation expands the group members' activities in organizational networks; and thus, they develop strong and supported group processes (Manz, 1990). Sociopolitical support provides access to strategic resources from the organization that may have a determinant influence in the team performance (Spreitzer, 1996). On the other hand, teams that have strong support will likely utilize their complete competences to provide resources to other teams or to affect the result of actions with customers as a result from effective group processes (Guzzo et al., 1993; Kirkman & Rosen, 1999).

3.2.2 Group structure

The stability in some array of relationships among group members is considered as the group structure. There are different modes to formally specify the group structure. One of these modes is establishing a group differentiation through the utilization of elements such as status, role, and position. Group members as occupants of each of the mentioned elements have behaviors that are recognized by themselves and also contribute to the goals of the group. These behaviors generate a division of responsibilities that may be recognized and allow to stabilize the group (Cartwright & Zander, 1968c).

Conceived group structure in this meaning, the variables included in the proposed model are related to elements of group differentiation that may be designed. In line with this reasoning, five elements that could integrate a designed

group structure are mentioned as follows: leadership, involvement/participation, power, status, and group composition. Thus, these elements will be described in the following paragraphs.

Leadership, as a part of the group structure, is integrated by the type, the existence of leadership rotation among the team members, and finally by the leadership responsibilities (Shaw, 1976). A team design system of allocation of responsibilities that implies a rotation of leadership among group members is denominated as a star or spoke leadership. This design incorporates responsibilities from maintenance, quality, human resources, scheduling, and safety. Team members are rotated in these responsibilities that include clear goals, a set of specific activities, and the skills necessary to complete the responsibilities for each leadership position (Fredendall, et al., 2000).

Power, as a part of the group structure, is defined as an influential element in the efficient development of the group processes. This factor incorporates the following identified sources of power: informational access power, reward or sanction power, expert power, and legitimate power (Collins & Raven, 1968). The relevant characteristic of informational access power is the content of the information, not the nature of the influencing group member. Reward or sanction power consists on the belief of a group member that another group member has the influence to sanction or reward him. Expert power consists on the attribution of superior knowledge or ability of a group member which may influence other group members through his superiority. Legitimate power is related to the position of the group member in the social structure of the group (Collins & Raven, 1968).

Involvement/participation, as a part of the group structure, is defined as the potential that group members have to be involved, or to participate in a higher or a lesser degree, as a result of designed activities to generate involvement / participation in the group (Shaw, 1976). In a case study of human resources responsibilities assigned to self directed teams, designed in a star or spoke leadership, it identified core activities or human resources responsibilities, such as: scheduling, keeping records, ensuring work coverage, and serving as a HR communication focal point (Fredendall, et al., 2000) that increase the involvement of group members.

Status, as a part of the group structure, is defined as the type of characteristics related to tenure and work characteristics that group members have as a specific design of the group in this regard (Shaw, 1976). Status is also conceived as an element that integrates the cultural context. A group member considered as having a higher status than other group members is conceived as having a better position to influence the group performance because group members are expecting that he use his position to exert the mentioned influence (Cartwright & Zander, 1968c).

Group composition is conceived as designed membership heterogeneity. Group composition has been conceived as an influence of the structure and the dynamics of the group (Moreland & Levine, 1992). Group structure has been found related to the group process (Gladstein, 1994). Membership heterogeneity in terms of abilities and experiences has been found to have a positive effect on performance (Campion, et al., 1993).

3.2.3 Face to face process

Coordination means that team members adjust their own activities in response to the activities of other members. A reciprocal relation among shared mental models and coordination is conceived; shared information needs and tasks eventualities support a coordinated action, but an interdependent task that requires coordination generates activities that may be integrated to the shared mental model (Peterson, et al., 2000). Effective group process requires coordination of collective action; also, the existence of good coordination has an effect on team performance. Implicit coordination, defined as the ability to transfer resources within the team without being requested and without the existence of planned actions, may be a solution in a period of high workload (Salas, et al., 2000). Group members working together avoiding the duplication of efforts are related to the energy of the group that generates positive attitudes that foster effective performance (Cohen, et al., 1996).

3.2.4 Group information sharing process

Information sharing, at the group level, is the degree to which information, ideas, or cognitive processes are shared, and are being shared, among the group members (Tindale & Kameda, 2000). Shared mental models are defined as cognitive representations of task requirements, procedures and role responsibilities that members hold in common (Peterson, et al., 2000). Specifically, mental models allow people to predict and explain the behavior of the world around them, to recognize and remember relationships among components of the environment, and to construct expectations for what is likely to occur next. (Mathieu, et al., 2000)

There is a consideration about the relationship between mental models and group processes. There are arguments in favor of an indirect and mediated relationship between mental models and group performance. Group processes mediate this relationship because of the call for coordinating actions in the group; thus, shared mental models are considered as an influence to group processes, such as, decision-making, coordination in use of resources, cooperation and communication. Furthermore, the requirement for team coordination gives an idea about the broadly different mental models that are developed or in development (Mathieu, et al., 2000).

Empirically, a relationship is found between team mental model and group performance; however, this relationship is mediated by team processes. Also, in the aforementioned investigation, a relationship is found but only between the task mental model and the group processes (Mathieu, et al., 2000). Another study about shared mental models and collective efficacy, reports a relationship among both constructs and group performance; however, the relationship among the two constructs that was hypothesized as reciprocal, only showed the influence of collective efficacy on shared mental model (Peterson, et al., 2000).

A shared mental model, developed through planning activities of team members, was found related to an improved coordinated performance of the group in another research about this topic (Stout, Cannon-Bowers, Salas, & Milanovich, 1999). Utilizing teamwork schemas or teamwork knowledge structures, Rentsch, Heffner, & Duffy (1994) found that team members with higher experience conceptualized teamwork more precisely and in more abstract terms than team

members with lower experience. Also, team members with higher experience expressed more consistently their understandings about teamwork.

3.2.5 Group identity process

Group membership implies social sharedness at a general level of the group label, and potentially at a number of more specific levels, such as, preferences, information, locations, or physical traits that help define the group (Tindale & Kameda, 2000). "Psychological group formation takes place to the degree that two or more people come to perceive and define themselves in terms of some shared in group - out group categorization" (Turner, Hogg, Oakes, et al., 1987: 51, in Levine, et al., 2000). "Identification induces the individual to engage in and derive satisfaction from activities congruent with the identification, to view him/herself as an exemplar of the group, and to reinforce factors conventionally associated with group formation ..." (Ashforth & Mael, 1989: 35).

Group identification is considered as a construct that implies no interaction between members' groups, because, individuals develop a cognitive process of identification with the group. The greater the degree of group identification the more probability that cooperative behaviors and additional efforts are contributed from group members; thus, getting an increased group performance. This construct permits distinguishing it from interpersonal constructs that also explains group performance. Group identification has been considered as one of the elements that intensely influences the development of the group (Bettenhausen, 1991). Empirically, group identification was found to be correlated to face to face processes such as cohesion and coordination (Riordan & Weatherlye, 1999). In a

field test of social identity, a relationship was found among strong group identification and high levels of in-group favoritism; aspect that supports the organizational facet of the social identity theory (Hennessy & West, 1999).

3.2.6 Motivational processes. Group empowerment

Group empowerment is defined as shared beliefs of feeling of enhanced work control in team members. These feelings are created by a series of dimensions that are related and are likely to be mutually reinforced. These dimensions are defined as follows:

Potency is the collective belief of a team that can be effective (Guzzo et al., 1993; Shea & Guzzo, 1987). Potency has been considered different from self-efficacy or competence (Conger & Kanungo, 1988; Thomas & Velthouse, 1990) because competence refers to a private individual performance, and potency is related to a collective team performance (Kirkman & Rosen, 1997; 1999).

Meaningfulness consists in the experience of a team that considers its tasks as vital, valuable, and useful (Hackman & Oldham, 1980). Meaningfulness is considered a belief that team members collectively develop and share with reference to their tasks. Hence, group members influence each other about the importance of their task (Kirkman & Rosen, 1997; 1999).

Autonomy is the degree to which team members experience substantial self-determination, freedom, and choice in their work (Cummings, 1978). The role of the team in determining some facets of its work is akin to the fundamentals of a group-based management system. Also, socio-technical concepts such as task control, which is related to the influence of team members in determining their

own work techniques and objectives, emphasize the autonomy of the group (Cummings, 1978). Group autonomy has a direct effect on group decisions that could decrease individual autonomy on decision making because of the decision sharing (Uhl-Bien & Graen, 1998). It is important for the group to have the opportunity to apply autonomy in order to be optimally effective (Kirkman & Rosen, 1997; 1999).

Impact is the belief of the team members that their work generates important consequences for the organization. Team decisions could have an impact on other teams, and internal and external customers of the organization. Team members share these consequences with other members of the team (Kirkman & Rosen, 1997; 1999). Feedback about the consequences or the impact of the team is relevant to establish the level of team empowerment (Ancona, 1990).

Group trust indicates the beliefs of group members that the actions of a member of the group are not going to cause damage or put in risk any of the other members of the group. Empowered group employees may increase their cooperation as a result of the existence of group trust (Jones & George, 1998). Trust as an intragroup concept is associated to sympathy, sincerity, and competence that influence group members' conflict behavior. Therefore, the existence of group trust is considered as a moderator variable between task and relationship conflicts; thus, when group members trust each other the existence of ambiguous behaviors are not considered negatively, hence, a relationship conflict is not generated or increased (Simons & Peterson, 2000).

Trust incorporates vulnerability, as one part depends on the other; as caring for each other; as competence within group members; and as willingness to act with reliability. Trust has been related to group processes and group performance (Dirks, 1999). Related to group processes, trust may increase the ability of team members to work together; in addition, this ability may increase group performance (Golembiewski & Mconkie, 1975). Empirically, trust has been identified as an influence of the translation of motivation to group processes and group performance (Dirks, 1999).

Group affective tone is defined as the possibility that group members have to express their emotions and feelings (George, 1990). The consistency of individual affectivity from the group members has been considered as a means which they can utilize to express their feelings and to be more attracted to stay in the group. Group affective tone has been hypothesized as related to group behaviors like prosocial behavior (George, 1990). Shared mental models and group affective tone has been related to the sharing of information or to another kind of sharing which generates the possibility that group members might express their emotions (Salas, et al., 2000).

3.2.7 Consequences of team empowerment

Frequently cited criteria of work team effectiveness include productivity (Cohen & Ledford, 1994; Gladstein, 1984; Kirkman & Rosen, 1999; Shea & Guzzo, 1987; Wall et al., 1986), quality (Cohen, et al., 1996; Shea & Guzzo, 1987), low costs (Cohen et al., 1996;), safety (Cohen et al., 1996; Goodman et al.,

1988;), job satisfaction (Cordery et al., 1991; Kirkman & Rosen, 1999), and organizational commitment (Cordery et al., 1991; Kirkman & Rosen, 1999).

In the proposed model, we will include productivity, proactivity, and customer service as performance outcomes, and job satisfaction, teamwork, and team commitment as attitudinal outcomes. As mentioned above, the distinction between performance and attitudinal outcomes is coherent with previous research (Campion et al., 1993; Campion, Papper, & Medsker, 1996; Gladstein, 1984; Kirkman & Rosen, 1997; 1999).

3.2.7.1 Performance outcomes

Team productivity: Empowerment has been associated with productivity at the team level of analysis (Kirkman & Rosen, 1999; Hyatt & Ruddy, 1997). At this level of analysis, Kirkman & Rosen (1999) found support to the following relationship: the more that team members experience team empowerment, the more productive the team will be. Teams which had higher potency were found to be more productive than those with less potency (Guzzo et al., 1993).

Empowerment has been also associated with productivity at the individual level of analysis (Spreitzer, 1995; Spreitzer et al., 1997; Thomas & Tymon, 1994). At the individual level, managers may have higher levels of performance when they feel a sense of domination on the job (Wood & Bandura, 1989). Koberg, et al. (1999) found a relationship between individual empowerment and perceived productivity/effectiveness at work.

Proactivity: At the group level of analysis, Kirkman & Rosen (1999) found support to the following relationship: the more that team members experience

team empowerment, the more proactive the team will be. At this level of analysis, Hyatt & Ruddy (1997) considered that teams are proactive when they seek continuous enhancement, adjust work processes, and seek original solutions to work problems. Empowered teams have been found to frequently take action on problems, and improve the quality of their work by initiating changes in the way that work is carried out (Wellins, et al., 1990). Working at the individual level of analysis, there is a finding that states that empowerment leads the person to a proactive orientation toward his job, his management, and his organization (Spreitzer, 1995). High levels of self-efficacy, and the more that an individual perceives that he has autonomy leads him to persist in the face of obstacles in work-related situations (Deci & Ryan, 1985; Bandura, 1997).

Customer service: Kirkman & Rosen (1999) found support to the following relationship: the more that team members experience team empowerment, the higher the team's level of customer service will be. There is evidence that supports reliable links between the use of work teams and high levels of quality and customer service (Wellins et al., 1990). Often, empowered groups take responsibility for handling customer complaints and analyzing their own quality problems and matters (Wellins et al., 1990).

3.2.7.2 Attitudinal outcomes

Team job satisfaction: Kirkman & Rosen (1999) found support to the following relationship: the more that team members experience team empowerment, the higher the team's level of job satisfaction will be. Moreover, team members have reported higher levels of job satisfaction than employees

working individually in the same corporation (Cordery et al., 1991; Wall et al., 1986). Characteristically, in empowered work teams, group members find more meaning in their jobs because the scope of their activities is larger (Wellins et al., 1990). At the individual level of analysis, researchers have found associations between empowerment and job satisfaction (Spreitzer et al., 1997; Thomas & Tymon, 1994).

Team commitment: Kirkman & Rosen (1999) found support to the following relationship: the more that team members experience team empowerment, the higher the team's level of team commitment will be. Team commitment is the result of the experience of a team member about team work related experiences and perceptions. In this regard, an employee's experience of group empowerment may produce a higher level of team commitment (Steers, 1977). Empowered teams often generate positive colleague experiences that are considered as one of the more important experiences involving commitment (Wellins et al., 1990). Another experience of commitment is related to the commitment that the organization makes to its employees because of the perception that this situation may reinforce the employees' commitment. In this regard, the existence of a high level of support and trust inherent in an empowered team will likely contribute to higher commitment levels among team members (Wellins et al., 1990).

Teamwork: Teamwork, as an outcome of the processes of the group, is defined as an attitude of common and collective purpose that group members develop about the goal and the activities of the group (Salas, et al., 2000). It has

been considered that one of the characteristics that teamwork comprises is a form of collectivity in which group members develop a set of responsive relations and association with other group members and the group itself (Tranfield, Parry, Wilson, Smith, & Foster, 1999). Hence, these notions emphasize the attitudinal elements of this outcome.

3.3 Hypotheses of the study

Based on the definitions and the theory reviewed above, the hypothesized relationships of this study will be presented in the following paragraphs.

3.3.1 Antecedents of team empowerment

Group organizational context

Hypothesis 1

1a. Organizational context characterized by indicators of variables such as: managerial support, group job design, external team leader behavior, team – based human resources policy, team production/service responsibilities, and organizational/social structure are positively related to a face-to-face group process, like coordination.

1b. Organizational context characterized by indicators of variables such as: managerial support, group job design, external team leader behavior, team – based human resources policy, team production/service responsibilities, and organizational/social structure are positively related to an identity group process, like group membership.

1c. Organizational context characterized by indicators of variables such as: managerial support, group job design, external team leader behavior, team – based

human resources policy, team production/service responsibilities, and organizational/social structure are positively related to an information sharing group process, like group shared mental models.

Hypothesis 2

Group structure

2a. Group structure design variables such as: leadership, power, involvement/participation, composition, and status are positively related to a face-to-face group process, like coordination.

2b. Group structure design variables such as: leadership, power, involvement/participation, composition, and status are positively related to an identity group process, like group membership

2c. Group structure design variables such as: leadership, power, involvement/participation, composition, and status are positively related to information sharing group process, like group shared mental models.

Hypothesis 3

Group processes

3a. A face-to-face process like coordination is positively related to group membership.

3b. A face-to-face process like coordination is positively related to group shared mental models.

Hypothesis 4

Motivational processes. Group empowerment

4a. A face-to-face process like coordination is positively related to group empowerment.

4b. An identity process like group membership is positively related to group empowerment.

4c. An information sharing process like group shared mental models is positively related to group empowerment.

3.3.2 Consequences of Team Empowerment

Hypothesis 5

Performance and attitudinal outcomes

5a. Group empowerment is positively related to performance outcomes such as: productivity, proactivity and customer service.

5b. Group empowerment is positively related to attitudinal outcomes such as: group job satisfaction, team commitment, and teamwork.

3.4 Proposed model: a summary of the hypothesized relationships

As a summary of the hypothesized relationships among the variables that integrate the model, the proposed model depicts a direct influence of contextual variables –managerial support, group job design, external team leader behavior, production / service responsibility, team – based human resources policy, and organizational / social structure - to the group processes: face-to-face, information cognitive, and identity processes.

Group structure which includes group structure design that attempts to incorporate other perspectives of empowerment, as different from psychological empowerment as: leadership, power, and involvement/participation; furthermore,

members' status is included in this structure. This element also represents the cultural context. Group composition is another element from the group structure that is included in the proposed model. Group structure is considered to have a direct influence on the group processes: face-to-face, information cognitive, and identity processes.

Face-to-face processes are theorized to influence the subsequent processes of work groups. The face-to-face process of the proposed model is coordination. This process has a direct influence on information sharing processes that include shared mental models. Face-to-face process, also, has a direct influence on identity process. Furthermore, this interaction process has a direct influence on group empowerment.

On the other hand, the identity process illustrates the perspective of a group based on identification as a result of a social categorization that is also a consequence of cultural factors. Group membership is the process of group identity, and it is also considered to have a direct influence on dimensions of group empowerment.

Information cognitive processes are theorized to have a direct influence on group empowerment. Group empowerment in this model includes the dimensions of: Potency, Autonomy, Meaningfulness, and Impact which are taken from Kirkman & Rosen's (1997, 1999) group empowerment model. However, considering the influence of cultural factors and other perspectives of group motivation, the group empowerment construct also includes the following dimensions, group affective tone and trust. These dimensions, to a larger extent,

may incorporate elements that allow the group to assimilate feelings of control and capacity from the group.

These feelings of group empowerment have a direct relationship to the following consequences, performance outcomes, such as: productivity, proactivity, and customer service; and, also, attitudinal outcomes, such as: teamwork, job satisfaction, and team commitment. Figure # 4 displays this proposed model.

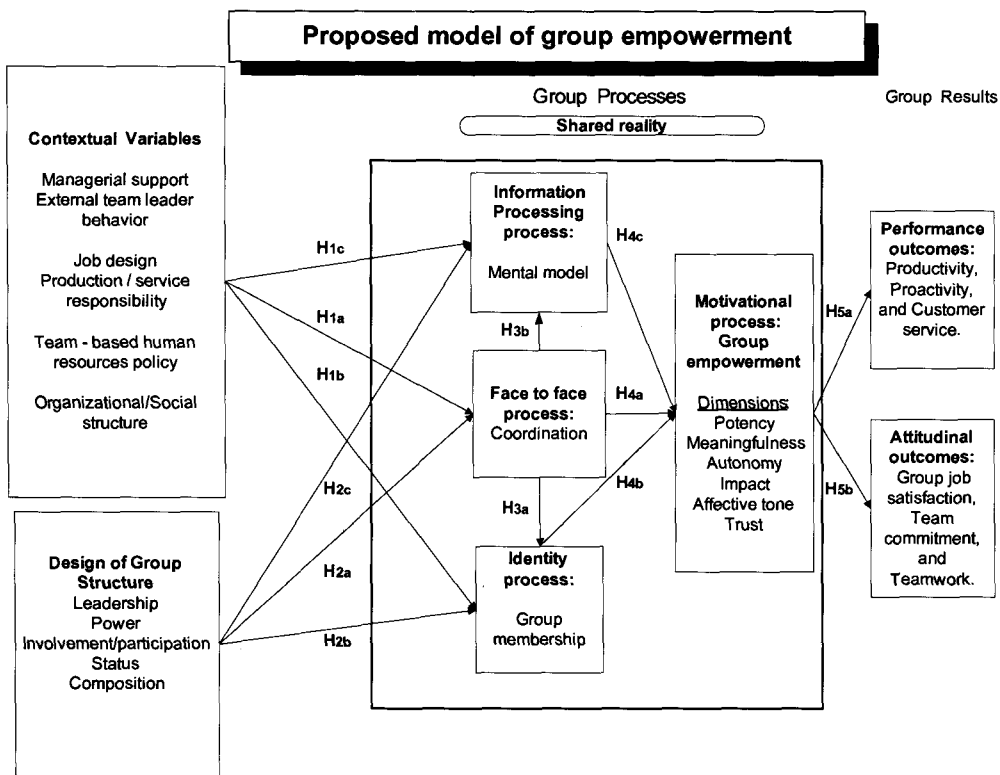


Figure # 4. Group empowerment proposed model

Chapter 4

Empirical Study

In this chapter, the type of research of this study and the universe of study are presented, in addition, the operationalization of the variables that form part of the proposed model, and the scales from which the variables are going to be measured. A majority of the scales utilized in this investigation were already validated, and, in a smaller degree, another part was developed for this study.

Subsequently, the contents of the four designed instruments to collect information for this study are enumerated. Also, the procedures for the collection of information in the fieldwork with the three diverse sources of information: members of the teams, leaders or external facilitators of the teams and executives of the organizations are described. Finally, the activities related to the items' codification of the measurement instruments and to the capture of the data are described.

Another element that is described in this chapter is the set of activities developed to contact with diverse organizations in the city of Monterrey, Mexico. Then, characteristics of the nominal identification of the organizations that authorized collecting information are presented. Also, the requisites that were utilized to select the teams in these organizations are mentioned. Finally, the demographic characteristics of the group members included in the sample are described.

The translation process to Spanish that was used is reported since most of the scales validated were found in the English language. Similarly, the content

validity process, and the redaction's test of the items in the questionnaire are reported. Finally, the construct validity, both at the individual and the group level of analysis, is identified for all the variables from the proposed model, including the reliability of the items. Through this validity, the items that will be utilized in the statistical analysis are presented.

4.1 Research type

This research is a correlational study. This type of study allows a partial explanation of the relationships of causality discovered in a study. This limitation is the result of cross sectional studies, such as this investigation. A correlational study discovers the relationships of causality among the variables or constructs involved in a model, but to establish causality relationships, one needs to make a longitudinal research that allows establishing the permanence of these relationships.

4.2 Universe of study

This study is focused on work groups in organizations. As it was mentioned before, there are several classifications of work groups in organizations (Cohen & Bailey, 1997; Sundstrom, et al., 2000). In this case, the study is specifically aimed at the work group involved in production or service facilities within organizations (Kirkman & Rosen, 1997). This specific type of group has been also classified according to the level of autonomy. Consistent with this criterion a classification has been identified, from the lower level of autonomy to the higher one, which will be mentioned as follows: traditional work groups, quality circles, high performance teams, semi-autonomous work groups, self-

managing teams, and self-designing teams (Banker, Field, Schroeder, & Sinha, 1996).

Another classification of work teams, similar to the above mentioned, based on the level of autonomy, consists of the following types of teams that are also mentioned from the lower level of autonomy to the higher one: hierarchical management, task force/project teams, problem-solving teams/quality circles, and autonomous work groups/self-managing teams (Moses & Stahelski, 1999).

Another taxonomy of organizational work groups that results from the crossing of two dimensions; -product type and temporal duration- consists of the following types of teams: ad hoc project teams, ongoing project teams, ad hoc production teams, and ongoing production teams (Devine, Clayton, Philips, Dunford, & Melner, 1999).

In line with the above classifications, the type of work group focused in this study is a self-managing team, different from problem-solving teams or quality circles; the type of work group focused has a certain level of autonomy according to these classifications. Also, the type of group studied is an ongoing production team, in this sense, this kind of group performs its tasks on a regular or permanent basis.

4.3 The operationalization of the study variables

Tables # 2, 3, 4, 5, & 6 show integrated operational variables and their measures. The operational variables are from the constructs utilized in the proposed model of this investigation. Several variables included measures from scales already validated. These scales came from a literature review carried out in

related papers. For variables that do not have identified scales, items were developed to build new scales.

Table # 2. Operationalization of variables from organizational context

Variable	Variable definition	Measure
Organizational/Social structure:	Social structure is defined as sociopolitical support that is attained from several constituencies in organizational political networks and is characterized as actions of endorsement, approval, and legitimacy (Spreitzer, 1996).	En esta organización los equipos de trabajo: Tienen acceso a los recursos de su unidad o área de trabajo. Tienen acceso a los recursos de otros equipos. Tiene acceso a información estratégica de la organización. Tienen un alto grado de coordinación con otros equipos Son considerados como un elemento importante en la operación de la organización. Tienen apoyo del personal sindicalizado. Son considerados como una opción importante de desarrollo por los trabajadores. Son supervisados o coordinados por un administrador que tiene un amplio tramo de control (Kirkman & Rosen, 1999).
Managerial support:	Managerial support is defined as the support that top management brings to the organization's teams through the sharing of strategic information and resources (Shea & Guzzo, 1987).	En esta organización los equipos de trabajo: Son apoyados por la alta dirección. Obtienen de fácil manera, asistencia de expertos, cuando surge algún aspecto que el equipo no sabe como manejar. Reciben retroalimentación de su desempeño de los niveles directivos superiores. Proporcionan a otros equipos información necesaria para su desempeño. Reciben información acerca de los actuales desarrollos y de los planes futuros que pueden afectar su trabajo (Edmondson, 1999).
External team leader behavior:	External team leader behaviors in a facilitator role such as delegation, utilization of group members input, and acceptance of group autonomy (Kirkman & Rosen, 1999).	En esta organización el líder externo o coordinador de los equipos de trabajo: Proporciona muchas responsabilidades a los equipos que supervisa. Solicita consejos cuando toma decisiones a los equipos que supervisa. Permite establecer sus propias metas a los equipos que supervisa. Deja el paso libre para que trabajen en sus problemas de desempeño a los equipos que supervisa. Comunica que tiene altas expectativas de ellos a los equipos que supervisa. Confía en los equipos que supervisa. Utiliza para tomar decisiones la información de los equipos que supervisa. Incrementa un sentido de control personal en los miembros de los equipos que supervisa. Fomenta la auto-evaluación en los equipos que supervisa. Apoya el concepto de equipos (Kirkman & Rosen, 1999).

Variable	Variable definition	Measure
Job design:	<p>Group job design is defined as a series of characteristics of the task that have motivational elements (Campion, et al., 1993).</p> <p>Group job autonomy is defined as a sense of responsibility and also as an increased sense of ownership of the task (Cohen & Ledford, 1994).</p> <p>Task variety defined as the chance that the team member has to carry out several tasks of the group (Campion, et al., 1993).</p> <p>Task significance is defined as the beliefs of the group members that the results of the group work are important to the organization (Campion, et al., 1993).</p> <p>Task identity is defined as the accountability that group members have for finishing a whole piece of work or as a perceiving a task differentiation (Cummings, 1978).</p>	<p>Group job autonomy</p> <p>En esta organización los equipos de trabajo: Establecen los métodos, procedimientos y horarios de trabajo.</p> <p>Deciden quien realiza las tareas.</p> <p>Toman las decisiones relacionadas con el trabajo.</p> <p>Task variety</p> <p>En esta organización los equipos de trabajo: Tienen una variedad en el trabajo muy alta.</p> <p>Tienen rutinas de trabajo que se encuentran poco estructuradas.</p> <p>Tienen oportunidad (los miembros de los equipos. en su mayor parte) de aprender las diferentes tareas que se realizan.</p> <p>Tienen oportunidad (los miembros de los equipos, en su mayor parte) de llevar a cabo las tareas más interesantes.</p> <p>Tienen oportunidad de cambiar con frecuencia las asignaciones de trabajo para enfrentar las cargas de trabajo que enfrentan.</p> <p>Task significance</p> <p>En esta organización los equipos de trabajo: Hacen una contribución importante para atender a los clientes de la empresa.</p> <p>Hacen un esfuerzo por cumplir con las fechas y tiempos programados.</p> <p>Hacen su trabajo buscando establecer una diferencia para las personas que lo reciben o lo usan.</p> <p>Tienen metas y/o tareas de un alto significado para ellos (Campion, et al., 1993).</p>
Production/service responsibility:	<p>Team production/service responsibilities consist on situations where teams have high production/service responsibilities, such as, deciding production schedules, examining customer feedback, working out quality improvement practices, and adopting ownership for the completion of limited units of work (Kirkman & Rosen, 1997; 1999).</p>	<p>En esta organización los equipos de trabajo: Tienen la responsabilidad de decidir la programación de su producto/servicio.</p> <p>Tienen la responsabilidad de medir la calidad de sus productos.</p> <p>Monitorean la calidad.</p> <p>Entrenan para la calidad.</p> <p>Toman decisiones importantes tales como asignaciones relacionadas con su producto/servicio.</p> <p>Manejan asuntos de los clientes.</p> <p>Manejan quejas de los clientes.</p> <p>Trabajan con un producto/servicio completo (Kirkman & Rosen, 1999).</p>

Variable	Variable definition	Measure
Team – based human resources policy:	Team-based human resources policies include team-based rewards, training, performance evaluation, staffing decisions, and promotions that should support and enhance team processes (Kirkman & Rosen, 1997; 1999).	<p>Team based rewards En esta organización los equipos de trabajo: Deciden recibir su compensación como grupo. La compensación que reciben debe basarse en el desempeño del equipo.</p> <p>Training En esta organización los equipos de trabajo: Son entrenados para realizar trabajos de diferentes equipos. Reciben una capacitación técnica adecuada para las tareas que tienen que realizar. Reciben una capacitación adecuada en calidad y servicio al cliente. Reciben una capacitación en habilidades para trabajar en equipo.</p> <p>Performance evaluation En esta organización los equipos de trabajo: Evalúan formalmente el desempeño de sus propios miembros. Consideran el desempeño del equipo más importante que el desempeño individual. Consideran que la evaluación del desempeño de los miembros del equipo depende de su desempeño como miembro del equipo.</p> <p>Staffing decisions and participation En esta organización los equipos de trabajo: Deciden quienes pueden ser miembros de los mismos. Participan en el entrenamiento de los miembros de los mismos. Participan en la disciplina de los miembros de los mismos. Participan en la selección de los miembros de los mismos.</p> <p>Promotions En esta organización los equipos de trabajo: Consideran que un trabajo efectivo en apoyo de los mismos es crítico para el avance en la organización de sus integrantes (Kirkman & Rosen, 1999).</p>

Table # 3. Operationalization of variables from group structure

Variable	Variable definition	Measure
Leadership:	Leadership as a part of the group structure is integrated by the type, the existence of leadership rotation among the team members, and finally the leadership responsibilities (Shaw, 1976).	<p>Liderazgo ¿Existe liderazgo de los equipos? Si existe, ¿Qué tipo de liderazgo existe en los equipos? ¿Existe rotación en el liderazgo de los equipos? ¿Qué responsabilidades tiene el líder del equipo, con respecto a los siguientes aspectos? Reportes de información. Supervisión de los miembros. Organización de reuniones. Registros de actividades. Otras: (Shaw, 1976).</p>
Involvement/ participation:	Involvement/participation as a part of the group structure is	¿En el diseño de la estructura de los equipos existen actividades que fomenten o generen una mayor participación / involucramiento de los miembros del

Variable	Variable definition	Measure
	defined as the potential that group members have to be involved or to participate in a higher or a lesser degree as a result of designed activities to generate involvement/participation in the group (Shaw, 1976).	equipo, tales como? Cursos de capacitación diseñados específicamente con esa intención. Fijación de metas comunes. Fomento de responsabilidad. Fomento de mejoramiento. Fomento de innovaciones (Shaw, 1976).
Power:	Power as a part of the group structure is defined as an influential element in the efficient development of the group processes. This factor incorporates the following identified sources of power: informational access power, reward or sanction power, expert power, and legitimate power (Collins & Raven, 1968).	Informational access power El diseño de la estructura del grupo genera que solamente alguno o algunos de los miembros tenga acceso a información clave o importante para el desempeño de los grupos. Reward or sanction power El diseño de la estructura del grupo genera que solamente alguno o algunos de los miembros tenga la posibilidad de sancionar o recompensar a los miembros del equipo. Expert power El diseño de la estructura del grupo intencionalmente integra alguno o algunos de los miembros con capacidades o habilidades especiales que les permita a dichos miembros ser considerados como expertos por los demás miembros del equipo. Legitimate power El diseño de la estructura del grupo establece una jerarquía en el mismo que permita a alguno o algunos miembros tengan mayor rango que los demás miembros del equipo (Collins & Raven, 1968).
Status:	Status as a part of the group structure is defined as the type of characteristics related to tenure and work characteristics that group members have as a specific design of the group in this regard (Shaw, 1976).	Status En la integración del equipo o equipos, los miembros presentan algunas de las siguientes características: Tienen distintas categorías de acuerdo a los tabuladores de sueldos. Algunos son de planta y otros eventuales. Tienen distinta antigüedad (de manera significativa) en la organización. Tienen distinta antigüedad (de manera significativa) en el equipo (Shaw, 1976).
Group composition:	Group composition is defined as the existence of heterogeneity of skills and experiences in the members that integrate the group. (Campion, et al., 1993)	En esta organización los equipos de trabajo: Están integrados por elementos que tienen una amplia variedad de capacidades. Están integrados por elementos que tienen una amplia variedad de experiencias. Están integrados por miembros que tienen habilidades complementarias. La mayoría de los miembros conocen los trabajos que se llevan a cabo en el equipo. Tienen mucha flexibilidad para que los miembros puedan cambiarse (Campion, et al., 1993).

Table # 4. Operationalization of variables from group process and group psychosocial traits

Variable	Variable definition	Measure
Coordination:	Coordination means that team members adjust their own activities in response to the activities of other members (Peterson et al., 2000).	Los miembros de mi equipo no necesitan verificar el trabajo de los demás para asegurarse de que está hecho apropiadamente. Los miembros de mi equipo siempre practican buenas habilidades de interacción. En mi equipo somos buenos para coordinar el trabajo entre todos. En mi equipo estamos enterados de las actividades de trabajo de los compañeros. En mi equipo encontramos fácil trabajar con los compañeros. En mi equipo es fácil eliminar los desacuerdos para realizar el trabajo (Hyatt & Ruddy, 1997).
Mental model:	Shared mental models are defined as cognitive representations of task requirements, procedures and role responsibilities that members hold in common (Peterson et al., 2000).	This variable is measured through the technique of group associative analysis that will be explained below (Díaz-Guerrero & Szalay, 1993).
Group membership:	Group membership implies social sharedness at a general level of the group label that helps define the group. (Tindale & Kameda, 2000).	Me siento a gusto de formar parte de este grupo de trabajo. El grupo al que pertenezco es reconocido por la organización. Otros compañeros de trabajo quieren formar parte de este grupo de trabajo. En mi equipo de trabajo me siento como en familia. Si tengo algún problema grave, los miembros de mi equipo me ayudaran a resolverlo. Estoy orgulloso que otros sepan que soy parte de este grupo de trabajo (new scale).

Table # 5. Operationalization of variables from group empowerment

Variable	Variable definition	Measure
Group Potency:	Potency is the collective belief of a team that it can be effective (Guzzo et al., 1993).	El equipo tiene confianza en sí mismo. El equipo espera ser reconocido como un equipo de alto desempeño. El equipo siente que puede resolver cualquier problema que surja. El equipo cree que puede ser muy productivo. El equipo puede hacer mucho cuando trabaja duro. El equipo cree que ningún trabajo es demasiado difícil (Guzzo et al., 1993).
Group	Meaningfulness	Al equipo le importa lo que hace.

Variable	Variable definition	Measure
Meaningfulness:	refers to a team's experiencing its tasks as important, valuable, and worthwhile. (Kirkman & Rosen, 1999).	El equipo cree que su trabajo es valioso. El equipo cree que su trabajo es esencial. El equipo siente que el propósito del equipo es importante. El equipo siente que su trabajo tiene significado. El equipo siente que sus tareas valen la pena (Thomas & Tymon, 1993a, in Kirkman & Rosen, 1997).
Group Autonomy:	Autonomy is the degree to which team members experience substantial self-determination, freedom, and choice in their work (Cumings, 1978).	El equipo puede seleccionar diferentes maneras de hacer su trabajo. El equipo es el que determina como se deben hacer las cosas. El equipo tiene una sensación de libertad en lo que hace El equipo determina que cosas debe hacerse dentro del mismo. El equipo hace sus propias elecciones sin que le sean dictadas por la gerencia. El equipo tiene una amplia variedad de alternativas para hacer las cosas (Thomas & Tymon, 1993a, in Kirkman & Rosen, 1997).
Group Impact:	Team members experience impact, when a team produces work that is significant and important for an organization. (Kirkman & Rosen, 1999).	El equipo tiene un buen progreso en su trabajo. El equipo tiene un impacto positivo en otros empleados que dependen de él. El equipo tiene un impacto positivo en los clientes de esta empresa. El equipo cumple con sus objetivos. El equipo lleva a cabo tareas importantes para la empresa. El equipo hace la diferencia en esta organización (Thomas & Tymon, 1993a, in Kirkman & Rosen, 1997)
Group Trust:	Group trust indicates the beliefs of group members that the actions of a member of the group are not going to cause damage or put in risk any of the other members of the group (Jones & George, 1998).	En mi grupo de trabajo, respetamos totalmente la competencia individual de los demás. En mi grupo de trabajo, todos los miembros muestran una integridad absoluta. En mi grupo de trabajo, cada quien espera toda la verdad de los demás miembros. En mi grupo de trabajo, estamos seguros de que podemos confiar totalmente entre nosotros. En mi grupo de trabajo sabemos que entre nosotros respaldamos completamente nuestra palabra. En mi grupo de trabajo, los miembros somos confiables y honestos (Simons & Peterson, 2000).
Group Affective tone	Group affective tone is defined as the possibility that group members have to express their emotions and feelings	En mi equipo generalmente hacemos el trabajo con entusiasmo. En mi equipo generalmente estamos muy activos mientras desempeñamos nuestro trabajo. En mi equipo tratamos de apoyar a alguno de los miembros cuando tiene un problema personal grave. En mi equipo, además, de ser compañeros de trabajo nos sentimos como amigos o cuates.

Variable	Variable definition	Measure
	(George, 1990).	En mi equipo nos echamos porras o nos animamos cuando hacemos el trabajo. En mi equipo cuando necesitamos tomar una decisión importante, expresamos nuestros sentimientos al respecto antes de decidir (new scale).

Table # 6. Operationalization of variables from group performance

Variable	Variable definition	Measure
Productivity:	Productivity is defined as the group results in terms of reaching goals, fulfilling deadlines that allow the group to obtain a higher performance.	El equipo alcanzó o excedió sus metas. El equipo terminó sus tareas a tiempo. La cantidad de trabajo terminada por nuestro equipo es muy grande. La calidad de trabajo de nuestro equipo es muy alta. Cuando surge una alta prioridad nuestro grupo realiza un trabajo sobresaliente. Nuestro grupo de trabajo obtiene el máximo resultado a partir de los recursos utilizados. El desempeño de nuestro grupo de trabajo es muy alto en comparación con otros grupos. (Kirkman & Rosen, 1999).
Proactivity:	Proactivity is defined as the actions taken by the group members influenced by their own initiative (Kirkman & Rosen, 1999).	El equipo es capaz de corregir lo que no le gusta. El equipo siempre esta buscando mejores maneras de hacer las cosas El equipo busca soluciones innovadoras a los problemas del trabajo. El equipo revisa los procesos de trabajo. El equipo inicia cambios para mejorar la manera en que se lleva a cabo el trabajo. El equipo busca la mejora continua (Kirkman & Rosen, 1999).
Customer service.	Customer service is defined as the group performance in terms of high levels of quality and service (Kirkman & Rosen, 1999).	El equipo genera productos y servicios de alta calidad. El equipo proporciona un nivel satisfactorio de servicio global al cliente. El equipo alcanza las metas de la organización con respecto al servicio al cliente. El equipo mejora los procesos de trabajo para asegurar un mejor servicio al cliente (Kirkman & Rosen, 1999).
Teamwork:	Teamwork is defined as the attitude of common purpose that team members share among them (Salas, et al., 2000).	Un beneficio de trabajar en una situación de equipo o grupo es que da a los miembros un sentido de propósito común. Con frecuencia actuamos espontáneamente como un todo sin un acuerdo previo o planeación anticipada. El trabajo hecho en equipo/grupo es mejor que el trabajo realizado individualmente. Trabajamos juntos de manera creativa y efectiva como un grupo. Se genera mayor cantidad de ideas ó soluciones cuando se trabaja en una situación de equipo que de manera individual.

Variable	Variable definition	Measure
		Nuestro equipo produce un resultado que es mayor que la suma de las contribuciones individuales (Mine, 1999).
Group job satisfaction:	Job satisfaction is defined as the feelings of contentment from the group members with their performance, with their opportunities and with their compensation (Kirkman & Rosen, 1999).	Los miembros del equipo están satisfechos con su sueldo. Los miembros del equipo están satisfechos con las posibles oportunidades de promoción. Los miembros del equipo están satisfechos con las relaciones del equipo con otros empleados y departamentos. Los miembros del equipo están satisfechos con las asignaciones de trabajo actual del equipo. Estoy contento con la manera en que mis colegas y yo trabajamos juntos. Estoy muy satisfecho de trabajar en este equipo. (Kirkman & Rosen, 1999).
Team commitment:	Team commitment is defined as the intention of group members to remain in the group (Kirkman & Rosen, 1999).	Los miembros del equipo aceptarían casi cualquier trabajo con tal de mantenerse trabajando en este equipo. Los miembros del equipo encuentran que sus valores y los valores de su equipo son muy similares. Este equipo realmente inspira lo mejor en los miembros del equipo en relación con la forma de desempeñar el trabajo. Los miembros del equipo están muy contentos de haber elegido trabajar en este equipo en lugar de otro. A los miembros del equipo realmente les interesa el destino de este equipo. Para los miembros del equipo este es el mejor de todos los posibles equipos para trabajar (Bishop & Scott, 2000)

4.3.1 The method of group associative analysis

For the measurement of the mental model variable, the method of group association analysis was utilized (Díaz Guerrero & Szalay, 1993). The method is a word association technique that allows one to obtain a series of words in the interim of one minute in relation to a stimulus word. The groups' psychosocial characteristics can be established through the analysis of the collection of words that result from utilizing several stimulus words.

This method permits to evaluate perceptions, psychological meanings and attitudes related to specific cultural and social groups (Díaz Guerrero & Szalay, 1993). By means of associations of words, the psychological perspective that a

group has can be reconstructed in a specific theme. The difference of this method with other traditional techniques of word association is that in this method, the mention or association of the words is not restricted to an only one, since the words mentioned are all those that a person can mention with regard to a stimulus word in an interim of one minute. This technique does not require a large sample. This procedure fundamentally requires the selection of stimulus words since these words focus the investigators' themes of interests. This technique has been utilized to make cultural comparisons looking to establish differences among the mental images of inhabitants of different countries. The emphasis is obtaining spontaneous free evocations of the participants.

The technique consists of handing out a card to the interviewed persons for each one of the words stimulus and to give them a minute so that they can write all the words that they associate with the stimulus word; then, this procedure is repeated for each one of the words stimulus that the study covers. The demographic data is related to the words collected by means of a similar key in the cards and in the format in which the demographic data is collected.

The instructions to the people that were going to do the association word consisted of stating the following issues: the anonymity aspect of the data collection; that there were no specific amount of words as an obligatory answer; that is to say, the words mentioned could be as many or as few according to the words that came to mind during that one minute, that there was not any possibility to advance or to return before the minute ended; and, that answers should be short. Finally, that the evaluation of the answers was going to be at the group level.

Then, the organization of the analysis answers was attained. First, all the answers were registered, next, the idiosyncratic words were eliminated, in short, that those words which were not repeated, were not going to be utilized in the analysis. In this way, for each one of the stimulus words a list of answers was generated.

In the analysis of the list of answers, the answers of greater frequency can be interpreted as representative of the psychological meaning of the group. The intention is to capture outstanding characteristics more than grasping absolute positions, such as in favor or against. Also, the frequencies of two different cultural groups can be compared, for these comparisons are required to do a weighting procedure to match the compared groups.

4.3.1.1 Stimulus words

In the instrument elaboration, the first step was definition of the stimulus words, and for such effect, different mental models were identified in the literature of the theme, (Mathieu, et al., 2000). Based on the characteristics of these models, 6 stimulus words were identified to be utilized in this technique. These were the stimulus words used: Technology, Purpose, Team, Work, Information and Interaction.

Once the stimulus words were established, the physical instrument was devised, the procedure of cards was not utilized. Instead, in a blank sheet of paper, the stimulus word was printed like a heading, and the remainder of the sheet was divided into two parts or columns. On the left side the same word was printed in smaller print than that of the headline, and it was also repeated at the end of the

sheet. Seeking that with this arrangement the interviewed would concentrate on the stimulus word. The six stimulus words had the same format.

The application of this instrument was intended to be applied in combination with the self-report instrument designed to capture the perceptions of the members of the team. In order to avoid that the interviewed have visual contact with the first word stimulus, the first page of the instrument of the mental model had the objectives of the investigation, and also, this instrument was intended to be applied first. On the other hand, demographic data identification was registered in the self-report questionnaire.

4.3.1.2 Procedure of estimation of the “mental model”

Table # 7 shows the total amount of the words that were mentioned for each one of the stimulus words.

Table # 7. Total amount of the words mentioned for the stimulus words

Stimulus word	Total amount of words mentioned
Technology	3433
Information	3579
Team	3481
Purpose	3139
Work	3418
Interaction	2941
Total	19991

Associated words to each one of the stimuli words were captured in Excel software, classified by each one of the stimulus words, including identification of individual, team and organization for each one of the interviewed persons. In the next paragraphs, the steps of this procedure of estimation of the mental model in each word stimulus are described.

First, a file with associated words to a word stimulus was generated in Excel. In this file, frequency count was done for each one of individual words; then, idiosyncratic words were identified, the criterion to consider idiosyncratic words was the following: those individual words that had an equal or smaller frequency of three (3) mentions.

Second, words that had similar meaning and a greater frequency of three (3) were grouped; for example, the same word in singular and in plural, the word as verb and as a noun or diverse words with common meaning. In the case of stimulus word technology, the grouped words were a total of 136.

4.3.1.3 A partial example

A partial example of the stimulus word technology is presented in the following paragraphs.

Stimulus word: Technology

Partial example of grouped words of similar meaning

Code	Grouped word
1	actividad
1	actividades
2	actualización
2	actualizar
3	adelante
3	adelanto
4	algo nuevo
5	análisis
5	analizar
6	aparato
6	aparatos
6	aparatos electrónicos
6	aparatos avanzados
7	aprender
7	aprendizaje

From these grouped words, frequency of each one of them was counted, as is shown in the following partial example.

Word stimulus: Technology

Partial example of count frequencies grouped words

Grouped word	Frequency
actividad	5
actualización	23
adelante	7
algo nuevo	6
análisis	4
aparato	43
aprender	15
armamento	8
arte	4
astronauta	4
automatización	6
automotriz	90
avance	206
avión	32
ayuda	6
barco	5

Third, the next step was to establish categories with the words grouped utilizing as criterion the meaning of the word grouped, as it is shown in the following partial example.

Word stimulus: Technology

Partial example of grouped words categories

Knowledge (as category)	
Grouped word	Frequency
análisis	4
aprender	15
capacitación	15
ciencia	70
conocimiento	11
descubrimiento	7
educación	4
escuela	5
estudiante	42
habilidad	5
idea	9
inteligencia	13
investigación	7
lógica	4

Fourth, continuing with categorizing, more extensive categories were created to arrive at just few categories that would facilitate the estimation of the mental model, as it is shown in the following partial example.

Word stimulus: Technology
 Partial example of extensive categories

En que consiste conceptualmente	
Conocimiento	211
Que es y en donde	174
En que consiste materialmente	
Tecnología en el trabajo	692
Características de la tecnología	163
Procesos / resultados en el trabajo	
Resultados en el trabajo	155
Beneficios o consecuencias	
Beneficios o consecuencias	604
No aplica	
Medios de transporte	192
Relacionada con el espacio	23
Hogar	185
Varios	52
Total	2451

The extensive categories that resulted were of two types: first, it included words that could be related to dimensions of work. These categories are the following: a) words that are related to the concept that the stimulus word signifies, b) words that are related to the material aspect that the stimulus word signifies, c) words that describe work processes or results, d) words that indicate benefits or consequences of the word stimulus. Second, these words are not related to work; therefore, do not apply in the estimation of the mental model.

The previous categories supported in the frequencies count through Excel permitted one to attain for each stimulus word, the possibility of obtaining a

mental model at the level of each one of the organizations studied. Nevertheless, the estimation at the team level seemed almost impossible, with this procedure, using the Excel software. Therefore, the investigator made the decision of transforming the grouped words to numerical keys for each one of the individuals that responded to the stimulus words, seeking with this transformation, to arrive at results by team level utilizing SPSS software.

Thus, utilizing the option search/replace in Excel, the grouped words were changed to a numerical key for each one of the stimulus words, as it is shown in the following partial example.

Word stimulus: Technology

Partial example of grouped words equivalence to numerical keys

Numerical code	Grouped word
1	actividad
1	actividades
2	actualización
2	actualizar
3	adelante
3	adelanto
4	algo nuevo
5	análisis
5	analizar
6	aparato
6	aparatos
6	aparatos electrónicos
6	aparatos avanzados
7	aprender
7	aprendizaje

Once the replacement process was finished for each one of the individuals, in each one of the stimulus words, the Excel files were transformed to SPSS files. In these files, the individual has registered the numerical keys of each one of the grouped words that he mentioned. Immediately, each one the grouped words

became a variable by means of the option transform/count of the SPSS. Therefore, the individual that mentioned a grouped word has a frequency of one (1) in that variable, as is presented in the following partial example.

Partial example of the process of replacement

org	Clave del individuo	equippro	palabras	activ	actual
2	2	4	1	1	0
2	2	4	999	0	0
2	2	4	47	0	0
2	2	4	.	0	0
2	2	4	129	0	0
2	3	4	29	0	0
2	3	4	25	0	0
2	3	4	73	0	0
2	3	4	116	0	0
2	3	4	2	0	1
2	3	4	2	0	1
2	3	4	129	0	0
2	4	4	85	0	0
2	4	4	2	0	1

Likewise, as it can be seen in the previous partial example, the 999 key appears to represent words classified as idiosyncratic.

The following step consisted of processing variables from the extensive categories; this was carried out by means of the instruction compute of SPSS, so that the total frequency could be obtained of each one of the extensive categories. Then, with the same instruction compute combined with the instruction that allows one to select a part of the cases, the total frequency of the extensive categories was obtained for each one of the organizations; an aspect that already had been calculated by means of Excel and that served of a base of comparison to discern if the same results had been obtained. The results of this comparison were

very similar, with small differences, mainly generated by the process of transformation to numerical keys (upper case and small case).

Likewise, with the instruction compute and with the same previous procedure, the frequency of the extensive categories for each one of the 73 teams that integrate the sample was calculated. Besides, of the extensive categories already mentioned before, by means of this procedure the total frequency of the words classified like idiosyncratic was computed, for the organizations and for each one of the teams.

4.3.2 The elaboration procedure of the mental model by team

Frequency results by extensive categories and of idiosyncratic words for each one of the teams were obtained. The next step was to obtain the results that identified the mental model of each team.

To achieve the previous result, the following procedure was developed: The results obtained in SPSS were transferred to Excel, then a weighting procedure was applied to permit that the results were comparable, since the teams in their majority had a different size. The weighting procedure was carried out by organization. Taking as a base the team with the larger amount of members, this number was equalized to the unit, so in order to obtain weighting values greater than one for the other teams, which were then utilized to multiply them for the frequencies obtained for the extensive categories and the idiosyncratic words. The weighting seeks to avoid the influence of the team size, that is to say, teams with more members, in general, should have greater number of words mentioned due to their size.

Once, the weighting procedure was carried out for each team within its organization, the next step was defining the procedure to calculate the mental model variable. It was considered that the four extensive categories: a) words that are related to the concept that the stimulus word signifies, b) words that are related to the material aspect that the stimulus word signifies, c) words that describe work processes or results, d) words that indicate benefits or consequences of the word stimulus represent a concentration of the teams members in aspects of its work, concentration that reflects its mental model. On the other hand, the category words that do not apply, represents a non-concentration and those idiosyncratic words represent dispersion due exactly to its barely mentions.

Therefore, the mental model in each stimulus word is calculated as a percentage of the categories that represent concentration from the total frequencies. Total frequency includes the four extensive categories already mentioned, plus category: does not apply and plus category: idiosyncratic words. Expressed in terms of a formula, it is shown as follows:

$$\text{Mental model} = (\text{concentration words} / (\text{concentration words} + \text{does not apply words} + \text{idiosyncratic words})) \times 100$$

As a team reaches a value near to 100%, this measure suggests a great concentration of the mental model of the members of the team. Also, utilizing this measure eliminates the differences of size among the teams of different organizations. A partial example of the results for some teams is presented as follows.

Partial example of mental model by teams, stimulus word, and average of all stimulus word

	Technology	Information	Team	Work	Purpose	Interaction	mean
	conc/total	conc/total	conc/total	conc/total	conc/total	conc/total	Modmenp
Team	%	%	%	%	%	%	%
1	90.48	69.84	84.76	67.57	60.71	66.04	73.23
2	75.37	80.57	70.85	77.66	78.51	67.56	75.09
3	69.32	73.60	78.10	83.52	78.18	73.64	76.06
4	72.41	92.59	74.17	70.59	87.50	64.00	76.88

In this manner, the mental model variable for each one of the teams included in this investigation is obtained. The complete results by team are presented in Appendix B.

4.4 Field work strategy

4.4.1 Collecting data instruments

Different methods of measurement and sources of information were utilized to minimize common method variance (Podsakoff & Organ, 1986). Along this line, the design of data collection included an integrated strategy of data aggregation from group members with an assessment data of organization executives and team external leaders. Furthermore, the strategy of data collection included three sources of information: members of teams, organization executives and team external leaders or facilitators.

To collect information, four instruments were designed and utilized; these instruments are presented in Appendix A.

1. – A self-report instrument from members of teams that includes items of group processes, group empowerment and attitudinal results variables, as well as demographic data from members of teams. Each one of these constructs was measured with a 6 item scale. All the scales in this instrument used a seven-point

Likert response format. All of the items described were measured on a seven-point Likert-type scale, with 1 for “completely agree” and 7 for “completely disagree.”

2. - An instrument designed to measure the mental model of teams members.

3. - An instrument designed to evaluate the team performance results such as: productivity, proactivity and customer service oriented to the team external leaders. Team-level productivity was assessed with a 7-item measure. Team-level proactivity was assessed with a 6-item measure. Team-level customer service was assessed with a 4-item scale. All the scales in this instrument used a seven-point Likert response format. All of the items described were measured on a seven-point Likert-type scale, with 1 for “completely agree” and 7 for “completely disagree.”

4. - An instrument designed to register interview answers from to the executives of the organizations. The scales for organizational context variables used a five-point Likert response format. The scales for group structure variables utilized a dichotomous response format.

4.4.2 Fieldwork

The data collection from the fieldwork consisted of the following procedure.

Team members:

To these members, the self-report instrument to capture their perceptions, and the instrument to establish their mental model were simultaneously applied. Personal contact with them had the following modalities due to the circumstances that each organization established.

A) Individual application in a different room from place of work.

B) Individual application in their place of work

C) Group application in a different place from their place of work, and to several of them, it was prior or during a training program.

D) Group application in their place of work.

The predominant modalities were the first three, since the interviews in group in the place of work were few. It is important to clarify that no time were interviews done physically in production lines. When this place of work is mentioned, the place refers to offices or cubicles located close to the line of production, people go to these places for activities such as: registration, to receive some specific instruction or to drink water, among others.

In any of these modalities, the investigator carried out the following activities: the two instruments joined by a clip were handed to them, as well as pencils for filling the instruments. Immediately, the investigator introduced himself and read the objectives of the study. Then, he read and explained aloud the instructions of the instrument to capture the mental model. Then, with a chronometer in hand, he measured each minute for the six words of the instrument.

Once the application of the mental model instrument was finished, due to individual or simultaneous termination (when the application was in group), the self-report instrument instructions were read, doubts were clarified and team members proceeded to fill the questionnaire. Once they finished, they handed the

instruments to the investigator, again joined by the clip. Six hundred sixty seven (667) group members were interviewed that formed seventy three (73) teams.

External teams leaders or facilitators

The external leaders of the teams evaluated the effectiveness of each one of the teams in the variables of productivity, proactivity and customer service. To evaluate the teams, it was requested that the leaders consider the results of the teams before answering the instrument. The external leaders interviewed were less than seventy three (73) because some of them were leaders of two or more teams.

Executives

Executives of the organizations, by means of an interview, provided the information related to the variables of the organizational context, of the task design, and of the design structure of groups. In each organization, including the two plants of the organization (D and F), two executives, one from Human Resources and the other from Operations participated (Leede de & Stoker, 1999); twelve (12) executives were interviewed, (8 of the interviews were audio-recorded).

4.4.3 Data codification and capture

Before the codification and capture were done, in both of the team members' instrument, each of the sheets of the instruments were printed with a code to identify them and to avoid a miss-classification when they were handled in the process of capture. A manual of codification was prepared. It includes keys of identification from the questionnaires, by organization and by team; the instructions for the capture of the scale of Likert, as well as, the codification of the

demographic data of the teams' members. This manual was designed to achieve an adequate capture of the collected information. The capture was made by the Excel software. To verify the existence of errors in the capture some procedures of revision were applied, and errors that were detected, errors that were corrected. Once the capture of all the data was finished and verified, the measurement validity was carried out. Results of this analysis are presented in a following section.

4.5 Sample

4.5.1 Contact with organizations

A probabilistic sampling was not possible because of the smaller incidence of organizations in Monterrey, Mexico that have implemented teams or work groups. The group is the unit of analysis of the study. So the investigator had contact with several organizations that in their structure of work utilize groups or teams, in part or in all their function of operations/production/service, to request authorization to apply the information collecting instruments. In this request, a letter of identification from ITESM was presented, as well as, an explanation of the study objectives. In this sense, the contact with diverse organizations was initiated. A total of 5 organizations gave their authorization and these were visited for several months until the collection of information was finished.

All the organizations that authorized the information collecting requested the fulfillment of the requirement of confidentiality, with respect to any mention of its name in the document of the investigation. So their identification will be a

nominal value by means of an identification character. The characteristics of their activity of production are described.

Organization A produces light manufacture.

Organization B produces light manufacture.

Organization C produces heavy manufacture.

Organization D produces light manufacture.

Organization E produces light manufacture.

Organization F conducts financial services.

An organization that is dedicated to produce light manufacture gave authorization to interview work teams of two different plants, with different location and experiences in the theme. Thus, identification of the groups have been labeled and subsequently analyzed as two different organizations. Thus in the identification, one plant is organization D and the other is organization E.

4.5.2 Requisite to select teams

The requisites to select the teams were the following: (1) a minimum span of six months of team existence, (2) teams had a name that identified them and delimited its membership, (3) teams showed different levels of performance (Kirkman & Rosen, 1999).

4.5.3 Demographic data

Demographic data that summarize the main characteristics of the team members from the above organizations is presented in Table # 8.

Table # 8. Demographic data

Demographic data	Total			Organization (Mean)					
	Mean	Std. dev.	Median	A	B	C	D	E	F
Self report									
Job tenure (years)	10.50	7.79	9.00	12.92	8.56	15.89	8.00	7.94	11.80
Organizational tenure (years)	6.85	7.78	4.00	11.41	3.00	14.19	3.52	3.14	9.67
Actual job tenure (years)	4.24	4.56	3.00	6.44	2.18	6.37	3.88	2.76	5.43
Team tenure (years)	5.42	5.45	4.00	8.23	3.39	5.02	4.27	4.05	9.22
Age	30.08	8.24	28.00	32.24	29.23	36.53	26.09	25.86	31.27
Number of Dependents	2.33	2	1.41	2.33	2.53	3.06	2.18	2.31	1.25
	Count	%				%			
Sex									
Male	566.00	84.73		100	76.5	100	100	100	28
Female	102.00	15.27		0.00	23.5	0.00	0.00	0.00	72
Education									
Elementary/junior high	222	33.28		16.33	69.61	35.00	24.39	16.67	23.46
High school/technical	397	59.52		81.63	29.83	63.00	73.17	77.38	74.07
Undergraduate/graduate	48	7.20		2.04	0.55	2.00	2.44	5.95	2.47
Marital status									
Single:	196	29.30		32.65	28.89	10.89	28.46	39.29	40.24
Married:	432	64.70		64.29	57.78	87.13	66.67	57.14	57.32
Others:	40	5.90		3.06	13.33	1.98	4.88	3.57	2.44
Religion									
Catholic:	593	91.80		97.94	86.55	99.00	87.29	88.46	96.34
Others:	53	8.20		2.06	13.45	1.00	12.71	11.54	3.66
Number of teams	73			3	27	15	11	7	10
Number of team members interviewed	667			98	179	100	123	85	82

An average profile of the demographic data from the team members of the organizations studied that Table # 8 presents, is mentioned as follows:

The data for team members about some indicators of tenure points to an experienced team member that shows a degree of job permanence; also, this worker has experience in its actual job and in working on teams. This commentary is based on the following issues: Team members show on-the-job experience because the overall average of job tenure amounts to almost eleven (11) years. Team members show job permanence because the overall average of organizational tenure amounts to almost seven (7) years. The actual job tenure of team members is about an average of four (4) years. The actual team tenure of

team members is about an average of five and a half (5 1/2) years. In the perspective of each organization, organizations A, C, and F on all these variables show mean values above the overall mean value. On the other hand, organizations B, D, and E show mean values below the overall mean value.

The age overall average of team members is about thirty (30) years with a standard deviation of eight years. Organizations A, C, and F on this variable show a mean value located above the overall mean value. In contrast, organizations B, D, and E show mean values below the overall mean value. Hence, on average, the age of team members could be considered as intermediate. This sample of team members could be considered as predominantly male because about an 85 % have this genre. Just two organizations, B and F have female team members.

High school/technical education was predominant on team members, being almost a 60%. It follows elementary/junior high education with a 33%. Finally, undergraduate/graduate education has the remaining 7 percent. Team members indicate married as the predominant marital status with almost a 65%. Single, has an almost 30%. Others, has the remaining percentage. The average of dependents of those who have them is 2.33. Team members are predominantly Catholic, as expected in Mexico, with almost a 92%. Other religions have the remaining percentage.

4.6 Measurement validity

4.6.1 Translation process

Most of the scales of the constructs of the proposed model were already developed and validated; only for the variables group affective tone and group

membership, a new scale in the Spanish language was developed. All other variables were in the English language; hence, a process of translation to the Spanish language was necessary. In this regard, the following process of translation was implemented. The investigator requested, of four national, fluent experts of the English language and with experience in the field of management to translate the items of the scales from the English language to the Spanish language. Once they finish the translation, a process to establish coincidences that permit the selection of items was carried out, and then, the selected items were incorporated to the collection instrument.

4.6.2 Content validity process

Consequently, the investigator carried out a content validity process for the scales items (DeVellis, 1991). Management graduate students participated in this process. These students received the items in a format with no specific order, and they were asked to group them in categories according to their similarity. The results of this process of validation coincided in general with the conformation of the scales developed in the study. Also, these students evaluated the clarity of the items' wording, having as a result few observations, which supported the utilization of the items as they were phrased.

4.6.3 Construct validity at individual level analysis

4.6.3.1 Verification analysis of data assumptions

Data collected exploration in an investigation is a necessary procedure to establish the existence of a series of conditions that data distribution should fill, because diverse statistical analysis tools assume the existence of some conditions,

so that results of the analysis may be considered with a greater statistical validity (Hair, Anderson, Tatham, & Black, 1995). Besides, data characteristics found should be included in the investigation report to establish the basis of the analysis to be developed (Wilkinson & APA Task Force, 1999).

Statistical analysis of individual data, - answers of the teams' members - starts with data exploring through normality analysis of the distributions of the items included. Results show that many of them did not present normality in its distributions, having identified the presence of skewness and kurtosis. The presence of skewness found that answers distribution had mostly right skewness. The normalization procedure consists of transforming the data, as is in cases of skewness: logarithmic transformations or square root transformations. In this case, logarithmic transformations were utilized; besides, observations exist that data transformation helps to resolve problems of linearity and multi-collinearity (Hair, et al., 1995).

Data missing existence can be the result of omissions from interviewees, or design errors of the instrument of collection, among other things. To run a determined analysis with data missing requires a processing estimation, or a decision to eliminate the cases that have this condition. The frequency of these omissions was low; most of the items (52 of 76) showed a missing count among zero and five value counts; another 13 items presented a missing count among 6 and 11 value counts. Only an item of the group membership variable showed a high incidence of missing data due to an error in the physical design of the instrument, since a question that finished a section, from several sections in which

the questionnaire was conventionally divided, remained located at the beginning of the following page; thus, several of the interviewees left it without answering, to continue answering the following section.

The decision to estimate missing data was to compute by means of multivariate estimation included in the SPSS software, because this estimation implies the development of a regression on the existing data and therefore obtains a more complete estimation (SPSS, 1998). Existence of outliers is the result of extreme observations that are in many cases real situations, and in other cases, are capture errors that can be corrected. In any case, elimination of outliers implies an investigator's decision, according to his interpretation of the situation. In this case, outliers' elimination was carried out (Hair, et al., 1995). Former data modifications are summarized in Table # 9.

Table # 9. Data modifications

Variable (items)	Transformations	Missing Data	Outliers (individual observations)
Impact	Yes	Yes	Yes
Autonomy	Yes	Yes	Yes
Group trust	Yes	Yes	Yes
Meaningfulness	Yes	Yes	Yes
Potency	Yes	Yes	Yes
Group affective tone	Yes	Yes	Yes
Coordination	Yes	Yes	Yes
Group membership	Yes	Yes	Yes
Teamwork	Yes	Yes	Yes
Team satisfaction	Yes	Yes	Yes
Team commitment	Yes	Yes	Yes

Once individual data exploration and their modifications were carried out, it is considered that data distribution, data missing correction, as well as, elimination of outliers allows one to comply with the necessary assumptions, and

to count on an adequate information to carry out the statistical analysis of the individual data to establish the validity of the constructs, at the individual level of analysis, which initiates with the three factor analyses that are described as follows.

4.6.3.2 Factor analysis

The purpose of factor analysis is to analyze the structure of relationships among a large number of variables (Hair, et al., 1995). This statistical technique is utilized to analyze two types of situations. The first one is called exploratory; it consists on the identification or extraction of a series of factors, from an assembly of items greater in quantity than extracted factors, with the intention of identifying theoretical dimensions that can guide the investigation. By identifying the degree of said dimensions, a variable can be explained by means of a reduction of data (Hair, et al., 1995).

The other technique, called confirmatory, consists of the corroboration of a series of items that were utilized in the collecting instrument corresponding to the construct that was proposed in theoretical framework (Fabrigar, MacCallum, Wegener, & Strahan, 1999; Flores Zambada, 1996). In this sense, a factor can be considered like a lineal combination of the original variables. To decide the number of factors selected, one of the techniques utilized is the latent root criterion that consists of selecting only the factors whose eigenvalues or latent root is greater to 1. Another technique to decide the number of factors is a priori, i. e., when the investigator beforehand establishes the number of factors in agreement to theoretical approach. In addition to factor extraction, a rotation that allowed for

the factors to be clearly defined was utilized. In this particular case a varimax rotation, which is an orthogonal rotation, was performed (Hair, et al., 1995).

The approach utilized in this statistical analysis was confirmatory. Three factors analysis were performed from variables related to different aspects of this investigative model: group empowerment, group processes, and attitudinal results at the individual level of the answers from teams' members interviewed (Kirkman & Rosen, 1999).

4.6.3.2.1 Group empowerment factor analysis

The group empowerment construct includes six dimensions, and for each dimension six items were included in the data collecting instrument; hence, this factor analysis utilized 36 items to confirm the existence of the six dimensions or variables. Results of this analysis are shown in the Table # 10. To achieve the results needed, we sifted through items of smaller load. Factor loading represents the correlation of the variable with the factor; so, squaring the load obtains the quantity of the total variance that explains the factor. Thus, the higher the load factor is so is the increase in the percentage of explanation. The values that are utilized to define the importance of the loads and their explanation are the following: values of $\pm .30$ are considered minimum; values of $\pm .40$ are considered important; and values higher than $\pm .50$ are considered of practical significance (Hair, et al., 1995). By means of the sifting of items there remained six factors taking as a base a load equal to .49, that corresponds to the six theoretical dimensions of the construct. Furthermore, these factors explain a 73.30% of the

variance. Only one item of the group potency variable had a higher load in another different factor (in variable: impact).

Table # 10. Results from group empowerment factor analysis

Group Empowerment Factor Analysis						
Item	Impact	Autonomy	Meaning	Trust	Potency	Affective tone
PO2	-0.772	0.078	-0.276	0.114	0.181	0.004
PO4	-0.345	0.073	-0.387	0.184	0.530	0.178
PO6	-0.148	0.202	-0.049	0.140	0.863	0.152
SI2	-0.290	0.188	-0.810	0.217	0.070	0.197
SI5	-0.211	0.227	-0.695	0.354	0.163	0.232
SI6	-0.254	0.239	-0.796	0.211	0.080	0.196
AG1	-0.082	0.768	-0.271	0.074	0.139	0.219
AG3	-0.129	0.661	-0.288	0.291	0.139	0.137
AG5	-0.179	0.825	-0.027	0.190	0.068	0.115
IG2	-0.495	0.324	-0.251	0.195	0.057	0.449
IG3	-0.718	0.165	-0.223	0.123	0.151	0.298
IG6	-0.609	0.180	-0.125	0.335	0.077	0.358
CG2	-0.270	0.252	-0.262	0.649	0.062	0.264
CG4	-0.126	0.139	-0.172	0.753	0.256	0.214
CG6	-0.163	0.224	-0.304	0.739	0.043	0.228
TA2	-0.197	0.028	-0.393	0.157	0.189	0.693
TA5	-0.131	0.281	-0.099	0.336	0.120	0.678
TA6	-0.259	0.285	-0.180	0.284	0.120	0.612

By means of the 18 items shown on Table # 10, the six dimensions or factors of group empowerment were identified, as it was outlined in the theoretical framework of this investigation. Thus, the first dimension comprises items of group impact variable; the second dimension is group autonomy; the third consists of the items of group meaning variable; the fourth dimension is represented by the items of the variable group confidence; the fifth dimension is group potency; and

the last dimension is group affective tone. The existence of the six factors or dimensions of the group empowerment confirm the validity of this construct.

4.6.3.2.2 *Group processes factor analysis*

Group processes variables that are analyzed through this procedure are two: coordination and group membership. For each one, six items were included in the data collection instrument; thus, in this factor analysis were utilized 12 items to confirm the existence of the two variables. The results of this analysis are shown in the Table # 11. To arrive at these results, the items whose load was smaller were sifted and they appeared only as two factors taking as a base of elimination a smaller load of .55. In addition, these factors explain an 81.51% of the variance.

Table # 11. Results from group processes factor analysis

Group processes Factor Analysis		
	Factors	
Item	Coordination	Group membership
CR3x	-0.553	0.329
CR4x	-0.835	0.313
CR5x	-0.701	0.422
MG4x	-0.433	0.763
MG5x	-0.214	0.868
MG6x	-0.468	0.618

In this factor analysis, the two factors or variables appear. In the first factor, the coordination variable is identified. In the second factor, the variable group membership is confirmed. Hence, the two variables obtained imply the existence of validity of these two constructs.

4.6.3.2.3 *Attitudinal results of factor analysis*

The attitudinal results variables are three: teamwork, team job satisfaction, and team commitment. For each one six items were included; so in this factor

analysis 18 items were utilized to confirm the existence of the three variables. The results of this analysis are shown in the Table # 12. To achieve this result, items sifted were those whose load was smaller, and the three factors remained. Taking as a sifting base a load smaller of .45, the factors correspond to the three variables analyzed. Besides, these factors explain a 77.84% of the variance. These results show that one item from teamwork, and another from team job satisfaction had a higher load related to other factor than the one they loaded.

Table # 12. Results from attitudinal outcomes factor analysis

Attitudinal outcomes Factor Analysis			
Item	Team commitment	Team work	Team satisfaction
TE3	-0.260	-0.846	-0.151
TE4	-0.797	-0.241	-0.233
TE5	-0.186	-0.884	-0.111
SE1	-0.170	-0.129	-0.896
SE2	-0.377	-0.123	-0.803
SE3	-0.537	-0.364	-0.454
CE3	-0.841	-0.167	-0.233
CE4	-0.832	-0.189	-0.251
CE6	-0.835	-0.198	-0.171

The results of this analysis show the existence of three factors: the first factor is identified by variable team commitment, the second factor is represented by the items of teamwork variable, and the third factor is identified by variable team satisfaction. Analyses of these variables determine the existence of validity of proposed constructs.

An explanation for the items that had a high load in different factors from those theoretically expected, might possibly be related to the elaboration process of scales. As it was mentioned previously, several scales utilized were validated in the United States context; to utilize them, a process of translation was carried out. Nevertheless, as Flores Zambada (1996) indicates that the translation process,

even when well done, does not guarantee the validation of an instrument for a different context. In this sense, items sifted from all the variables, and items that show a high load in factors different from expected could be the result of the translation circumstance, condition that due to limitations of time and resources could not be reviewed and modified. On the other hand, results of the former analysis show the existence of the factors that were expected to be found which will be utilized in subsequent analysis.

4.6.4 Final instrument

At the individual level of analysis shown in Table # 13 the constructs and their related items are presented from each factor analysis described above. In this regard, this information shows the support to the construct validity of these variables, and also, shows the items that were validated in the factor analysis.

Table # 13. Validated items from group processes, empowerment, and attitudinal outcomes scales

Variable	Item
Group Impact	El equipo tiene un impacto positivo en otros empleados que dependen de él. El equipo tiene un impacto positivo en los clientes de esta empresa. El equipo hace la diferencia en esta organización.
Group Autonomy	El equipo puede seleccionar diferentes maneras de hacer su trabajo. El equipo tiene una sensación de libertad en lo que hace. El equipo hace sus propias elecciones sin que le sean dictadas por la gerencia.
Group Trust	En mi grupo de trabajo, todos los miembros muestran una integridad absoluta. En mi grupo de trabajo, estamos seguros de que podemos confiar totalmente entre nosotros. En mi grupo de trabajo, los miembros somos confiables y honestos.
Group Meaning	El equipo cree que su trabajo es valioso. El equipo siente que su trabajo tiene significado. El equipo siente que sus tareas valen la pena.
Group Potency	El equipo espera ser reconocido como un equipo de alto desempeño. El equipo cree que puede ser muy productivo. El equipo cree que ningún trabajo es demasiado difícil.

Variable	Item
Group Affective tone	En mi equipo generalmente estamos muy activos mientras desempeñamos nuestro trabajo. En mi grupo de trabajo sabemos que entre nosotros respaldamos completamente nuestra palabra. En mi grupo de trabajo, los miembros somos confiables y honestos.
Group Coordination	En mi equipo somos buenos para coordinar el trabajo entre todos. En mi equipo estamos enterados de las actividades de trabajo de los compañeros. En mi equipo encontramos fácil trabajar con los compañeros.
Group Membership	En mi equipo de trabajo me siento como en familia. Si tengo algún problema grave, los miembros de mi equipo me ayudaran a resolverlo. Estoy orgulloso que otros sepan que soy parte de este grupo de trabajo.
Teamwork	El trabajo hecho en equipo/grupo es mejor que el trabajo realizado individualmente. Trabajamos juntos de manera creativa y efectiva como un grupo. Se genera mayor cantidad de ideas ó soluciones cuando se trabaja en una situación de equipo que de manera individual.
Team Satisfaction	Los miembros del equipo están satisfechos con su sueldo. Los miembros del equipo están satisfechos con las posibles oportunidades de promoción. Los miembros del equipo están satisfechos con las relaciones del equipo con otros empleados y departamentos.
Team Commitment	Este equipo realmente inspira lo mejor en los miembros del equipo en relación con la forma de desempeñar el trabajo. Los miembros del equipo están muy contentos de haber elegido trabajar en este equipo en lugar de otro. Para los miembros del equipo este es el mejor de todos los posibles equipos para trabajar.

Another important aspect in this analysis is to establish the reliability of the measuring instrument to specify the degree in which the data or items measure the constructs that are established in the theoretical framework of this investigation. Thus, the results of this reliability analysis are presented in the following paragraphs.

4.6.4.1 Reliability of final instrument

One of the approaches utilized to establish the reliability of a measurement instrument is evaluating internal consistency of the instrument. This evaluation consists of establishing whether the individual questions of a same construct are

grouped among themselves, that is to say, to evaluate if these questions measure the same (Nunnally & Bernstein, 1994). In this study, the coefficient estimated is Alpha Cronbach for each one of the variables from the proposed model; thus, this coefficient can evaluate instruments, in which scale items have three or more values (DeVellis, 1991).

Alpha Cronbach was calculated for the items of each variable in the individual level; alpha Cronbach results are shown in Table # 14. Results from items of all model variables show values over .70, the minimum level considered acceptable, except, for items of group potency variable and teamwork variable which have very close values to minimum mentioned. The alpha coefficient has been considered as a minimum reliability limit, since other reliability coefficients exist, which will be calculated in subsequent data analyses (Arbunckle & Wotke, 1999).

Table # 14. Results from reliability analysis of group processes, empowerment, and attitudinal outcomes scales

RELIABILITY ANALYSIS - SCALE (ALPHA)		
Variable	Alpha α	Standardized item alpha
Impact	0.799	0.8009
Autonomy	0.7936	0.7969
Group trust	0.8428	0.8453
Meaningfulness	0.8475	0.8499
Potency	0.6997	0.7112
Group affective tone	0.7885	0.7885
Coordination	0.7832	0.801
Group membership	0.8556	0.8618
Teamwork	0.6759	0.7015
Team satisfaction	0.7979	0.8127
Team commitment	0.882	0.8843

As previously reported, with collected data at individual level, a verification analysis of assumptions of the data distribution was performed.

Consequently, a three factor analysis from group empowerment, group processes, and attitudinal results variables was also carried out. Finally, a reliability analysis from the measurement instrument variables was performed.

4.6.5 Construct validity at group level analysis: Group performance outcomes

4.6.5.1 Factor analysis of performance results

The performance results variables are three -productivity, proactivity, and customer service. For productivity seven items were included; for proactivity six items were included, and for customer service four items were included; thus, in this factor analysis 17 items were utilized to confirm the existence of the three variables. The results of this analysis are shown in the Table # 15. To achieve this result, items sifted were those whose load was smaller, and the three factors remained. Taking as a sifting base a load smaller of .60, the factors correspond to the three variables analyzed. Besides, these factors explain an 85.84% of the variance.

Table # 15. Results from performance outcomes factor analysis

Performance outcomes			
Item	Proactivity	Customer service	Productivity
PD3	0.517	0.303	0.603
PD4	0.350	0.543	0.696
PD6	0.599	0.440	0.702
PR2	0.836	0.337	0.329
PR3	0.826	0.427	0.471
PR6	0.677	0.381	0.480
SC1	0.558	0.798	0.440
SC2	0.556	0.767	0.396
SC3	0.407	0.817	0.519

At the group level of analysis in Table # 16, the constructs considered as group performance outcomes and their related items from the factor analysis are presented as described above. In this regard, this information shows the support to

the construct validity of these variables, and, also shows the items that were validated in this factor analysis.

Table # 16. Validated items from performance outcomes scale

Variable	Item
Productivity	La cantidad de trabajo terminada por nuestro equipo es muy grande. La calidad de trabajo de nuestro equipo es muy alta. El equipo obtiene el máximo resultado a partir de los recursos utilizados.
Proactivity	El equipo siempre esta buscando mejores maneras de hacer las cosas. El equipo busca soluciones innovadoras a los problemas del trabajo. El equipo busca la mejora continua.
Customer service	El equipo genera productos y servicios de alta calidad. El equipo proporciona un nivel satisfactorio de servicio global al cliente. El equipo alcanza las metas de la organización con respecto al servicio al cliente.

On the other hand, herein follows the reliability report of the three variables of performance results: productivity, proactivity and customer service, which measurement was carried out at the group level, since this information was provided by external team leaders or facilitators. Results for the items of these variables from the proposed model show values exceeding over .70, the minimum level considered acceptable, supporting reliability of these variables scales. This information is found in Table # 17.

Table # 17. Reliability analysis of performance outcomes scale

RELIABILITY ANALYSIS - SCALE (ALPHA)		
Variable (items)	Alpha	Standardized item alpha
Productivity	0.9286	0.9295
Proactivity	0.9254	0.9301
Customer service	0.9096	0.9104

4.6.6 Construct validity at group level analysis: Organizational context and group structure variables

The organizational context variables are organizational/social structure, managerial support, external team leader behavior, job design production/service responsibility, and team – based human resources policy. The group structure variables are leadership, power, status, and group composition. At the group level of analysis, the construct validity for these variables were estimated through the measurement model estimated by the PLS software; this estimation procedure will be explained thoroughly in the next chapter. Hence, in this section, a basic explanation of this issue and their results will be presented in the following paragraphs.

In the estimation of the measurement model (outer model), the loads, the communality and the variance residual are generated among the observed variables or indicators and the latent variable (García-Calderón, 1998). In this procedure, in the first iteration, the loading is considered similar to a result of an analysis of principal components (García-Calderón, 1998). A loading greater to .55 has been considered as an accepted minimum to evaluate the communality of each of the indicators.

These results show that most of the individual indicators, of the latent variables, showed communality values greater than .55; also, most of the cases show values a larger amount higher than this minimum, situation that represents a higher value of common variance among the latent variables and their observed variables. As for smaller communality values to .55, the following indicators were obtained: two indicators of the performance evaluation variable, and a single

indicator of the following variables: mental model, staffing decisions, job significance, leadership structure, power structure, and group composition structure. Thus, the indicators shown in Table # 18 are considered to reflect the variables mentioned above. The results mentioned in Table # 18 are extracted from the information that is fully presented in the next chapter (see Table # 28).

Table # 18. Loading from indicators of organizational context and group structure variables

Variable	Loading
Mental model	
tecnol	0.7876
equip	0.8141
propo	0.4705
Staffing and participation decisions	
decis57	0.9242
decis58	0.9117
decis59	0.4423
decis60	0.9381
Performance evaluation	
evalu56	0.8376
evalu55	0.4105
evalu54	-0.3354
Training	
capac50	0.9312
capac51	0.9751
capac52	0.9937
capac53	0.925
Managerial support	
apdire13	0.8661
apdire9	0.9091
apdire11	0.9548
Socio political support	
apsopo3	0.7055
apsopo5	0.9176
apsopo6	0.9037
External leadership	
lidext15	0.9755

Variable	Loading
lidext16	0.9752
lidext23	0.8691
Self-management	
autoa24	0.8215
autoa25	0.754
autoa26	0.9498
Task variety	
varie30	-0.8936
varie31	0.9898
varie32	0.9733
Task significance	
signi34	0.7403
signi35	0.8569
signi37	0.3015
Production/service responsibility	
respo41	0.8496
respo43	0.6754
respo46	-0.8678
Leadership group structure	
lider62	0.9985
lider65	0.9985
lider66	0.9985
lider64	0.3453
Power group structure	
poder71	0.8663
poder72	0.8722
poder73	-0.2554
Status group structure	
status80	0.9445
status81	0.7519
status82	0.8005
Composition group structure	
compo85	0.7743
compo87	-0.2937
compo89	0.9873

Table # 19 presents the constructs and their related items from the analysis described above. In this regard, this information shows the support to the construct

validity of these variables, and also, shows the items that were validated in the analysis.

Table # 19. Validated items of organizational context and group structure scales

Variable	Item
Staffing and participation decisions	Deciden quienes pueden ser miembros de los mismos. Participan en el entrenamiento de los miembros de los mismos. Participan en la disciplina de los miembros de los mismos. Participan en la selección de los miembros de los mismos.
Performance evaluation	Evalúan formalmente el desempeño de sus propios miembros. Consideran el desempeño del equipo más importante que el desempeño individual. Consideran que la evaluación del desempeño de los miembros del equipo depende de su desempeño como miembro del equipo.
Training	Son entrenados para realizar trabajos de diferentes equipos. Reciben una capacitación técnica adecuada para las tareas que tienen que realizar. Reciben una capacitación adecuada en calidad y servicio al cliente. Reciben una capacitación en habilidades para trabajar en equipo.
Managerial support	Reciben información acerca de los actuales desarrollos y de los planes futuros que pueden afectar su trabajo. Son apoyados por la alta dirección. Reciben retroalimentación de su desempeño de los niveles directivos superiores.
Socio political support	Tiene acceso a información estratégica de la organización. Son considerados como un elemento importante en la operación de la organización. Tienen apoyo del personal sindicalizado.
External leadership	Solicita consejos cuando toma decisiones a los equipos que supervisa. Permite establecer sus propias metas a los equipos que supervisa. Fomenta la auto evaluación en los equipos que supervisa.
Self-management	Establecen los métodos, procedimientos y horarios de trabajo. Deciden quien realiza las tareas. Toman las decisiones relacionadas con el trabajo.
Task variety	Tienen rutinas de trabajo que se encuentran poco estructuradas. Tienen oportunidad (los miembros de los equipos, en su mayor parte) de aprender las diferentes tareas que se realizan. Tienen oportunidad (los miembros de los equipos, en su mayor parte) de llevar a cabo las tareas más interesantes.
Task significance	Hacen una contribución importante para atender a los clientes de la empresa. Hacen un esfuerzo por cumplir con las fechas y tiempos programados. Tienen metas y/o tareas de un alto significado para ellos.
Production/service responsibility	Toman decisiones importantes tales como asignaciones de trabajo relacionadas con su producto/servicio. Monitorean la calidad. Manejan quejas de los clientes(internos/externos).
Leadership group structure	¿Existe liderazgo de los equipos? Reportes de información. Supervisión de los miembros. ¿Existe rotación en el liderazgo de los equipos?

Variable	Item
Power group structure	El diseño de la estructura del grupo genera que solamente alguno o algunos de los miembros tenga la posibilidad de sancionar o recompensar a los miembros del equipo. El diseño de la estructura del grupo intencionalmente integra alguno o algunos de los miembros con capacidades o habilidades especiales que les permita a dichos miembros ser considerados como expertos por los demás miembros del equipo. El diseño de la estructura del grupo establece una jerarquía en el mismo que permita a alguno o algunos miembros tengan mayor rango que los demás miembros del equipo.
Status group structure	Tienen distintas categorías de acuerdo a los tabuladores de sueldos Algunos son de planta y otros eventuales. Tienen distinta antigüedad (de manera significativa) en la organización.
Composition group structure	Están integrados por elementos que tienen una amplia variedad de capacidades. Están integrados por miembros que tienen habilidades complementarias. Tienen mucha flexibilidad para que los miembros puedan cambiarse.
Mental model	Stimulus word: tecnología. Stimulus word: equipo. Stimulus word: proposito.

Another important aspect of this analysis is to establish the reliability of the measuring instrument to specify the degree in which the data or items measure the constructs that are established in the theoretical framework of this investigation. Thus, the results of this reliability analysis are presented in the following paragraphs.

Another element of the PLS estimation procedure is establishing the internal reliability of the set of indicators; in this regard, the Composite Reliability index is utilized. This indicator is considered a better approximation of reliability than alpha Cronbach, since alpha Cronbach is considered as a lower limit in the reliability estimation. The composite reliability supposes that the parameters are precise and applies only when the latent variable has reflective indicators (Chin, 1998). The results of this indicator are shown in the Table # 20. These results show higher values and most of them close to 1, and only performance evaluation

and task significance variables show smaller values of .70. Similarly, this information comes from the analysis presented in the next chapter.

Table # 20. Composite Reliability of organizational context and group structure scales

Variable	Composite Reliability
Staffing and participation decisions	0.893
Performance evaluation	0.554
Training	0.977
Managerial support	0.936
Socio political support	0.883
External leadership	0.959
Self-management	0.882
Task variety	0.967
Task significance	0.689
Production/service responsibility	0.843
Leadership group structure	0.926
Power group structure	0.736
Status group structure	0.874
Composition group structure	0.759

The above results of this section allow one to present the constructs and their respective items validated at the group level. Also, their respective reliability analysis from the measurement instrument variables was described. In this regard, in this final section were presented all the operationalized variables and their respective validated items, which will be utilized in the statistical analysis that is described in the next chapter.

Chapter 5

Results

In this chapter are included descriptive data of the variables that integrate the proposed model. Diverse statistical analyses are also presented; these analyses were performed to obtain the results to prove the hypotheses expounded in this study. The statistical analysis of this investigation was carried out at the group level of analysis; then, a series of statistical processes were run to justify the aggregation of individual data to utilize averages of said data at this level of analysis. These processes were an ANOVA design, as well as, coefficients of intra-class correlation identified as: ICC (1) and ICC (2).

Once sufficient evidence was found to justify data aggregation, it was decided to estimate the theoretical model by means of structural equations modeling. Initially, the estimation was on a covariance-based approach which is oriented to parameter estimation. By means of software AMOS 4, the model was evaluated, and a series of results related to investigation hypotheses were found. Nevertheless, indexes of model fit did not turn out to be satisfactory due to sample size utilized.

Therefore, a decision to evaluate the theoretical model was taken by means of another approach of structural equations modeling; this method is based on residuals variance minimization. This approach estimates the model by means of partial least squares, (PLS). Its orientation is of an exploratory type and related to identify or to evaluate the paths or the relationships among the model variables. Results support several hypotheses from the proposed theoretical model and tests

utilized to evaluate the model were satisfactory. Also, an additional analysis was carried out to deepen the study of group empowerment dimensions. Detailed statistical analysis results are presented in the following pages.

5.1 Descriptive analysis

Descriptive data from all the variables from the proposed model are presented in Figures # 5, 6, 7, 8, & 9. These data includes information from organizational context, group processes, group empowerment, group outcomes, and mental model variables. The data describes range of percentages, mean, standard deviation and median. Also, these Figures include the overall mean of each variable for all the organizations studied.

5.1.1 Descriptive analysis: organizational context variables from managers.

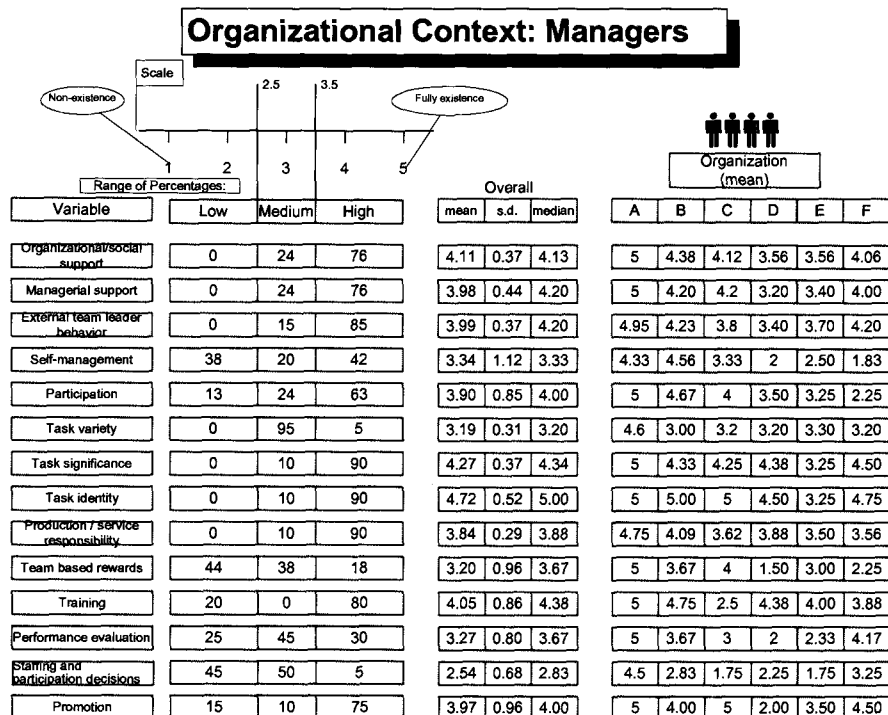


Figure # 5. Descriptive analysis: organizational context variables from managers.

Indicators of organizational context variables relevant to this study were included. Organizations' managers were asked to obtain the information of these variables. A five point Likert scale was developed to reach this goal. The highest value of five (5) indicates the agreement from the respondents that the issue exists and is completely implemented in the organization. The lowest value of one (1) indicates the agreement from the respondents that the issue does not exist in the organization. Other values indicate an intermediate situation. The range of percentages of the Figure # 5 conventionally defined establishes a relationship among the values of the scales and the corresponding percentage of the answers in each of the range values.

The information of Figure # 5 shows that approximately two thirds of the organizational context variables are located on the higher (values from 3.5 to 5) range of percentage. This situation indicates, according to the managers' answers, an almost full or an abundant existence of the following elements in the studied organizations: organizational/sociopolitical support, management support, external team leader behavior, and team production/service responsibilities; participation, task significance, task identity; and, training and promotion. Also, the overall mean of these variables indicates higher values of five or near that value.

Instead, according to the managers' answers, a partial existence or a non-existence is indicated in the following organizational context variables: self-management, task variety, variables that form part of the group job design; and, variables that form part of the team – based human resources policy such as: team-

based rewards, performance evaluation, and staffing and participation decisions. Also, the overall mean of these variables indicates the lower values of all the variables. Organizations A, B, C, and F show mean values above the overall mean value on most of all these variables. On the other hand, organizations D and E show mean values below the overall mean value on almost all these variables. A general conclusion, from the answers of the managers related to the variables of the organizational context, indicates that the studied organizations had implemented several organizational aspects that are related and support their utilization of work groups.

5.1.2 Descriptive analysis: organizational context variables from self-report.

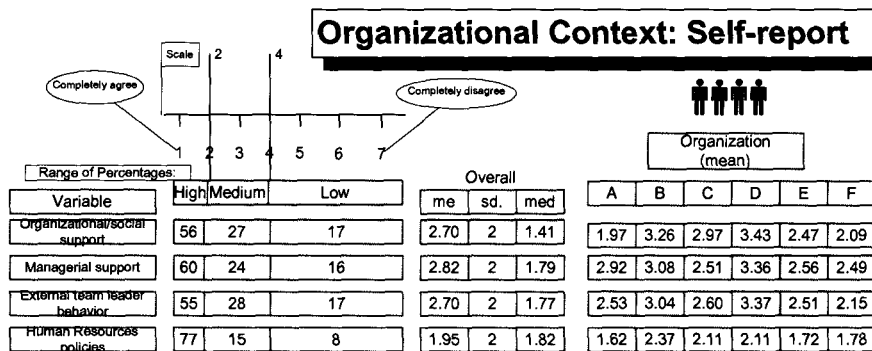


Figure # 6. Descriptive analysis: organizational context variables from self-report.

For the perception of organizational context variables from team members, just four items were included, one for each of the variables mentioned in Figure # 6; for the reason that the self-report instrument was already extensive. Thus, the answers of these items could be used only as an indicator of the perception of the team members on these elements; however, they would not be considered on the statistical analysis.

The self-report instrument utilized a seven point Likert scale to measure the perception of the team members. The lowest value of one (1) indicates the complete agreement from the respondents about the sentences described on the items that integrate the variables. The highest value of seven (7) indicates the complete disagreement from the respondents about the sentences on the items that integrate the variables. Other values indicate an intermediate situation. The range of percentages of the Figure # 6, conventionally defined, establishes a relationship among the values of the scales and the corresponding percentage of the answers in each of the range values.

The percentage from the items that represent these four variables is mainly located in the high portion of the range of percentage that comprises values from one (1) to two (2); however, comparing the mean values among them a difference was found. The item from the variable team – based human resources policy shows a mean value of 1.95, but for the two other items the mean show a value of 2.70, and for the remaining item the mean value is 2.82. A conclusion from these data could be stated as follows: team members perceive or value as more important the organization's team – based human resources policy than the organizational/sociopolitical support, management support, and external team leader behavior actions implemented by the organization.

5.1.3 Descriptive analysis: group processes, empowerment, and outcomes variables.

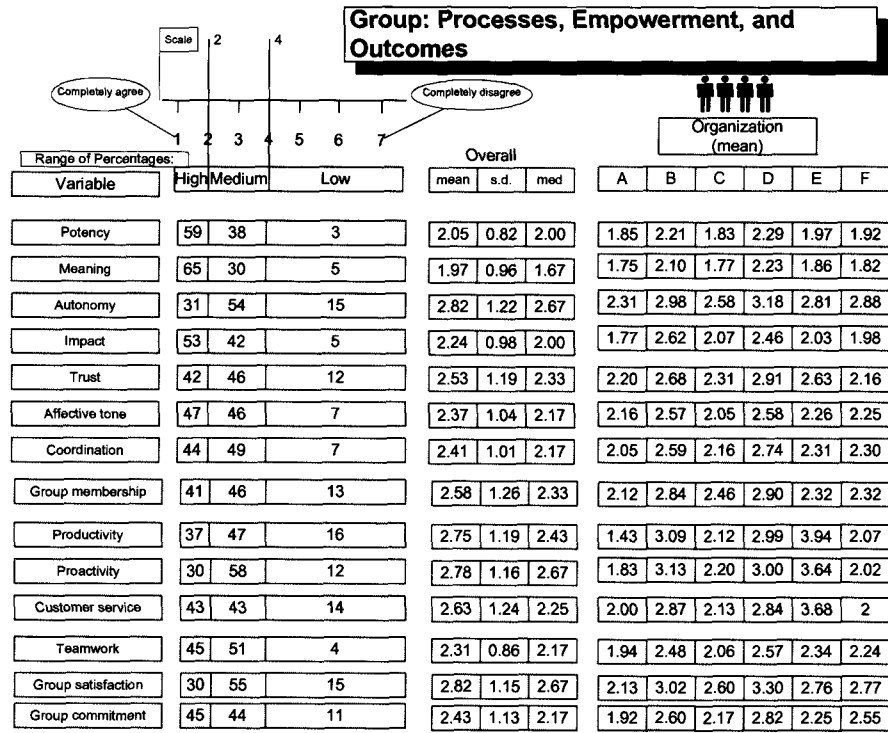


Figure # 7. Descriptive analysis: group processes, empowerment, and outcomes variables.

5.1.3.1 Group empowerment

The dimensions of group empowerment were measured by the self-report instrument; thus, the commentary about the scale and the range of percentages is similar to the one mentioned above, in the paragraph that describes the perception of team members about organizational context variables.

The data from the group empowerment dimensions in Figure # 7 show that meaning and potency have the highest mean value among all the dimensions of group empowerment. In contrast, trust and autonomy show the lowest mean value; finally, impact and affective tone show an intermediate mean value. The values of the range of percentages confirm these results. It is important to stress that the

result for the dimension of autonomy, which is the lowest of the six dimensions of group empowerment, could be considered as a contradictory issue. This contradiction comes from the fact that the groups studied are considered in the perspective of self-managing teams.

Organizations A, C, and F show mean values below the overall mean, issue that indicates that in these organizations their team members have the highest perception on the group empowerment dimensions. The information mentioned about group empowerment indicates that group members perceive the dimensions of group empowerment in the order indicated previously, which is assessed in the range from high to medium values according to the range of percentages.

5.1.3.2 Group coordination and group membership

For the coordination and group membership variables, the higher percentage is located in the medium portion of the conventionally defined range of percentages, with percentages of 49% and 46%, respectively. However, the percentage of the high portion of these variables presents percentages near to the mentioned percentages with a 44% and a 41%. Thus, the perception of these variables is conceived in the range from medium to high. The overall mean value of these variables confirms the results mentioned above. See Figure # 7.

5.1.3.3 Group outcomes: Attitudinal results

The items of the variables of attitudinal outcomes were included in the self-report instrument that team members answered; therefore, the commentary about the scale and the range of percentages is similar to the one mentioned

above, in the paragraph that describes the perception of team members about organizational context variables. Descriptive results of these variables are mentioned as follows: teamwork, group commitment, and group satisfaction show an overall mean value higher than two (2), which is considered in the medium range; the order of these variables is the one mentioned in the lines above with the following values, respectively: 2.31, 2.43, and 2.82. Thus, teamwork has the highest perception, and group satisfaction has the lowest perception on the perspective of the team members. The range of percentages confirms these results. Organizations A, C, and F show mean values below the overall mean, issue that indicates that in these organizations their team members have the highest perception on these variables. See Figure # 7.

5.1.3.4 Group outcomes: Performance results

The items of the variables of performance outcomes were included in an instrument answered by facilitators or external leaders of the teams studied. This instrument includes a seven point Likert scale similar to the one of the self-report instrument; consequently, the commentary about the scale and the range of percentages is similar to the one mentioned above in the paragraph that describes the perception of team members about organizational context variables.

Data from these variables indicates that customer service, productivity, and proactivity show an overall mean value higher than 2.5, which is considered in the medium range. The order of these variables is the one mentioned above, with the following values respectively: 2.63, 2.75, and 2.78. Hence, the perception of the external leaders of these teams is very similar because these values are close

among them. Also, the distribution on the range of percentages incorporates evidence that of one of the requisites to select the teams -teams which showed different levels of performance- was covered because this distribution shows values on the three portions. See Figure # 7.

5.1.4 Descriptive analysis: group mental model.


Mental Model							 Organization (mean)					
Range of Percentages:				Overall								
Variable/ Stimulus word	0 - 50	51 - 75	76 -100	mean	s.d.	median	A	B	C	D	E	F
	Low	Medium	High									
Mental Model	1	81	19	68.61	7.25	68.80	74.79	65.98	67.23	70.92	69.55	72.67
Technology	20	60	20	64.76	14.40	65.15	78.39	58.83	65.62	71.64	68.77	64.97
Information	3	40	57	78.03	11.89	78.95	74.67	81.20	72.88	79.32	82.00	74.00
Team	7	56	37	71.02	11.02	72.35	77.90	69.85	65.04	73.53	72.98	76.96
Work	3	56	31	72.95	10.87	73.47	76.25	70.74	69.62	75.24	75.47	78.61
Purpose	12	63	25	66.76	12.47	67.44	72.47	66.06	65.20	67.11	63.24	71.32
Interaction	32	57	11	58.14	14.33	58.06	69.08	49.21	65.01	58.86	54.84	70.16

Figure # 8. Descriptive analysis: group mental model variable.

As it was mentioned before, in the procedure of mental model elaboration, a hundred percent of the index of the mental model implies a complete shared mental model; consequently, the range of percentages conventionally defined, consisted of three options, as it is displayed in Figure # 8.

The variable mental model that represents the average of the six stimulus words has an overall mean value of 68.61%, which locates it in the medium portion of the conventionally defined range of percentages. The overall mean value from each of the stimulus words indicates that Information has the highest percentage with a 78.03%, and Interaction has the lowest with a 58.14%. The other stimulus words have intermediate values; thus Work and Team show a percentage around a 72%; and last, Technology and Purpose show a percentage

around a 65%. Organizations A, C, and D predominantly show mean percentage values above the overall mean, issue that indicates that in these organizations their team members have a higher shared mental model than team members from the other organizations. Thus, the information mentioned above in this paragraph allows the conclusion about the existence to a certain degree of a shared mental model among the team members of the studied organizations.

5.1.5 Descriptive analysis: group structure

Group structure: Managers								Group structure: Managers							
Percentage of affirmative answers.								Percentage of affirmative answers.							
Organization								Organization							
Variable/item	Total	A	B	C	D	E	F	Variable/item	Total	A	B	C	D	E	F
Leadership								Participation: generating responsibility							
Leadership existence	95.89		36.99	20.55	15.07	9.59	13.70	Participation: generating improvement	100	4.11	36.99	20.55	15.07	9.59	13.70
Leadership rotation	49.32			20.55	15.07		13.70	Participation: generating innovation	86.30	4.11	36.99	20.55	15.07	9.59	
Responsibility: reports	95.89		36.99	20.55	15.07	9.59	13.70	Status							
Responsibility: supervision	95.89		36.99	20.55	15.07	9.59	13.70	Different categories	38.36	4.11		20.55			13.70
Responsibility: meetings	90.41	4.11	36.99	20.55	15.07		13.70	Tenure / not tenure	43.84			20.55		9.59	13.70
Responsibility: record keeping	80.82		36.99	20.55		9.59	13.70	Organization tenure	53.42	4.11		20.55	15.07		13.70
Power								Team tenure							
Information power	0.00							Group composition							
Reward or sanction power	28.77				15.07		13.70	Variety of skills	53.42	4.11		20.55	15.07		13.70
Expert power	28.77				15.07		13.70	Variety of experience	100	4.11	36.99	20.55	15.07	9.59	13.70
Legitimate power	95.89		36.99	20.55	15.07	9.59	13.70	Complementary skills	90.41	4.11	36.99	20.55	15.07		13.70
Participation / involvement								Work knowledge							
Participation: training	86.30	4.11	36.99	20.55	15.07	9.59		Flexibility to move	48.32	4.11		20.55	15.07	9.59	
Participation: goal setting	86.30	4.11	36.99	20.55	15.07	9.59									

Figure # 9. Descriptive analysis: group structure

The items of the information about group structure consisted in a series of dichotomous questions that were oriented to confirm or not confirm the existence of the elements of the group structure variables. Managers from the organizations studied (one from Human Resources and one from Operations) answered these questions. The information displayed in Figure # 9 consists of the percentage of

affirmative answers in each of the items. These percentages include the overall percentage and the percentage for each organization.

Related to the variable leadership, the answers for almost all the items confirmed the existence of the characteristics that were included because their percentage are above an 80% and some items even show a 100%. One item only, leadership rotation, presents a percentage near a 50%. Only one item of the four items that integrate the variable power -legitimate power shows a higher percentage; of the other three, information power does not exist in the organizations studied; and, the other two -reward or sanction power and expert power- show a lower percentage of 28%.

The answers of the items oriented to establish the existence of activities that encourage participation and involvement on the group structure confirm the existence of these characteristics since two items show a percentage of 100%, and the other three show a percentage of about 86%. Related to status, the answers to the items of this variable show that three of the four items show a percentage below a 50%, and the other item shows a percentage above but near 50%. These results characterize the status of the group structure with a minor importance.

Related to group composition, the answers to the items of this variable show the existence of this element on the group structure. Two of the items show a 100%, another item shows a percentage of 90%, and the other two items show a percentage around 50%. A general conclusion from the descriptive statistics of the group structure is mentioned as follows: the teams from the studied organizations present, in higher a degree elements from leadership, from activities that promote

participation and involvement, and from group composition. On the other hand, elements of group structure such as, power and status are present to a lesser degree on these teams according to the answers of the organizations' managers.

5.2 Statistical analysis

5.2.1 Group level of analysis and data aggregation

Measurement at group level has been a concern of academics interested in this level; hence, requests that these measurements fully reflect that level have been present (e.g., Campion, et al., 1993). When a unit of analysis is the group, measurement can be made utilizing answers from individual members of the group through three alternatives. The first one consists of team members qualifying their attributes in an individual way; then, the investigator adds up these data at group level. Second, members qualify the attributes of their group, taking as a reference their own group, and then, the investigator adds up these data at group level. Third, group members work out in consensus an evaluation of group attributes (Kirkman & Rosen, 1999).

Undertaking this measurement facet, Kirkman, Telusk, & Rosen (2001) have applied and shown the superiority of the third technique from the second, especially, because consensus captures group interaction, an important element for analysis at this level. Nevertheless, they also consider that consensus is not necessarily applicable in all situations (Kirkman, Telusk, & Rosen, 2001).

In this study, as already mentioned, items from the variables of group process, group empowerment, and attitudinal results were answered by team members. The aim of this study is to apply the second technique, that is to say,

when group members individually qualify group attributes; then, individual answers are added up at group level. This choice was taken due to the inconvenience in obtaining organizations' authorization of collecting information by consensus, since a meeting of a complete group would make the procedure application more complicated.

In the case of utilizing data aggregation, some statistical processes are required to prove whether or not the aggregation is justifiable. In this case, the following tests were carried out: ANOVA Design and Intra-Class Correlation

5.2.1.1 ANOVA design to justify the aggregation

An ANOVA design was performed having group membership as an independent variable or factor (group membership, in this case, is physically belonging to a team), different from perception of group membership variable, and as a dependent variable of each one of the variables that are required to aggregate. This design implies a comparison of the groups between variance and the groups within variance, seeking that the second one be smaller than the first one. This indicates the existence of agreement among the members of the group; thus, averages of the members of each team could be used in the analysis at this group level (Kirkman and Rosen, 1999).

For the 18 items of the variables of group empowerment, the results of this test show that all items pass this aggregation test, since the result of the test F was significant; two items (one of potency and another of autonomy) are significant to $p < .05$, and the others are significant to $p < .01$. These results justify the utilization

of the average aggregates of the members of each team. Results are shown in

Table # 21.

Table # 21. Results of aggregation test from group empowerment variables

Variable	ANOVA F	Sig.	Variable	ANOVA F	Sig.
Potency			Impact		
X33PO1	1.921	0.000	X18IG2	1.722	0.000
X3PO4	1.722	0.000	X10IG3	1.890	0.000
X21PO5	1.356	0.033	X15IG6	1.619	0.002
Meaningfulness			Group trust		
X35SI2	2.379	0.000	X20CG2	2.379	0.000
X32SI5	1.581	0.003	X5CG4	1.673	0.001
X36SI6	1.805	0.000	X31CG6	2.609	0.000
Autonomy			Group affective tone		
X26AG1	1.473	0.009	X12TA2	1.640	0.001
X29AG3	1.829	0.000	X13TA5	1.495	0.007
X25AG5	1.384	0.025	X11TA6	1.490	0.008

Similarly, this procedure for the other variables of the model was carried out. From group process variables, an item of coordination is significant to $p < .05$, for the other items test F is significant to $p < .01$. Results are shown in Table # 22. Results also show that items from these variables pass the aggregation test.

Table # 22. Results of aggregation test from group processes variables

Variable	ANOVA F	Sig
Coordination		
X46CR4	1.359	0.032
X47CR5	1.737	0.000
X48CR6	1.93	0.000
Group membership		
X50MG4	1.955	0.000
X51MG5	2.235	0.000
X54MG6	1.864	0.000

From attitudinal results variables, only an item of the teamwork variable was significant to $p < .05$, and the remainder are significant to $p < .01$. These results also justify the utilization of the average aggregates from members of each team in these variables. Results are shown in Table # 23.

Table # 23. Results of aggregation test from attitudinal group outcome variables

Variable	ANOVA F	Sig
Teamwork		
X69TE4	1.999	0.000
X63TE5	2.119	0.000
X55TE2	1.328	0.044
Team satisfaction		
X57SE1	2.617	0.000
X59SE2	1.815	0.000
X62SE3	2.001	0.000
Team commitment		
X74CE3	2.089	0.000
X70CE4	2.137	0.000
X72CE6	2.041	0.000

As the results mentioned indicate it, this ANOVA design test justifies aggregation of the variables mentioned. On the other hand, results from correlation intra-class, the other aggregation test that was run in this study are described as follows.

5.2.1.2 Intra-class correlation

Investigators at some moment collect information in which judges evaluate a collection of objects; to establish the consistency among judges an interrater reliability index is utilized. In this case, members of teams are considered like judges in relation to their answers within the group. One of the procedures utilized to evaluate internal reliability is the coefficient of intra-class correlation that measures the reliability of the evaluations (Bliese, 2000).

The coefficient of intra-class correlation is considered like an evaluation of the relative consistency of the answers among the judges. This coefficient value is the degree in which the answers are consistent when they are expressed as a deviation of its averages. In the perspective of organizational multiple levels,

reliability is evaluated by means of two main types of the intra class correlation known as: ICC (1) and ICC (2). Both classes are calculated by means of an ANOVA design one – way random – effects type (Bliese, 2000).

Coefficient ICC (1) can be interpreted like the proportion of the total variance that is explained for the group membership. Another interpretation of this coefficient ICC (1) is the degree of reliability related to an evaluation of the mean of the group, that is to say, it is considered as an index of interrater reliability or the degree in which the judges are in agreement, and in this case, the agreement of team members about the perception of the variable. By means of the second type of intra-class correlation, coefficient ICC (2) shows the estimation of the consistency or reliability of the average of means from the group (Bliese, 2000). Results from these estimations are shown in Table # 24. Estimations show high values for both coefficients demonstrating the agreement among group members and justifying utilization of averages of the groups in the analysis at this level.

Table # 24. Results of intra-class correlation tests from group process, empowerment, and attitudinal outcomes variables

Variable	ICC(1)	ICC(2)	F	Sig.
Potency	0.2449	0.6606	2.9462	0.0000
Meaningfulness	0.4715	0.8426	6.3534	0.0000
Autonomy	0.3621	0.7731	4.4064	0.0000
Impact	0.3781	0.7849	4.6486	0.0000
Group trust	0.4668	0.8401	6.2534	0.0000
Group affective tone	0.3658	0.7758	4.4601	0.0000
Coordination	0.3618	0.7728	4.4008	0.0000

Variable	ICC(1)	ICC(2)	F	Sig.
Group membership	0.4454	0.8281	5.8187	0.0000
Teamwork	0.2016	0.6024	2.5151	0.0000
Team satisfaction	0.2655	0.6844	3.1684	0.0000
Team commitment	0.5443	0.8775	8.1662	0.0000

The two analyses performed were: the ANOVA design and the intra-class correlation. These allows one to conclude that aggregation of the individual data in the variables that have been analyzed was justified, situation that strengthens the utilization of these variables at the group level, to verify the hypotheses from the theoretical model that is evaluated in this investigation.

5.3 Structural analysis AMOS

To prove the hypotheses presented in this study, the theoretical model that integrates relationships among variables utilized in the study was evaluated utilizing structural equations modeling. In this sense, the approach utilized was co-variance based. The aim of this co-variance based instrument is the estimation of parameters. This tool of multivariable analysis permits the evaluation of theoretical models in which a variable can be dependent, and, then, it can be an independent variable according to relationships established in the theoretical model (Hair, et al., 1995).

The models in this tool considered as second generation multivariable analysis are evaluated in two aspects. The first one consists of the measurement model, in which the relation among the latent or not observed variables is established with its indicators or observed variables. The other aspect consists of

the structural model, in which the expected relations or paths among the constructs or latent variables are established. Another important element of this tool consists of the recognition that the measurement of the variables contains errors, which are incorporated in the process of evaluation of the model (Bollen, 1989).

This technique is confirmatory in the sense that in the measurement model the relation among the indicators and the latent or not observed variables is established, in that way, when the model is evaluated, the existence of significant paths from the mentioned variables implies to confirm the relationship; and therefore, the existence of the latent variable and the significant relationship with its indicators (Schumacher & Lomax, 1996).

The tests of model fit do not consist of establishing statistical significance, except by the discrepancy test measured by means of the chi square and the degrees of freedom. Several tests with close values to one (1) are considered as an adequate model fit and from other tests values inside a conventionally accepted range are an adequate model fit (Mueller, 1996).

This statistical tool of analysis considers assumptions of multivariable normality and linearity, likewise, the non existence of auto-correlated errors. Besides, another important element is the indispensable sample size for the model evaluation. It is also a required condition that the variables be orthogonal or independent and that observations be collected in an independent way. It is considered that minimum sample size is between 100 and 200 observations, the

optimum size is found among 300 to 800 observations (Arbunckle & Wotke, 1999; Hair, et al., 1995)

By means of this technique of analysis utilizing the software AMOS 4 (Arbunckle & Wotke, 1999), the relationship of antecedents' variables, as coordination, group membership, and mental model to group empowerment construct was studied. Likewise the relationship of the group empowerment construct and its consequences, which are performance results and attitudinal results variables, was evaluated. This model is presented in Figure # 10.

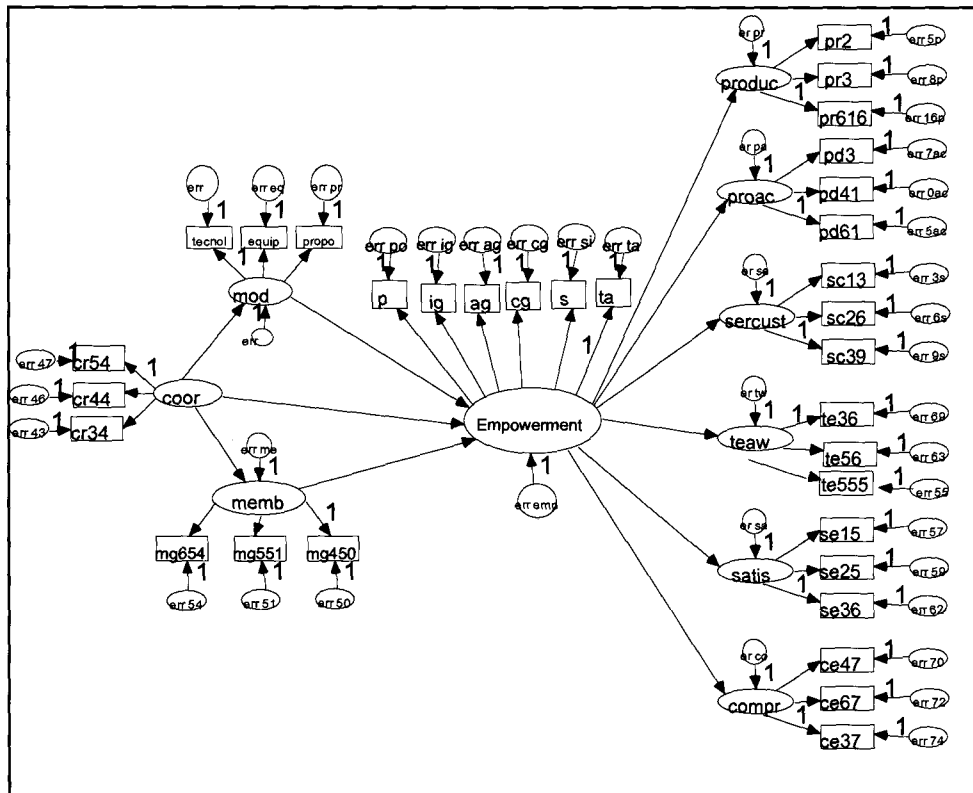


Figure # 10. Structural proposed model

The results of the path analysis of structural model are presented in Table #

25. Structural model results for the antecedents of group empowerment show a significant positive relation between coordination and group membership (b =

1.676; $p < .001$), and also, between coordination and group empowerment ($b = 1.314$; $p < .05$).

As for the consequences of group empowerment, a significant positive relation is found among the group empowerment and the performance organization results: productivity ($b = 0.985$; $p < .001$), proactivity ($b = 0.845$; $p < .001$), and customer service ($b = 0.701$; $p < .05$). Likewise a significant positive relation is found among group empowerment and attitudinal results: teamwork ($b = 0.518$; $p < .001$), team job satisfaction ($b = 1.041$; $p < .001$) and team commitment ($b = 0.884$; $p < .001$). On the other hand, significant relationships between coordination and mental model were not found, neither between mental model and group empowerment, and nor between group membership and group empowerment.

Table # 25. Results of the path analysis from structural model (group level: $n=73$)

Path	<i>b</i>
Coordination – mental model	-3.125
Coordination – group membership	1.676***
Coordination – group empowerment	1.314*
Group membership - group empowerment	-0.113
Mental model - group empowerment	0.001
Group empowerment - productivity	0.985***
Group empowerment - proactivity	0.845***
Group empowerment – customer service	0.701*
Group empowerment - teamwork	0.518***
Group empowerment – group satisfaction	1.041***
Group empowerment– group commitment	0.884***
	* $p < .05$ *** $p < .001$

As Table # 25 shows, in this analysis, confirmatory results were obtained for some paths that support several of the investigation hypotheses. Nevertheless,

in the evaluation of the structural model, indexes of model fit were not acceptable, as it is shown in Table # 26.

Table # 26. Indexes of model fit (group level: n=73)

Fit Measure	Value
RMR	0.49
GFI	0.578
Adjusted GFI	0.509
Parsimony-adjusted GFI	0.497
Normed fit index	0.59
Relative fit index	0.552
Incremental fit index	0.725
Tucker-Lewis index	0.693
Comparative fit index	0.719
RMSEA	0.129

In the model evaluation with regard to model fit, it is expected that the value of the index RMR be close to zero, the value of the index RMSEA is considered adequate when it is found among the values of .04 to .08. The other indices consider nearby values to 1 as adequate fit. This situation impedes the adequate interpretation of the parameters estimated that is the fundamental goal of this co-variance based structural equations approach (Rigdon, 1998).

A possible explanation of this situation is related to sample size that amounts to 73 groups, which is the quantity of teams that was reached in the investigation, because this number does not reach the minimum indicated from 100 to 200. This size of sample is utilized, due to the fact that the unit of analysis in this study is the group. As a way to verify the previous affirmation, the previous model was estimated with a sample of 270 individual data, in this estimation the same significant paths were found and indicators of model fit were higher, aspect that indicates an adequate model fit and would permit to confirm the estimated parameters. The information of the indices of model fit is presented in Table # 27.

Table # 27. Indexes of model fit (individual level: n=270)

Fit Measure	Value
RMR	0.008
GFI	0.871
Adjusted GFI	0.838
Parsimony-adjusted GFI	0.69
Normed fit index	0.883
Relative fit index	0.865
Incremental fit index	0.906
Tucker-Lewis index	0.892
Comparative fit index	0.906
RMSEA	0.078

Nevertheless, these results are not considered for the tests of the hypothesis presented due to the fact that they are found at individual level analysis. Although in some investigations, data utilization is reported at the individual level, in spite of the fact that their analysis was developed at group level. Thus, there have been confirmatory models (Cohen, Chang, & Ledford, 1997) or structural models reported (Sarin & Mahajan, 2001), in which they did not have a sufficient sample size for an analysis at the group level. The decision to not utilize results at individual level was taken because of the possibility to carry out the group level analysis was found by means of another structural equations approach, which is mentioned as follows.

5.4 Structural analysis PLS-GRAPH

Previously, it was mentioned that the focus of the analysis of structural equations is based on the co-variance modeling of the variables, by means of estimating maximum likelihood or generalized least squares. As forementioned, these methods of estimating have various specific assumptions for the statistical validity of estimations. Nevertheless, another alternative in the analysis of structural equations exists that has been considered as complementary, which is

based on residuals variance minimization of the variables; in this perspective, the estimation is by means of partial least squares, (PLS). This tool does not require a normal distribution, and its sample size requests are less restrictive than in the alternative of co-variance (Chin & Newsted, 1999).

In this instrument of structural equation analysis, its orientation is exploratory and the aim is to identify, or to estimate the paths, or the relationships among the variables of the model. Estimation of the measurement model may have two choices in the relation among the indicators or observed variables with the latent or not observed variable, since this relationship either can be reflective or formative. When this relationship is reflective, the latent variable projects this relationship toward its indicators which is the common case in the structural equations analysis. Conversely, when the relationship is formative, the relation arises from the indicators toward the latent variable indicating the influence of the indicators to form the latent variable, that is to say, recognizing the existence of indicators that define the latent variable. Utilization of either of the two alternatives depends on the objectives of the investigation, and on the latent variables' construction criterion (Chin, 1998).

In the measurement model (Outer model), the communality among the indicators to estimate the indicators reliability in relation to latent variable is calculated. Similarly, in the structural model (Inner model), the paths or relationships among the variables are estimated; nevertheless, to estimate the standard error and the significance tests, Bootstrap or Jackknife procedures are

utilized. The previous elements are utilized to establish the model fit, due to the fact that the PLS approach is non-parametric (García-Calderón, 1998).

5.4.1 Estimation of multiblock models

The PLS estimation procedure consists of an iterative process of estimating weights to produce components of the model latent variables. As part of this process, the relationships among the blocks of indicators of the variables that are related at structural level should be taken into account. In this sense, two approximations exist: first, the internal approximation that consists of creating proxies for each latent variable of the model. From there, the second originates external approximation that consists of the utilization of the proxies to establish the next round of estimated weightings. Three internal approximations of estimating weights exist that permit to estimate latent variables proxies: centroid weighting, factor weighting and path weighting (Chin, 1998).

The Centroid weighting approximation considers only the direction of the sign of the correlation among the latent variable and the nearby latent variables. The strength of the correlation and the direction of the structural model are not considered. This approach has advantages when the matrix correlation of the latent variable is singular since the weights are based only in the bivariate correlation among the scores of the component.

The Factor weighting approximation utilizes the coefficients of correlation that exist between the focalized latent variable and the nearby latent variables; in this manner; the focalized latent variable becomes the main component of the

nearby latent variables. What it is sought is to maximize the variance from the main component of the latent variable.

The Path weighting approximation seeks to differentiate the weights depending on whether or not the nearby latent variables are antecedents or consequences of the focalized latent variable. What is sought is the estimation of a component that simultaneously is well predicted and is also a valid predictor of subsequent latent variables.

5.4.2 Estimation of complete model with group empowerment as a second order factor

The theoretical model of this study is estimated by means of the centroid weighting approximation utilizing the beta version 3.0 of PLS-GRAPH developed by Wynne Chin (2001). Averages of each of the observed variables of results are utilized as reflective indicators from two latent variables: performance results and attitudinal results. The group empowerment latent variable is utilized as a second order factor having as reflective indicators the averages of the six dimensions that integrate this construct.

Data from organizational context and group structure variables collected at the organization level has the following features: since executives from each of the organizations where the teams belong (2 executives: one from human resources and another from operations or production), answered a questionnaire that had as a reference the organization team characteristics. The evaluations in these variables were assigned equally to each team of the respective organization, by means of an isometric assumption for the purpose to have the information at the same level of analysis that all other variables. These variables are presented

without any averaging process similar to the ones mentioned for the group empowerment and results variables.

5.4.3 The model of measurement (Outer model)

In the estimation of the measurement model (outer model), the loads, the communality, and the variance residual were generated among the observed variables or indicators and the latent variable. In this model, the aim is minimizing the variance residuals of the latent variable, more than optimizing the hypothesized relationships or paths among the latent variables (García-Calderón, 1998).

When there are reflective indicators, as it is presented in this model, the important element is the loading; thus, when this loading is squared, it becomes the communality or shared variance to the latent variable; hence, the communality represents the amount of common variance that the observed variables share with the latent construct. Also, the estimation of the value of the communality minus 1 becomes the residual or not shared variance, and therefore, represents the portion that observed variables do not contribute to the definition of the latent variable (García-Calderón, 1998).

The results of the model of measurement are shown in Table # 28. In the coordination variable, the three indicators show a loading greater to .55, in a first iteration, the loading is considered similar to a result of an analysis of principal components (García-Calderón, 1998), squaring the loading of .55 turns into a communality of .30. These two percentages are an accepted minimum to evaluate the communality of each of the indicators and of their average. In this sense, the

communality of the three indicators of coordination variable is greater to .30, similarly the average of the three indicators reaches a value of .68 of shared variance with the latent variable; and also, this value surpasses the mentioned minimum of .30.

These results show that most of the individual indicators, as well as, the average of all the indicators of each of the latent variables showed communality values greater than .30; also, most of the cases show values in a large amount higher than this minimum, situation that represents a higher value of common variance among the latent variables and their observed variables. As for smaller communality values to .30, the following indicators were obtained -two indicators of the performance evaluation variable and a single indicator of the following variables: mental model, staffing and participation decisions, task significance, leadership structure, power structure, group composition structure. The previous results support the model of measurement of the latent variables utilized in this study since the percentages of residual variance are low.

Table # 28. Results of the outer model / measurement model of the complete model

Variable	Weight	Loading	Location	AvResVar	AvCommun	AvRedund
Coordination	outward					
cr343	0.6476	0.9569	0	0.0844	0.9156	1.6791
cr446	0.1774	0.6545	0	0.5716	0.4284	0.7856
cr547	0.3152	0.8383	0	0.2972	0.7028	1.2889
average				0.3177	0.6823	1.2512
Group membership	outward					
mg450	0.3105	0.8833	0	0.2197	0.7803	2.4811
mg551	0.5819	0.9314	0	0.1324	0.8676	2.7588
mg654	0.2546	0.7219	0	0.4789	0.5211	1.6570
average				0.2770	0.7230	2.2990
Group mental model	outward					

Variable	Weight	Loading	Location	AvResVar	AvCommun	AvRedund
tecnol	0.5831	0.7876	0	0.3797	0.6203	0.7647
equip	0.6224	0.8141	0	0.3373	0.6627	0.8169
propo	0.0724	0.4705	0	0.7786	0.2214	0.2729
average				0.4985	0.5015	0.6182
Group empowerment	outward					
ig	0.2311	0.8439	0	0.2878	0.7122	0.5331
ag	0.1929	0.7376	0	0.4560	0.5440	0.4072
cg	0.2216	0.8169	0	0.3326	0.6674	0.4996
si	0.2072	0.7782	0	0.3944	0.6056	0.4534
po	0.2057	0.6578	0	0.5672	0.4328	0.3240
ta2	0.2122	0.8722	0	0.2392	0.7608	0.5696
average				0.3795	0.6205	0.4645
Performance outcomes	outward					
pd	0.376	0.9601	0	0.0782	0.9218	0.1027
pr	0.4153	0.954	0	0.0899	0.9101	0.1014
sc	0.2703	0.8983	0	0.1930	0.8070	0.0899
average				0.1204	0.8796	0.0980
Attitudinal outcomes	outward					
te	0.2962	0.795	0	0.3679	0.6321	0.3427
se	0.3903	0.8948	0	0.1993	0.8007	0.4341
ce	0.4715	0.8806	0	0.2245	0.7755	0.4204
average				0.2639	0.7361	0.3991
Staffing and participation decisions	outward					
decis57	0.3792	0.9242	0	0.1459	0.8541	0
decis58	0.4199	0.9117	0	0.1689	0.8311	0
decis59	-0.0771	0.4423	0	0.8044	0.1956	0
decis60	0.3206	0.9381	0	0.1200	0.8800	0
average				0.3098	0.6902	0.0000
Performance evaluation	outward					
evalu56	0.7309	0.8376	0	0.2984	0.7016	0
evalu55	0.3747	0.4105	0	0.8315	0.1685	0
evalu54	-0.6974	-0.3354	0	0.8875	0.1125	0
average				0.6725	0.3275	0.0000
Training	outward					
capac50	0.228	0.9312	0	0.1328	0.8672	0
capac51	0.2411	0.9751	0	0.0492	0.9508	0
capac52	0.2732	0.9937	0	0.0126	0.9874	0

Variable	Weight	Loading	Location	AvResVar	AvCommun	AvRedund
capac53	0.3039	0.925	0	0.1444	0.8556	0
average				0.0848	0.9153	0
Managerial support	outward					
apdire13	0.2346	0.8661	0	0.2499	0.7501	0
apdire9	0.4308	0.9091	0	0.1735	0.8265	0
apdire11	0.4243	0.9548	0	0.0884	0.9116	0
average				0.1706	0.8294	0.0000
Socio political support	outward					
apsopo3	0.036	0.7055	0	0.5022	0.4978	0
apsopo5	0.5359	0.9176	0	0.1580	0.8420	0
apsopo6	0.5344	0.9037	0	0.1833	0.8167	0
average				0.2812	0.7188	0.0000
External leadership	outward					
lidext15	0.4633	0.9755	0	0.0483	0.9517	0
lidext16	0.4805	0.9752	0	0.0489	0.9511	0
lidext23	0.0914	0.8691	0	0.2446	0.7554	0
average				0.1139	0.8861	0.0000
Self-management	outward					
autoa24	0.4822	0.8215	0	0.3251	0.6749	0
autoa25	0.3048	0.754	0	0.4315	0.5685	0
autoa26	0.3939	0.9498	0	0.0979	0.9021	0
average				0.2848	0.7152	0.0000
Task variety	outward					
varie30	-0.296	-0.8936	0	0.2014	0.7986	0
varie31	0.3472	0.9898	0	0.0203	0.9797	0
varie32	0.4026	0.9733	0	0.0527	0.9473	0
average				0.0915	0.9085	0.0000
Task significance	outward					
signi34	0.6122	0.7403	0	0.4519	0.5481	0
signi35	0.8244	0.8569	0	0.2657	0.7343	0
signi37	-0.5295	0.3015	0	0.9091	0.0909	0
average				0.5422	0.4578	0.0000
Production/service responsibility	outward					
respo41	0.5172	0.8496	0	0.2781	0.7219	0
respo43	0.1127	0.6754	0	0.5439	0.4561	0
respo46	-0.5584	-0.8678	0	0.2470	0.7530	0
average				0.3563	0.6437	0.0000
Leadership group structure	outward					

Variable	Weight	Loading	Location	AvResVar	AvCommun	AvRedund
lider62	0.3406	0.9985	0	0.0029	0.9971	0
lider65	0.3406	0.9985	0	0.0029	0.9971	0
lider66	0.3406	0.9985	0	0.0029	0.9971	0
lider64	-0.0591	0.3453	0	0.8808	0.1192	0
average				0.2224	0.7776	0
Power group structure	outward					
poder71	0.3427	0.8663	0	0.2495	0.7505	0
poder72	0.6748	0.8722	0	0.2393	0.7607	0
poder73	-0.4486	-0.2554	0	0.9348	0.0652	0
average				0.4745	0.5255	0.0000
Status group structure	outward					
status80	0.4923	0.9445	0	0.1078	0.8922	0
status81	0.3026	0.7519	0	0.4347	0.5653	0
status82	0.3841	0.8005	0	0.3593	0.6407	0
average				0.3006	0.6994	0.0000
Composition group structure	outward					
compo85	0.4635	0.7743	0	0.4004	0.5996	0
compo87	-0.2799	-0.2937	0	0.9137	0.0863	0
compo89	0.5661	0.9873	0	0.0253	0.9747	0
average				0.4465	0.5535	0.0000

5.4.4 The structural model (Inner model)

The results of the structural model (Inner model) show, that on the average, all the variables of the model have a communality that explains a 69.12% with an average multiple R^2 of .38; besides, of the average multiple R^2 obtained, and the average communality that explains a 69.12%, variance not explained represented by the residual average has a value of 30.88%. The variable that contributes the greater explanation that has an explanation from the 87.96% is performance results, and the variable that explains less is performance evaluation, which is one of the human resources practices with a 32.76%. These results are shown in Table # 29.

Table # 29. Results of the inner or structural model of the complete model

Block	Mean	Location	Mult.RSq	AvResVar	AvCommun	AvRedund
Coordination	0.0000	0.0000	0.1833	0.3177	0.6823	0.1251
Group membership	0.0000	0.0000	0.3179	0.2770	0.7230	0.2299
Group mental model	0.0000	0.0000	0.1232	0.4985	0.5015	0.0618
Group empowerment	0.0000	0.0000	0.7486	0.3795	0.6205	0.4645
Performance outcomes	0.0000	0.0000	0.1115	0.1204	0.8796	0.0980
Attitudinal outcomes	0.0000	0.0000	0.5421	0.2639	0.7361	0.3990
Staffing and participation decisions	0.0000	0.0000	0.0000	0.3098	0.6902	0.0000
Performance evaluation	0.0000	0.0000	0.0000	0.6724	0.3276	0.0000
Training	0.0000	0.0000	0.0000	0.0848	0.9152	0.0000
Managerial support	0.0000	0.0000	0.0000	0.1706	0.8294	0.0000
Socio political support	0.0000	0.0000	0.0000	0.2812	0.7188	0.0000
External leadership	0.0000	0.0000	0.0000	0.1140	0.8860	0.0000
Self-management	0.0000	0.0000	0.0000	0.2848	0.7152	0.0000
Task variety	0.0000	0.0000	0.0000	0.0915	0.9085	0.0000
Task significance	0.0000	0.0000	0.0000	0.5423	0.4577	0.0000
Production/service responsibility	0.0000	0.0000	0.0000	0.3563	0.6437	0.0000
Leadership group structure	0.0000	0.0000	0.0000	0.2224	0.7776	0.0000
Power group structure	0.0000	0.0000	0.0000	0.4745	0.5255	0.0000
Status group structure	0.0000	0.0000	0.0000	0.3006	0.6994	0.0000
Composition group structure	0.0000	0.0000	0.0000	0.4465	0.5535	0.0000
Average			0.3824	0.3088	0.6912	0.2543

Figure # 11 shows the complete model, which were estimated by PLS by means of the approximation centroid weighting.

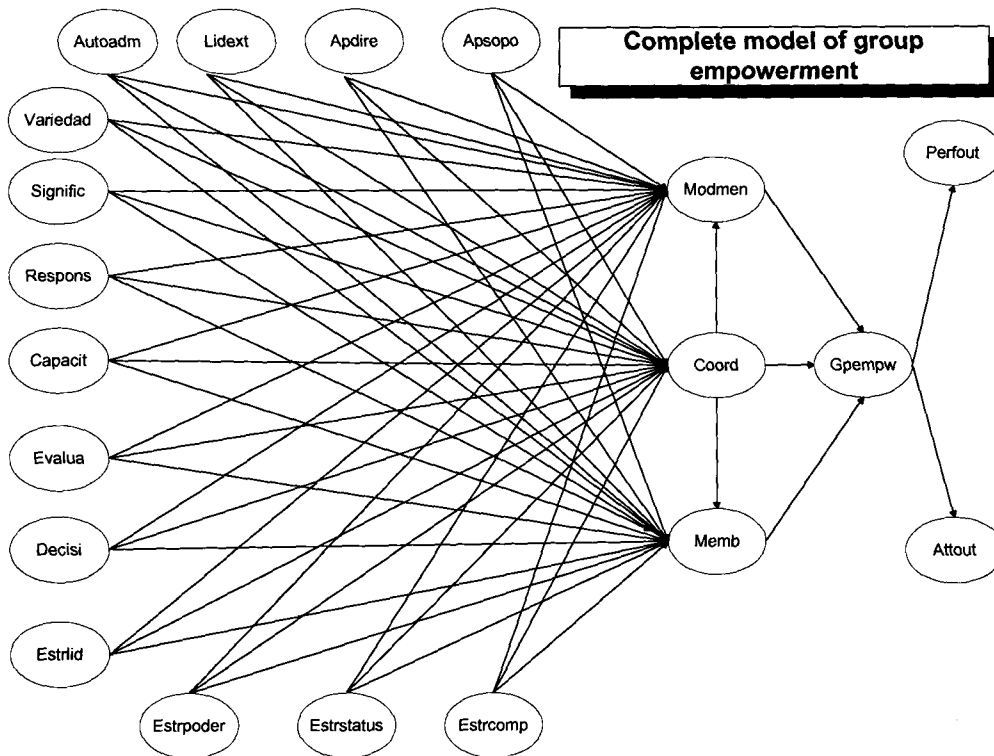


Figure # 11. Complete model of group empowerment

5.5 Hypotheses testing

In this section, the information about the hypotheses testing from the proposed model is presented as follows. The “b” coefficient that is utilized in this procedure comes from a Jackknife estimation, which is explained, in detail, in paragraphs below.

5.5.1 Relationships among organizational variables and the group processes: coordination, group mental model, and group membership.

Hypothesis 1

Hypothesis 1a states a relationship among organizational variables and coordination; the results from the estimated model were the following:

External leadership variable presents a positive significant relationship with regard to coordination ($b = 0.539$; $p < .001$).

Self-management that forms part of the group job design shows a positive significant relationship with regard to coordination ($b = 0.757$; $p < .001$).

Task variety, that is also part of the group job design, presents a positive significant relationship with regard to coordination ($b = 0.733$; $p < .001$).

On the contrary, task significance, that is also part of the group job design, presents a significant relationship opposite to the one established in the hypothesis with regard to coordination ($b = -1.020$; $p < .001$).

The following variables: organizational/sociopolitical support, management support, team production/service responsibilities, and the three variables that integrate the team – based human resources policy, such as, training, staffing decisions, and performance evaluation do not have a significant relationship to coordination. Thus, overall, hypothesis 1a received only mixed support. See Table # 30.

Hypothesis 1b states a relationship among organizational variables and group membership; the results from the estimated model were the following:

External leadership variable presents a positive significant relationship with regard to group membership ($b = 0.744$; $p < .001$).

Self-management, that forms part of the group job design, shows a positive significant relationship with regard to group membership ($b = 0.803$; $p < .001$).

Task variety, that is also part of the group job design, presents a positive significant relationship with regard to group membership ($b = 0.759$; $p < .001$).

On the other hand, the variable team production/service responsibilities presents a significant relationship opposite to the one established in the hypothesis with regard to group membership ($b = -0.881$; $p < .05$).

Additionally, task significance, that is also part of the group job design, presents a significant relationship opposite to the one established in the hypothesis with regard to group membership ($b = -1.149$; $p < .001$).

Also, the variable performance evaluation that is one of the three variables that integrate the team – based human resources policy shows a significant relationship opposite to the one established in the hypothesis with regard to group membership ($b = -0.988$; $p < .05$).

The following variables: organizational/sociopolitical support, management support, and two of the three variables that integrate the team – based human resources policy, such as, training and staffing decisions do not have a significant relationship to group membership. Therefore, hypothesis 1b received only partial support. See Table # 30.

Hypothesis 1c states a relationship among organizational variables and group mental model; the results from the estimated model were the following:

External leadership variable presents a positive significant relationship with regard to group mental model ($b = 0.150$; $p < .001$).

Self-management, that forms part of the group job design, shows a positive significant relationship with regard to group mental model ($b = 0.848$; $p < .05$).

The variable team production/service responsibilities presents a positive significant relationship with regard to group mental model ($b = 0.170$; $p < .05$).

The following variables: organizational / sociopolitical support, management support, task variety, task significance, that are also part of the group job design, and the three variables that integrate the team – based human resources policy, such as, training, staffing decisions, and performance evaluation do not have a significant relationship to group mental model. Thus, these results partially support hypothesis 1c. See Table # 30.

5.5.2 Relationships among organizational group structure variables and the group processes: coordination, group mental model, and group membership.

Hypothesis 2

Hypothesis 2a states a relationship among group structure variables and coordination; the results from the estimated model were the following:

Power presents a positive significant relationship with regard to coordination ($b = 0.888$; $p < .001$).

Composition shows a positive significant relationship with regard to coordination ($b = 1.138$; $p < .001$).

Status presents a positive significant relationship with regard to coordination ($b = 1.194$; $p < .001$).

On the contrary, leadership presents a significant relationship opposite to the one established in the hypothesis with regard to coordination ($b = -0.343$; $p < .001$). Therefore, these results partially support Hypothesis 2a. See Table # 30.

Hypothesis 2b states a relationship among group structure variables and group membership; the results from the estimated model were the following:

Power presents a positive significant relationship with regard to group membership ($b = 0.876$; $p < .001$).

Composition shows a positive significant relationship with regard to group membership ($b = 1.327$; $p < .001$).

Status presents a positive significant relationship with regard to group membership ($b = 1.417$; $p < .001$).

On the other hand, leadership presents a significant relationship opposite to the one established in the hypothesis with regard to group membership ($b = -0.417$; $p < .001$). Thus, overall, hypothesis 2b received only mixed support. See Table # 30.

Hypothesis 2c states a relationship among group structure variables and group mental model; the results from the estimated model were the following:

The four variables: leadership, power, composition, and status do not have a significant relationship to group mental model. Thus, these results do not support hypothesis 2c. See Table # 30.

Table # 30. Results summary of significant relationships among group processes variables and organizational and group structure variables

	Coordination	Group membership	Group mental model
Organizational variable	<i>b</i>	<i>b</i>	<i>b</i>
Socio political support	0.0242	-0.1146	0.3904
Managerial support	0.1225	0.0085	0.4766
External leadership	0.539***	0.744***	0.150***
Self-management	0.757***	0.803***	0.848*
Task variety	0.733***	0.759***	0.7325
Task significance	-1.020***	-1.149***	-0.6833
Production/service responsibility	-0.5925	-0.881*	0.170*
Training	1.1065	1.2143	0.9279
Performance evaluation	-0.724	-0.988*	0.3039
Staffing and particip decisions	0.6479	0.9033	-0.3736

	Coordination	Group membership	Group mental model
Group structure variable	<i>b</i>	<i>b</i>	<i>b</i>
Leadership group structure	-0.343***	-0.417***	-0.1485
Power group structure	0.888***	0.876***	1.0387
Status group structure	1.194***	1.417***	0.6463
Composition group structure	1.138***	1.327***	0.7472
	* $p < .05$		*** $p < .001$

5.5.3 Relationships among group face-to face process: coordination to group mental model and group membership variables.

Hypothesis 3

Hypothesis 3a states a relationship between coordination and group membership; the results from the estimated model were the following:

Coordination presents a positive significant relationship with regard to group membership ($b = 1.158$; $p < .05$). This result supports hypothesis 3a. See Table # 31.

Hypothesis 3b states a relationship among coordination and group mental model; the results from the estimated model were the following:

Coordination does not have a significant relationship to group mental model. Thus, this result does not support hypothesis 3b. See Table # 31.

Table # 31. Results summary of significant relationships among group coordination and group mental model and membership variables

	Group mental model	Group membership
Variable	<i>b</i>	<i>b</i>
Coordination	0.2132	1.158*
		* $p < .05$

5.5.4 Relationships among group processes variables and group empowerment

Hypothesis 4

Hypothesis 4a states a relationship among coordination and group empowerment; the results from the estimated model were the following:

Coordination presents a positive significant relationship with regard to group empowerment ($b = 0.646$; $p < .001$). Therefore, this result supports hypothesis 4a. See Table # 32.

Hypothesis 4b states a relationship between group membership and group empowerment; the results from the estimated model were the following:

Group membership does not have a significant relationship to group empowerment. Thus, this result does not support hypothesis 4b. See Table # 32.

Hypothesis 4c states a relationship among group shared mental models and group empowerment; the results from the estimated model were the following:

Group mental model does not have a significant relationship to group empowerment. Hence, this result does not support hypothesis 4c. See Table # 32.

Table # 32. Results summary of significant relationships among group processes variables and group empowerment

	Group empowerment
Variable	<i>b</i>
Coordination	0.646***
Group mental model	0.2569
Group membership	0.0177
	*** $p < .001$

5.5.5 Consequences of group empowerment

Hypothesis 5

Hypothesis 5a states a relationship among group empowerment and performance outcomes, such as: productivity, proactivity and customer service; the results from the estimated model were the following:

Group empowerment presents a positive significant relationship with regard to performance outcomes ($b = 0.334$; $p < .05$). Therefore, this result supports hypothesis 5a. See Table # 33.

Hypothesis 5b states a relationship among group empowerment and attitudinal outcomes, such as: group job satisfaction, team commitment, and teamwork; the results from the estimated model were the following:

Group empowerment presents a positive significant relationship with regard to attitudinal outcomes ($b = 0.736$; $p < .001$). Therefore, this result supports hypothesis 5b. See Table # 33.

Table # 33. Results summary of significant relationships among group empowerment and performance and attitudinal variables

	Performance outcomes	Attitudinal outcomes
Variable	<i>b</i>	<i>b</i>
Group empowerment	0.334*	0.736***
		* $p < .05$ *** $p < .001$

5.5.6 Proposed complete model: Summary of significant relationships

In this section, a summary of the results of the hypotheses testing is presented in Table # 34.

Table # 34. Summary of hypotheses testing

Variable	Variable	Direction predicted	Support
H1a: Organizational context	Coordination	+	Partially supported
H1b: Organizational context	Group membership	+	Partially supported
H1c: Organizational context	Group shared mental models	+	Partially supported
H2a: Group structure	Coordination	+	Partially supported
H2b: Group structure	Group membership	+	Partially supported
H2c: Group structure	Group shared mental model	+	Not supported
H3a: Coordination	Group membership	+	Supported
H3b: Coordination	Group shared mental model	+	Not supported
H4a: Coordination	Group empowerment	+	Supported

Variable	Variable	Direction predicted	Support
H4b: Group membership	Group empowerment	+	Not supported
H4c: Group shared mental model	Group empowerment	+	Not supported
H5a: Group empowerment	Performance outcomes	+	Supported
H5b: Group empowerment	Attitudinal outcomes	+	Supported

Also, Figure # 12 presents the proposed model and the significant relationships that support the hypotheses tested in this study.

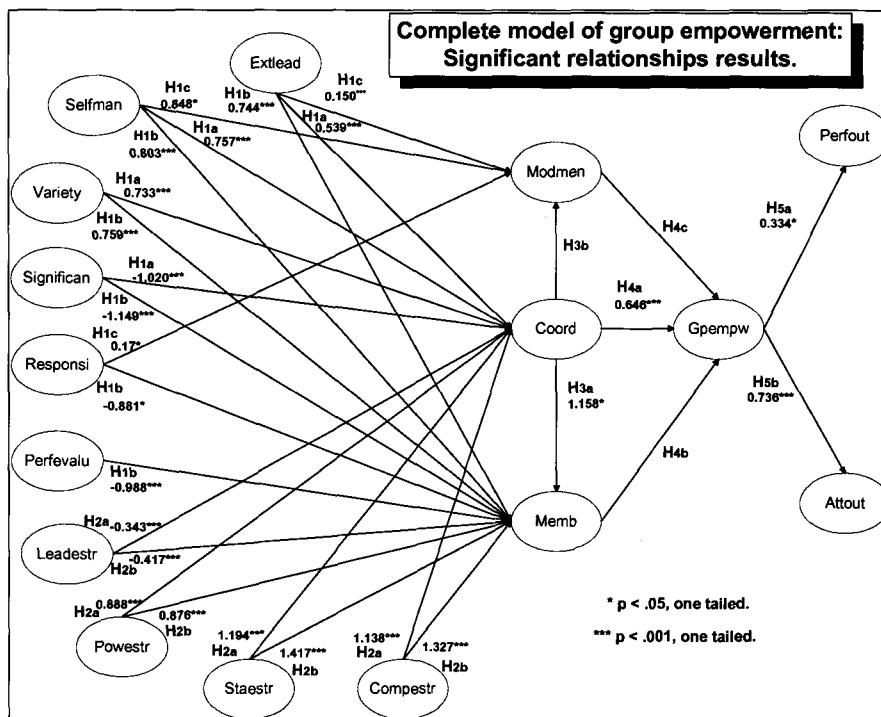


Figure # 12. Proposed model: significant relationships results.

5.5.7 Evaluation of the complete model in PLS

For the evaluation of the models in PLS, it is not appropriate to utilize the techniques of SEM co-variance based. Due to the assumption that does not specify a data distribution determined and to the predictive orientation, evaluation of a model in PLS is based on non-parametric tests that precisely emphasize the predictive orientation (García-Calderón, 1998). In this sense, herein follow, the

results of the tests carried out to evaluate the different aspects that are analyzed in this study.

A test utilized in the evaluation of the models of PLS is the R^2 of the dependent variables. This test has the same interpretation that in the traditional focus of regression, that is to say, as the percentage explained of the variable endogenous by the independent variables (Chin, 1998). The results of this analysis mentioned that the average of this value amounted to .38.

Another test consists on evaluating the predictive relevance in the models estimated by means of PLS, through the performance of the procedure of blindfolding or a sample reuse technique. This procedure is based on the utilization of the data observed to calculate the importance of the prediction. In this procedure of blindfolding during the estimation, a part of the data is omitted and the estimation of the parameters is carried out without this data; hence, the procedure continues in a cycle, in which data are incorporated to the estimation and then other data are omitted, successively until the estimation finishes (Chin & Newsteed, 1999) .

The quantity of estimations omitted is the Distance, and it is recommended that this Distance be around among 5 and 10 observations, if the N tends to be large (Chin, 1998). The validation is carried out by relating the sum of the squares of the prediction error when the prediction is done with the observation omitted (E); similarly, the sum of the square errors of the prediction error is estimated when the average is utilized in the prediction (O). When the process of calculation

from each omitted observation finishes, the following estimator is obtained: $Q^2 = 1 - \Sigma E / \Sigma O$.

In this case, this estimator value was calculated to establish the predictive relevance from group empowerment utilizing different values for the Distance mentioned as follows: 5, 10 and 20 observations omitted. Respectively, the results obtained for Q^2 were the following values: 0.4216, 0.4281 and 0.4321. Values of $Q^2 > 0$ are considered to establish the existence of predictive relevance for the variable in the model. The Q^2 utilized in this estimation is the cross validated redundancy measure which utilizes the latent variables that predict the block of the variable (Chin, 1998). Therefore, by means of this test the predictive position for the group empowerment variable is confirmed.

To establish the internal reliability of the set of indicators of a latent variable by means of the PLS model, the Composite Reliability index is utilized. This indicator is considered a better approximation of reliability than alpha Cronbach, since alpha Cronbach is considered as a lower limit in the reliability estimation. The composite reliability supposes that the parameters are precise and applies only when the latent variable has reflective indicators (Chin, 1998). The results of this indicator are shown in Table # 35. These results show higher values and most of them close to 1, and only performance evaluation and task significance variables show smaller values of .70.

Table # 35. Composite Reliability of the variable scales from the complete model

Block	Composite Reliability
Coordination	0.863
Group membership	0.886
Group mental model	0.742

Block	Composite Reliability
Group empowerment	0.907
Performance outcomes	0.956
Attitudinal outcomes	0.893
Staffing and participation decisions	0.893
Performance evaluation	0.554
Training	0.977
Managerial support	0.936
Socio political support	0.883
External leadership	0.959
Self-management	0.882
Task variety	0.967
Task significance	0.689
Production/service responsibility	0.843
Leadership group structure	0.926
Power group structure	0.736
Status group structure	0.874
Composition group structure	0.759

Another indicator oriented to measure the quantity of variance that a component of a latent variable capture of its indicators relative to the quantity that results from the measurement error of is AVE (Average Variance Extracted). This indicator applies only in latent variables with reflective indicators (Chin, 1998). Also, as a measure of reliability of the latent variables, this measure tends to be more conservative. Calculated values greater than .50 are accepted as indicators of reliability. Values of this indicator are shown in Table # 36. These results in their majority are greater than the minimum level mentioned, and only the performance evaluation variable presents a smaller value than the minimum.

Table # 36. Average variance extracted (AVE) of the variable scales from the complete model

Block	AVE
Coordination	0.682
Group membership	0.723
Group mental model	0.501
Group empowerment	0.620
Performance outcomes	0.880
Attitudinal outcomes	0.736
Staffing and participation decisions	0.690

Block	AVE
Performance evaluation	0.328
Training	0.915
Managerial support	0.829
Socio political support	0.719
External leadership	0.886
Self-management	0.715
Task variety	0.909
Task significance	0.458
Production/service responsibility	0.644
Leadership group structure	0.778
Power group structure	0.525
Status group structure	0.699
Composition group structure	0.554

Besides, in the Theta matrix of residual co-variance, the existence of values greater to .20 is a minimum situation that confirms that the blocks of latent variables are not related among themselves. This matrix is presented in Appendix C.

Furthermore, in order to evaluate the stability of the parameters estimated by PLS, the procedure of Jackknife is utilized. This procedure makes estimates through the variability of the sample data, the estimations obtained in this procedure permit to calculate strong confidence intervals (Chin, 1998). The estimation of Jackknife is carried out by means of the omission of "n" cases, generally $n = 1$; then, the parameters in each phase are calculated, and the variation in the parameters are analyzed, the estimations could be loadings or structural paths. The number of samples when $n = 1$ equals the number of cases analyzed.

By means of the estimation of sub-samples in which the cases are omitted, for the estimations (loadings or structural paths), several outcomes are calculated, which are mentioned as follows: the samples average, the jackknife estimate, the

standard deviation, the standard error, the statistician “t”, the adjusted standard error and the adjusted statistician “t”. The adjusted estimations are conservatives seeking to prevent the possible interdependence among the values (Sambamurthy & Chin, 1994). The information from this procedure was utilized to establish the hypotheses testing.

Another option is to establish the precision of the estimations of PLS is the Bootstrap technique. Bootstrap utilized a determined number of samples, in which the original data is replaced; the estimations of the standard error by this procedure permit one to establish intervals of confidence, for the different estimators that are calculated (Yung & Chan, 1999).

Next, in Table # 37 the estimation for paths and for standard error obtained by means of the Jackknife procedure is included. These estimations are going to be utilized to build the confidence intervals at the levels of 90%, 95% and 99% to establish the stability of the estimations of the mentioned coefficients. (García-Calderón, 1998)

Table # 37. Model paths and standard error average of the estimates by Jackknife estimation.

Path	average	std. Error
Coordination – group membership	1.158	0.528
Coordination – group empowerment	0.646	0.166
Group empowerment- performance outcomes	0.334	0.166
Group empowerment- attitudinal outcomes	0.736	0.092
Performance evaluation-coordination	-0.724	1.255
Performance evaluation- group membership	-0.988	1.481
External leadership- coordination	0.539	4.674
External leadership- group membership	0.744	4.905
External leadership- group mental model	0.150	3.406
Self-management- coordination	0.757	4.095
Self-management- group membership	0.803	3.626
Self-management- group mental model	0.848	4.673
Task variety- coordination	0.733	2.604
Task variety- group membership	0.759	2.514

Path	average	std. Error
Task significance- coordination	-1.020	1.496
Task significance- group membership	-1.149	1.794
Production/service responsibility- group membership	-0.881	1.448
Production/service responsibility-group mental model	0.170	2.331
Leadership group structure- coordination	-0.343	0.514
Leadership group structure- group membership	-0.417	0.578
Power group structure- coordination	0.888	1.279
Power group structure- group membership	0.876	1.244
Status group structure- coordination	1.194	1.517
Status group structure- group membership	1.417	1.691
Composition group structure- coordination	1.138	1.515
Composition group structure- group membership	1.327	1.569

Table # 38. Model paths 90% interval of confidence by Jackknife estimation.

Path	90% interv	lower limit	higher limit
Coordination – group membership	0.087104	1.070597	1.244804
Coordination – group empowerment	0.027423	0.618877	0.673723
Group empowerment- Performance outcomes	0.027423	0.306577	0.361423
Group empowerment- Attitudinal outcomes	0.015147	0.721153	0.751447
Performance evaluation-Coordination	0.207092	-0.930592	-0.516409
Performance evaluation- Group membership	0.244382	-1.232782	-0.744019
External leadership- Coordination	0.771260	-0.232260	1.310260
External leadership- Group membership	0.809276	-0.065176	1.553376
External leadership- Group mental model	0.562040	-0.412040	0.712040
Self-management- Coordination	0.675626	0.081375	1.432626
Self-management- Group membership	0.598307	0.204294	1.400907
Self-management- Group mental model	0.771062	0.076539	1.618662
Task variety- Coordination	0.429660	0.303240	1.162560
Task variety- Group membership	0.414860	0.344041	1.173760
Task significance- Coordination	0.246857	-1.266857	-0.773144
Task significance- Group membership	0.295961	-1.444561	-0.852640
Production/service responsibility- Group membership	0.238871	-1.119471	-0.641730
Production/service responsibility-Group mental model	2.715266	-2.545266	2.885266
Leadership group structure- Coordination	0.084827	-0.427527	-0.257874
Leadership group structure- Group membership	0.095436	-0.512236	-0.321364
Power group structure- Coordination	0.210953	0.677448	1.099353
Power group structure- Group membership	0.205277	0.670624	1.081177
Status group structure- Coordination	0.250338	0.943762	1.444438
Status group structure- Group membership	0.279015	1.138085	1.696115

Path	90% interv	lower limit	higher limit
Composition group structure- Coordination	0.249893	0.888308	1.388093
Composition group structure- Group membership	0.258885	1.068315	1.586085

**Table # 39. Interval of confidence of 95% for the paths of the model.
Jackknife estimation.**

Path	95% interv	lower limit	higher limit
Coordination – group membership	0.103468	1.054232	1.261168
Coordination – group empowerment	0.032575	0.613725	0.678875
Group empowerment- performance outcomes	0.032575	0.301425	0.366575
Group empowerment- attitudinal outcomes	0.017993	0.718307	0.754293
Performance evaluation-coordination	0.246000	-0.969500	-0.477500
Performance evaluation- group membership	0.290296	-1.278696	-0.698104
External leadership- coordination	0.916163	-0.377163	1.455163
External leadership- group membership	0.961321	-0.217221	1.705421
External leadership- group mental model	0.667635	-0.517635	0.817635
Self-management- coordination	0.802561	-0.045561	1.559561
Self-management- group membership	0.710716	0.091884	1.513316
Self-management- group mental model	0.915928	-0.068328	1.763528
Task variety- coordination	0.510384	0.222516	1.243284
Task variety- group membership	0.492803	0.266097	1.251703
Task significance- coordination	0.293236	-1.313236	-0.726764
Task significance- group membership	0.351565	-1.500165	-0.797035
Production/service responsibility- group membership	0.283749	-1.164349	-0.596851
Production/service responsibility-group mental model	2.787517	-2.617517	2.957517
Leadership group structure- coordination	0.100764	-0.443464	-0.241936
Leadership group structure- group membership	0.113366	-0.530166	-0.303434
Power group structure- coordination	0.250586	0.637814	1.138986
Power group structure- group membership	0.243844	0.632056	1.119744
Status group structure- coordination	0.297371	0.896729	1.491471
Status group structure- group membership	0.331436	1.085664	1.748536
Composition group structure- coordination	0.296842	0.841358	1.435042
Composition group structure- group membership	0.307524	1.019676	1.634724

**Table # 40. Interval of confidence of 99% for the paths of the model.
Jackknife estimation.**

Path	99% interv	lower limit	higher limit
Coordination – group membership	0.136198	1.021502	1.293898
Coordination – group empowerment	0.042880	0.603420	0.689180
Group empowerment- performance outcomes	0.042880	0.291120	0.376880
Group empowerment- attitudinal outcomes	0.023684	0.712616	0.759984
Performance evaluation-coordination	0.323816	-1.047316	-0.399684
Performance evaluation- group membership	0.382124	-1.370524	-0.606276
External leadership- coordination	1.205969	-0.666969	1.744969
External leadership- group membership	1.265413	-0.521313	2.009513
External leadership- group mental model	0.878825	-0.728825	1.028825

Path	99% interv	lower limit	higher limit
Self-management- coordination	1.056433	-0.299433	1.813433
Self-management- group membership	0.935534	-0.132934	1.738134
Self-management- group mental model	1.205660	-0.358060	2.053260
Task variety- coordination	0.671832	0.061068	1.404732
Task variety- group membership	0.648689	0.110211	1.407589
Task significance- coordination	0.385994	-1.405994	-0.634006
Task significance- group membership	0.462775	-1.611375	-0.685825
Production/service responsibility- group membership	0.373507	-1.254107	-0.507093
Production/service responsibility-group mental model	2.932021	-2.762021	3.102021
Leadership group structure- coordination	0.132638	-0.475338	-0.210062
Leadership group structure- group membership	0.149227	-0.566027	-0.267573
Power group structure- coordination	0.329853	0.558547	1.218253
Power group structure- group membership	0.320978	0.554922	1.196878
Status group structure- coordination	0.391438	0.802662	1.585538
Status group structure- group membership	0.436278	0.980822	1.853378
Composition group structure- coordination	0.390741	0.747459	1.528941
Composition group structure- group membership	0.404802	0.922398	1.732002

The results described in Tables # 38, 39, & 40 show that the following relationships: external leadership- coordination, external leadership- group membership, external leadership- group mental model, self-management- coordination, self-management- group membership, and self-management- group mental model have greater values that in the original solution, showing some instability, while the other coefficients maintain the values of the original solution.

5.6 Additional analysis

5.6.1 Detailed model estimated with the six group empowerment dimensions

To expand the study and analysis of the group empowerment construct, in this section, it is proposed to estimate a detailed model in which each of the 6 dimensions that integrate the construct are going to be hypothetically related to each of the 6 performance variables, which are incorporated in this model without averaging them.

To be precise, the complete model, whose estimation and evaluation was reported in previous paragraphs, included the 6-group empowerment dimensions as indicators or manifest variables, so that the group empowerment construct appeared as a second order factor. Besides, the two outcome variables, performance and attitudinal, each one had in that model as indicators their corresponding variables. In this manner, indicators of the results of performance were the productivity, proactivity, and customer service variables. On the other hand, the variables that integrate the attitudinal results are the following: teamwork, group job satisfaction, and group commitment.

Another aspect that characterizes this detailed model is that the variables related to organizational context and group design structure are not included, due to the following reasons: a) it was not possible to estimate the complete model due to an error message that appeared in the computer, at the time of running the estimation, indicating a lack of memory capacity; b) on the other hand, if the mentioned variables are not included, the model can be estimated by path weighting approximation, since the distribution of the variables not included, did not allow this type of weighting approximation in the complete model because of the isometric assumption already mentioned.

5.6.2 The measurement model (outer model)

The results of the measurement model of in this new estimation are shown in the Table # 41. These results show that all the individual indicators, as well as the average of each of the indicators for each one of the latent variables, present greater values to .30 of communality, or a loading greater to .55 (García-Calderón,

1998); a situation that represents a higher value of common variance among the observed variables and their latent variables. The previous results support the model of measurement in this new detailed model, since the corresponding percentages of residual variance from latent variables are lower.

Table # 41. Results of the outer model / measurement model of the detailed model

Variable	Weight	Loading	Location	AvResVar	AvCommun	AvRedund
Group Trust	outward					
cg631	0.4128	0.8863	0	0.2145	0.7855	0.5335
cg45	0.3422	0.8508	0	0.2761	0.7239	0.4916
cg220	0.3873	0.8857	0	0.2155	0.7845	0.5328
average				0.2354	0.7646	0.5193
Productivity	outward					
PD37	0.3409	0.9324	0	0.1307	0.8693	0.2074
PD410	0.3191	0.9269	0	0.1408	0.8592	0.205
PD615	0.4069	0.9496	0	0.0982	0.9018	0.2152
average				0.1232	0.8768	0.2092
Proactivity	outward					
PR25	0.3907	0.9485	0	0.1004	0.8996	0.1741
PR38	0.3662	0.9465	0	0.1042	0.8958	0.1733
PR616	0.31	0.9126	0	0.1671	0.8329	0.1612
average				0.1239	0.8761	0.1695
Customer service	outward					
SC13	0.3108	0.901	0	0.1881	0.8119	0.12
SC26	0.3166	0.9098	0	0.1722	0.8278	0.1223
SC39	0.4556	0.9481	0	0.1012	0.8988	0.1328
average				0.1538	0.8462	0.1250
Teamwork	outward					
te361	0.3205	0.7787	0	0.3936	0.6064	0.3106
te563	0.3353	0.7654	0	0.4141	0.5859	0.3
te469	0.5655	0.8731	0	0.2376	0.7624	0.3904
average				0.3484	0.6516	0.3337
Group job satisfaction	outward					
SE157	0.3277	0.7646	0	0.4154	0.5846	0.3179
SE259	0.4192	0.8543	0	0.2702	0.7298	0.397
SE362	0.4523	0.865	0	0.2518	0.7482	0.407
average				0.3125	0.6875	0.3740
Team commitment	outward					

Variable	Weight	Loading	Location	AvResVar	AvCommun	AvRedund
CE470	0.3836	0.931	0	0.1332	0.8668	0.546
CE672	0.3621	0.9323	0	0.1309	0.8691	0.5474
CE374	0.3468	0.8804	0	0.225	0.775	0.4881
average				0.1630	0.8370	0.5272
Group mental model	outward					
Tecnolog	0.445	0.7765	0	0.397	0.603	0.0067
equipomo	0.6233	0.8918	0	0.2047	0.7953	0.0088
proposit	0.1682	0.5864	0	0.6561	0.3439	0.0038
average				0.4193	0.5807	0.0064
Coordination	outward					
cr343	0.4848	0.9135	0	0.1655	0.8345	0
cr446	0.2714	0.6945	0	0.5176	0.4824	0
cr547	0.4237	0.8702	0	0.2428	0.7572	0
average				0.3086	0.6914	0.0000
Group membership	outward					
mg450	0.4448	0.9191	0	0.1552	0.8448	0.5214
mg551	0.3879	0.8626	0	0.256	0.744	0.4592
mg654	0.3295	0.7786	0	0.3937	0.6063	0.3742
average				0.2683	0.7317	0.4516
Group Impact	outward					
ig310	0.3733	0.8795	0	0.2264	0.7736	0.3945
ig615	0.355	0.8728	0	0.2383	0.7617	0.3884
ig218	0.3985	0.908	0	0.1755	0.8245	0.4204
average				0.2134	0.7866	0.4011
Group Autonomy	outward					
ag525	0.3117	0.8309	0	0.3096	0.6904	0.2153
ag126	0.4324	0.9028	0	0.1849	0.8151	0.2542
ag329	0.3997	0.8771	0	0.2307	0.7693	0.2399
average				0.2417	0.7583	0.2365
Group Meaningfulness	outward					
si235	0.3632	0.9145	0	0.1636	0.8364	0.3459
si636	0.3661	0.9132	0	0.1661	0.8339	0.3448
si532	0.3823	0.8725	0	0.2387	0.7613	0.3148
average				0.1895	0.8105	0.3352
Group Affective tone	outward					
ta212	0.3284	0.7603	0	0.4219	0.5781	0.329
ta611	0.4578	0.8745	0	0.2352	0.7648	0.4353
ta513	0.424	0.8253	0	0.3189	0.6811	0.3876
average				0.3253	0.6747	0.3840

Variable	Weight	Loading	Location	AvResVar	AvCommun	AvRedund
Group Potency	outward					
po62	0.3596	0.6917	0	0.5216	0.4784	0.198
po43	0.6113	0.8627	0	0.2557	0.7443	0.3081
po29	0.3299	0.6785	0	0.5397	0.4603	0.1905
average				0.4390	0.5610	0.2322

5.6.3 The structural model (inner model)

The results of the structural model (inner model) show an average multiple R^2 of .38, in addition, of the average multiple R^2 obtained, the variables of the model show an average communality that explains a 74.23%, and therefore, the unexplained variance represented by the average residual variance has a value of 25.77%. The productivity variable that contributes to the greater explanation has a communality of 87.68%, and the variable that explains less is group potency that has a communality of 56.10%. These results are shown in Table # 42.

Table # 42. Results of the inner or structural model of the detailed model

Block	Mean	Location	Mult.RSq	AvResVar	AvCommun	AvRedund
Group Trust	0.0000	0.0000	0.6792	0.2354	0.7646	0.5193
Productivity	0.0000	0.0000	0.2386	0.1232	0.8768	0.2092
Proactivity	0.0000	0.0000	0.1935	0.1239	0.8761	0.1695
Customer service	0.0000	0.0000	0.1478	0.1538	0.8462	0.1250
Teamwork	0.0000	0.0000	0.5121	0.3484	0.6516	0.3337
Group job satisfaction	0.0000	0.0000	0.5439	0.3125	0.6875	0.3739
Team commitment	0.0000	0.0000	0.6298	0.1630	0.8370	0.5272
Group mental model	0.0000	0.0000	0.0111	0.4193	0.5807	0.0064
Coordination	0.0000	0.0000	0.0000	0.3086	0.6914	0.0000
Group membership	0.0000	0.0000	0.6172	0.2683	0.7317	0.4516
Group Impact	0.0000	0.0000	0.5099	0.2134	0.7866	0.4011
Group Autonomy	0.0000	0.0000	0.3118	0.2417	0.7583	0.2365
Group Meaningfulness	0.0000	0.0000	0.4135	0.1895	0.8105	0.3352
Group Affective tone	0.0000	0.0000	0.5691	0.3253	0.6747	0.3840
Group Potency	0.0000	0.0000	0.4139	0.4390	0.5610	0.2322
Average			0.3861	0.2577	0.7423	0.2870

Figure # 13 shows the hypothesized relations among the variables from the detailed model which was estimated by means of the path weighting approximation.

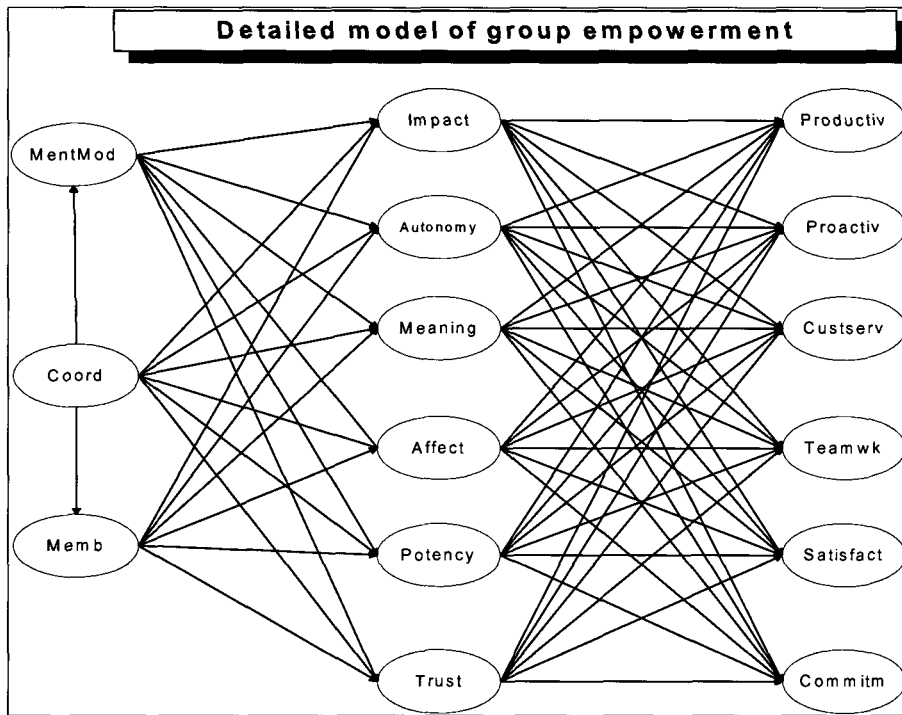


Figure # 13. Detailed model of group empowerment

The results of the structural detailed model for the antecedents of group empowerment show that the relationship from the mental model variable to the six dimensions of the group empowerment are not significant. The coordination variable has a significant positive relationship to the variable group membership ($b = 0.7856; p < .001$). On the other hand, the variable coordination has an insignificant relationship to group mental model. As for the relationship for coordination to the 6 dimensions of group empowerment, in all of them there exist a significant positive relation; impact ($b = 0.5147; p < .001$), autonomy ($b = 0.6070; p < .001$), and meaning ($b = 0.4684; t = p < .001$). Also with: emotional tone ($b = 0.3773; t = p < .01$), potency ($b = 0.5405; p < .001$) and trust ($b =$

0.2971; $t = p < .05$). The variable group membership, in its relation to the 6 dimensions of the group empowerment, only shows a positive significant relationship to two of the 6 dimensions: affective tone ($b = 0.4282$; $p < .001$) and trust ($b = 0.5780$; $p < .001$).

The results of the consequences of the six dimensions of the group empowerment are the following: the variable impact has an insignificant relationship to the six variables of results. As for the variable autonomy, this variable has a significant positive relationship to two of the performance variables: productivity ($b = 0.3533$; $p < .01$) and customer service ($b = 0.3089$; $p < .05$), and one to the attitudinal variable: group satisfaction ($b = 0.3519$; $p < .001$). The dimension of meaning has a positive significant relationship only to the three attitudinal results variables: teamwork ($b = 0.3352$; $p < .05$), group satisfaction ($b = 0.3077$; $p < .001$), and group commitment ($b = 0.2369$; $p < .05$).

The dimension of affective tone only has a negative significant relationship to the attitudinal variable: group satisfaction ($b = -0.3080$; $p < .05$). The dimension group potency has a positive significant relationship to the three performance variables: productivity ($b = 0.4191$; $p < .001$), proactivity ($b = 0.3028$; $p < .05$), and customer service ($b = 0.3435$; $p < .05$). Also, it shows a positive significant relationship to two of the attitudinal variables: teamwork ($b = 0.2961$; $p < .05$), and group satisfaction ($b = 0.2372$; $p < .05$). Finally, the dimension group trust has a positive significant relationship only to one of the attitudinal results variables: group commitment ($b = 0.3342$; $p < .001$). All the previous results are shown in Table # 43. Additionally, in Figure # 14 the significant relationships are displayed.

Table # 43. Inner model. Summary of detailed model path estimation

path	Average (b)
Group mental model- Group Impact	-0.1108
Group mental model- Group Autonomy	-0.0915
Group mental model- Group Meaningfulness	-0.0806
Group mental model- Group Affective tone	0.0869
Group mental model- Group Potency	-0.0129
Group mental model- Group Trust	0.0886
Coordination- Group mental model	-0.1056
Coordination- Group membership	0.7856***
Coordination- Group Impact	0.5147***
Coordination- Group Autonomy	0.6070***
Coordination- Group Meaningfulness	0.4684***
Coordination- Group Affective tone	0.3773**
Coordination- Group Potency	0.5405***
Coordination- Group Trust	0.2971*
Group membership- Group Impact	0.2099
Group membership- Group Autonomy	-0.0856
Group membership- Group Meaningfulness	0.1893
Group membership- Group Affective tone	0.4282***
Group membership- Group Potency	0.1233
Group membership- Group Trust	0.5780***
Group Impact – Productivity	0.0749
Group Impact – Proactivity	0.1552
Group Impact – Customer service	-0.0043
Group Impact – Teamwork	0.1156
Group Impact – Group job satisfaction	0.1882
Group Impact – Team commitment	0.0172
Group Autonomy – Productivity	0.3533**
Group Autonomy – Proactivity	0.2866
Group Autonomy – Customer service	0.3089*
Group Autonomy – Teamwork	0.0187
Group Autonomy – Group job satisfaction	0.3519***
Group Autonomy – Team commitment	-0.1008
Group Meaningfulness – Productivity	-0.1669
Group Meaningfulness – Proactivity	-0.2577
Group Meaningfulness – Customer service	-0.1905
Group Meaningfulness – Teamwork	0.3352*
Group Meaningfulness – Group job satisfaction	0.3077***
Group Meaningfulness – Team commitment	0.2369*
Group Affective tone – Productivity	-0.0800
Group Affective tone – Proactivity	-0.1169
Group Affective tone – Customer service	-0.0222
Group Affective tone – Teamwork	0.0594
Group Affective tone – Group job satisfaction	-0.3080*
Group Affective tone – Team commitment	0.1827
Group Potency – Productivity	0.4191***
Group Potency – Proactivity	0.3028*

path	Average (b)
Group Potency – Customer service	0.3435*
Group Potency – Teamwork	0.2961*
Group Potency – Group job satisfaction	0.2372*
Group Potency – Team commitment	0.2626
Group Trust – Productivity	-0.1807
Group Trust – Proactivity	0.0769
Group Trust – Customer service	-0.1309
Group Trust – Teamwork	0.0242
Group Trust – Group job satisfaction	0.0907
Group Trust – Team commitment	0.3342***
	* $p < .05$ ** $p < .01$ *** $p < .001$

**Detailed model of group empowerment
Significant relationships results.**

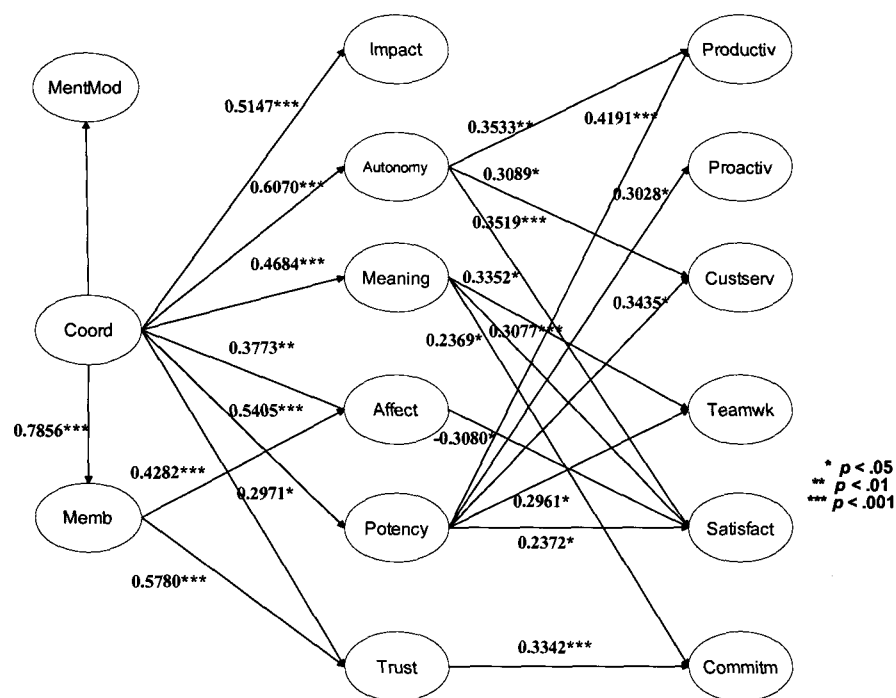


Figure # 14. Detailed model: significant relationships results.

5.6.4 Evaluation of the detailed model in PLS

A test utilized in the evaluation of the models of PLS is the R^2 of the dependent variables. This test has the same interpretation that in the traditional focus of regression, that is to say, as the percentage explained of the variable

endogenous by the independent variables (Chin, 1998). In the results from the analysis of the detailed model of the R^2 , the average of this value amounted to .38.

The estimation of the Composite Reliability for each of the variables from the detailed model has the following results: higher values and most of them close to 1, situation that reflects the reliability for the variables on this model. The results of this indicator are shown in Table # 44.

Table # 44. Composite Reliability of the variable scales from the detailed model

Block	Composite Reliability
Group Trust	0.907
Productivity	0.955
Proactivity	0.955
Customer service	0.943
Teamwork	0.848
Group job satisfaction	0.868
Team commitment	0.939
Group mental model	0.802
Coordination	0.869
Group membership	0.891
Group Impact	0.917
Group Autonomy	0.904
Group Meaningfulness	0.928
Group Affective tone	0.861
Group Potency	0.791

Another indicator oriented to measure the quantity of variance that a component of a latent variable capture of its indicators relative to the quantity that results from the measurement error of is AVE (Average Variance Extracted). This indicator applies only in latent variables with reflective indicators (Chin, 1998). Also, as a measure of reliability of the latent variables, this measure tends to be more conservative. Calculated values greater than .50 are accepted as indicators of reliability. The estimation of the AVE (Average Variance Extracted) for the variables of the detailed model is that all the variables present greater values than

the minimum level of .50 that is accepted as an indicator of reliability. In this study, the values of this indicator are shown in Table # 45.

Table # 45. Average variance extracted (AVE) of the variable scales from the detailed model

Block	AVE
Group Trust	0.765
Productivity	0.877
Proactivity	0.876
Customer service	0.846
Teamwork	0.652
Group job satisfaction	0.688
Team commitment	0.837
Group mental model	0.581
Coordination	0.691
Group membership	0.732
Group Impact	0.787
Group Autonomy	0.758
Group Meaningfulness	0.811
Group Affective tone	0.675
Group Potency	0.561

Chapter 6

Conclusions

This chapter presents a discussion about the main findings of the investigation. Results are summarized and their contributions to the process of investigation analysis are stated. Also, contributions and practical implications of the findings mentioned are noted. On the other hand, a series of methodological limitations of this study, are presented. Finally, comments are developed about the future orientation of the investigation originated from this work.

6.1 Validity

At the individual level of analysis, three factor analyses were performed with the following results: in the first one, a model of six factors of the dimensions from group empowerment is identified, precisely as it was expected. In the second, a model of three factors of the attitudinal results of the members of the teams is identified, specifically as it was expected. Finally, in the third, a model of only two factors is identified from the group processes. At the group level of analysis, a factor analysis was carried out for the performance outcomes; as expected, a model of three factors was identified. These results establish a basis of the construct validity for the variables that integrate the proposed model.

6.2 Reliability

All the scales reached adequate levels of reliability. First of all, the alpha Cronbach coefficients of the scales utilized showed higher values than the minimum value considered as adequate. On the other hand, the coefficients Composite Reliability and the AVE (Average Variance Extracted) from most of

the scales in the structural equations analysis also showed higher values than minimum value.

6.3 Justification of data aggregation

To analyze data at the group level of analysis, a series of processes oriented to justify the aggregation of the variables reported by the members of the teams were developed. These processes are mentioned as follows: ANOVA design and the coefficients of correlation intra-class identified as, ICC (1) and ICC (2), showed values that warranted the variables' aggregation.

6.4 Results from the proposed model hypotheses testing

6.4.1 Variables of the organizational context and their relationship to the group processes variables

Several variables of the organizational context have a significant relationship at least with two of the three variables of group processes; coordination, group mental model, and group membership. These significant relationships are described in the following paragraphs.

As for the variables of the organizational context, the variable of external leadership reveals a positive significant relationship to the variables of coordination, group membership, and group mental model, a situation that partially supports hypotheses # 1a, 1b, and 1c.

Also, the variable self-management, that forms part of the task design, shows a positive significant relationship to the variables of coordination, group membership, and group mental model, a situation that partially supports hypotheses # 1a, 1b, and 1c.

As for the variable task variety, that is also part of the task design, it reveals a positive significant relationship with regard to the variables of coordination and group membership, a situation that partially supports hypotheses # 1a and 1b.

Another variable that forms part of the organizational context that is the production/service responsibility, similarly, presents a positive significant relationship with regard to the group mental model variable, a situation that supports hypothesis #1c.

On the other hand, some variables of the organizational context present significant opposite relationships to the ones established in hypotheses 1a, 1b, and 1c; these variables are described as follows.

The performance evaluation process, one of the variables of the team human resources practices, shows a significant relationship contrary to the one presented in hypotheses # 1a and 1b with regard to coordination and group membership variables.

Similarly, one of the variables of task design, task significance, shows a significant relationship contrary to the one presented in hypotheses # 1a and 1b with regard to the coordination and group membership variables.

Also, another variable of organizational context, product/service responsibility, shows a significant relationship contrary to the one expected in hypothesis #1b with regard to group membership.

Furthermore, some variables of the organizational context present non significant relationships to the ones established in hypotheses 1a, 1b, and 1c; these variables are described as follows:

Organizational/sociopolitical support, management support, team production/service responsibilities, and the three variables that integrate the team – based human resources policy, such as, training, staffing decisions, and performance evaluation do not have a significant relationship to coordination, different from the expected in hypothesis #1a.

The following variables: organizational/sociopolitical support, management support, and two of the three variables that integrate the team – based human resources policy, such as, training and staffing decisions do not have a significant relationship to group membership, different from the expected in hypothesis #1b.

The following variables: organizational/sociopolitical support, management support, task variety, task significance that are also part of the group job design, and the three variables that integrate the team – based human resources policy, such as, training, staffing decisions, and performance evaluation do not have a significant relationship to group mental model different from the expected in hypothesis #1c.

6.4.2 Variables of group structure and their relationship to the variables of group processes

As for the following variables of group structure -power structure, status structure, and composition structure- these variables present a positive significant

relationship to coordination and group membership variables, a situation that partially supports hypothesis # 2a and 2b.

The variable leadership of group structure shows an opposite significant relationship to the one expected with regard to coordination and group membership variables; an issue contrary to what was expected in hypotheses # 2a and 2b.

The four variables of group structure: leadership, power, composition, and status do not have a significant relationship to group mental model. Thus, these results do not support hypothesis 2c.

6.4.3 Relationships among group processes variables

The results among the variables from group processes are the following: a significantly positive relationship exists between coordination and group membership, and these results support the hypothesis #3a.

Nevertheless, a non-significant relationship is found between coordination and mental model, aspect that was expected in the hypothesis #3b. Thus, these results do not support hypothesis 3b.

6.4.4 Relationships among group processes variables to group empowerment

Results from the structural model in the antecedents of the group empowerment show a significantly positive relationship between coordination and group empowerment. These results support the hypothesis #4a.

However, there are non-significant relationships between mental model and group empowerment and between group membership and group

empowerment, an aspect that was expected in hypotheses #4b and 4c, thus these hypotheses are not supported.

6.4.5 Consequences of the group empowerment

As for the consequences of group empowerment, a significantly positive relationship is found between group empowerment, and the results variables in the organization for both outcomes: performance and attitudinal. These results support hypotheses # 5a and 5b.

6.5 Additional analysis: Results from detailed model estimated with the six dimensions of group empowerment

6.5.1 Relationship among the group processes

The coordination variable shows a significant positive relationship to the group membership variable. On the other hand, the coordination variable shows a non-significant relationship to the group mental model variable.

6.5.2 Antecedents of group empowerment

The results of the structural model in the antecedents of group empowerment show that the relationship of the mental model variable to the six dimensions of group empowerment is not significant. As for the relationship of the coordination variable to the six dimensions of group empowerment, the findings show a significant positive relationship to all relationships: impact, autonomy, meaning, also, to affective tone, potency and group trust. The variable group membership in its relationship to the six dimensions of group empowerment shows a significant positive relationship only to two of the six dimensions: affective tone and group trust.

6.5.3 Consequences of group empowerment

The results of the consequences of the six dimensions of the group empowerment are the following: the variable impact shows a non-significant relationship with the six variables of results. As for the autonomy variable, this variable shows a significant positive relationship to two of the variables of performance: productivity and customer service, and one to the attitudinal variable: group satisfaction. The meaning dimension shows a positive significant relationship only to the three attitudinal results variables: teamwork, group satisfaction and group commitment.

The dimension of affective tone shows a negative significant relationship only to the attitudinal variable: group satisfaction. The dimension group potency shows a positive significant relationship to the three variables of performance: productivity, proactivity and customer service. It also shows a positive significant relationship to two of the attitudinal variables: teamwork and group satisfaction. Finally, the dimension group trust shows a positive significant relationship only to one of the attitudinal results variables: group commitment.

6.6 Discussion of results

6.6.1 Discussion of results: complete model

The above results support totally or partially key hypotheses of the proposed model of this investigation. Some organizational context variables are related to group processes; also, variables from group structure are related to group processes; group processes are antecedents of group empowerment; and group empowerment is related to performance and attitudinal outcomes.

In this regard, just as some academics have suggested (e.g., Campion et al., 1993) the proposed model was elemental; in the sense that it integrated one of the most utilized lines of study of work groups which refers to models described as: input-process-results. Therefore, the hypothesized relationships that had empirical support permit one to have an extensive perspective of the elements that can influence the efficacy of work groups. Additionally, the proposed model of this investigation can be framed in the line of study of work group effectiveness that includes models that integrate diverse variables whose relationships are aimed to explain the effectiveness of work groups.

With regard to the significant contrary relationships found in this investigation, the following aspects are noted: a possible explanation of these contrary or not founded relationships can be the result of a contradiction of the perceptions of the two sources of information (Michaelsen, Watson, & Sharp, 1991). On one hand, we have the information provided by the organization executives, since they qualify the variables of the organizational context and of the group structure design. By contrast, the variables of the group are captured by means of a self-report from the team members; thus, these contradictions of measure may be influencing these variables to obtain a contrary significant relationship to the one expected theoretically.

When Kirkman & Rosen (1999) did the test of their model of group empowerment, they found a positive significant relationship among variables of the organizational context and the group empowerment; nevertheless, all the variables in their model had been captured by means of a self-report. In another

multi-cited study in the literature of work groups, Campion and his colleagues (1993, 1996) study design task variables; however, they do not establish a nomological network of antecedents, mediators and consequent variables; what they do is to test the existence of relationships among task design, group processes and other variables directly to performance variables. Their findings in general showed the existence of a significant positive relationship among the variables mentioned. In this regard, the proposed model was developed trying to incorporate a series of specific relationships of the variables that integrate a general model of work group effectiveness (Goodman, et al., 1987)

Another argument to consider in this issue is the following: four items were included in the self-report related to some of the variables from the organizational context in the proposed model of this investigation. These items were social/organizational structure, management support, external team leader behavior, and human resources practices oriented toward teams; nevertheless, these items can not be considered representative of said variables because they are only a single item. Contrasting the answers of these four items to the answers mentioned by the organization managers, a difference among the perceptions is found, mainly in the variables social/organizational structure, management support, and external team leader behavior; besides, to a lesser degree, in the human resources practices oriented to the teams variable. In this regard, these data may be an element that provide evidence of the mentioned difference of perceptions

Also, in relation to the group structure variable, leadership, it must be recalled that it was not feasible to study the interaction among the members of the group. Therefore, an approximation was sought through the perspective of group design. In that sense, the perspective of the executives did not coincide with the perceptions of team members, as was mentioned before.

Group membership was found non-related to group empowerment. This result is intriguing because of the theoretical arguments that relate group identification to group motivation; the sense of belonging to the group and the influence of this belonging, in difference to the interaction with the group members, has been considered as determinant of a higher motivation and a behavior favorable to the group. In this regard, a possible explanation, backed up by the additional analysis described below, is that group membership reflects a social issue that may not be related to task assessments, such as the four dimensions of group empowerment: meaningfulness, potency, impact, and autonomy, which are different from the social dimensions that integrate group empowerment in this model, such as, affect and trust. Related to the relationships of a group mental model to other variables, in paragraphs below, an explanation will be presented.

6.6.2 Discussion of the results: additional analysis

Regarding the task dimensions of group empowerment, the analysis shows the existence of significant and non-significant relationships among these dimensions, as they are considered individually and performance and attitudinal results, which are also considered individually. In general, these results show a

diverse degree of influence of these dimensions on the group results. As for the relationship from the six dimensions of group empowerment to the variables of results, the following features are emphasized:

The autonomy dimension, registered the smaller degree of perception by the team members, than in all other dimensions of group empowerment. Thus, this dimension presents a significant relationship to the performance variables: productivity, customer service, and to the attitudinal group satisfaction variable. Consequently, not only does this result aim at an effect in performance, but also in satisfaction in spite of the smaller degree of autonomy perceived by group members. In this sense, this perception seems not to be an interference to attain the mentioned results.

In contrast, the meaning dimension, presents a significant relationship only to the three attitudinal results variables. This situation stresses the fact that meaning only has an effect in the attitude from the group members and accentuates the worth of a meaningful designed job.

Furthermore, the dimension of group potency has been found to be related to all the variables of results, except to the group commitment variable; hence, reflecting that this dimension is the one that has a greater number of significant relationships to all the dimensions of group empowerment. This issue heightens the importance of the feelings of the group members about their effectiveness.

It is interesting to note that the impact dimension does not have a significant relationship to any of the group results. This situation reflects that the

group members consider that the activities related to their work does not have an important effect on the overall performance of the organization.

Regarding the social dimensions of group empowerment, the additional analysis shows that these dimensions have little influence on the group results.

As for the dimension group trust, it shows a significant relationship only to the attitudinal variable: team commitment. This issue stresses the encouragement of trust among group members.

The dimension of affective tone, however, presented an opposite significant relationship only to the expected relationship toward the attitudinal variable, group satisfaction.

A possible explanation to this opposite relationship to what was expected could be that the group members considered the presence of an emotional issue in the group as a harmful or as a negative influence, and that consideration influences the group satisfaction.

As the above results show, the task dimensions of group empowerment considered individually are significantly related to performance and attitudinal results showing different degrees of influence. In contrast, the social dimensions considered individually are just related to attitudinal results and showing a minor influence on these results.

In this complementary analysis, the relationships among face to face group processes to individually considered dimensions of group empowerment show the following features:

Group coordination is related to all the dimensions of group outcomes: performance and attitudinal. These results confirm the importance of the activities that allow effective contact among the group members to the group motivation, an aspect that emphasizes the importance of group coordination.

Furthermore, the variable group membership shows significant relationships just to these dimensions: affective tone and group trust. This relationship reinforces the social aspect that the variable group membership implies, since both dimensions represent precisely the group empowerment social aspect.

On the other hand, in this study, the mental model variable does not show significant relationship with the six dimensions of the group empowerment considered individually.

A possible explanation of the predominance of group empowerment task dimensions over social dimensions could be related to Mexican cultural elements. Considering that group members represent the modern Mexican worker, their work values could be more oriented to effectiveness and efficiency than to social aspects. Thus, the predominance of task dimensions. However, the relationship of group membership to the group empowerment social dimensions could be interpreted as an element that stresses the social values of the Mexican worker.

6.7 Discussion of the results of the mental model variable in this investigation

The results of the paths from the mental model variable to some variables of the proposed model were practically worthless in terms of significance, since only the following organizational context variables, external leadership, self-

management, and product/service responsibility, showed a positive significant relationship to the mental model variable. All other hypothesized relationships were not significant.

An explanation of this situation can be related to the procedure utilized to calculate the mental model variable. It is possible that this estimation was too broad because it included a great percentage of the words mentioned by the team members. Klimoski & Mohammed (1994) consider that a mental model in its simpler form is an assembly of shared statements and procedures; and in this sense, the words mentioned by the members are shared. Nevertheless, although the stimulus words represented elements of the task domain, it is probable that the categorizing of groups of words, and the bias produced by the investigator's interpretation had an influence that did not allow into reaching the mental models of the team members.

On the other hand, the type of estimated mental model was oriented to establish the interpretations of the team members concerning what were happening to them, that is to say, the fact that the answers to a stimulus word coincide. This allows one to establish certain categories that reflect the interpretation that team members develop and share. Whereas, the level of abstraction implicit in the identification of what the team members share is a very important element in the mental model of the group (Klimoski & Mohammed, 1994). This level could have been different from the measurement level in which the other variables of the proposed model were originated.

In addition, it has been considered that mental models involving shared knowledge should have certain degree of organization and show significant patterns (Klimoski & Mohammed, 1994). In this sense, the mental model variable estimated for this investigation is not oriented to measure this type of mental models, since this measurement would imply a different technique of measurement, in which the measurement would involve observing the team in action or collecting the information after an action that would have required that the team members share their knowledge.

6.8 Contributions

The findings of this investigation go beyond the empirical and conceptual work in group empowerment that has been developed until now, since the construct of group empowerment is expanded to incorporate social dimensions to the former dimensions related to the task that integrated this construct. Similarly, a significant relationship was found among group empowerment and the results of the group, as much as for the performance results as for the attitudinal results.

To propose and empirically test a work group effectiveness model, contributes to this work group stream of theory. Thus, the results that some of the characteristics of the task design –self-management and task variety- were useful in the prediction of the group processes because these characteristics were related to the three group processes, in greater degree to the coordination and group membership variables, and in a smaller degree to the mental model variable. In the same vein, the result that the organizational context –basically external leadership-

has an influence on group effectiveness mediated through group processes and group empowerment is another relevant finding of this study.

Elements of group structure –power, status, and composition- that integrate the model were found related to coordination and group membership in this study; hence, this aspect contributes to expand the construct of group structure and to establish a basis to support an answer to one of the research questions of this investigation.

Group coordination -a face to face process- is an essential element for group effectiveness, conclusion stressed by the results of this study. This emphasis came from the results of the proposed model and, also, from the additional analysis.

The results from the additional analysis form part of the contributions of this study. As the group empowerment dimensions have been studied individually, it has been found that task dimensions have more influence in group results than social dimensions. These relationships highlight a series of features that permit to deepen the study of group empowerment.

Similarly, the model of group empowerment was empirically tested in the context of the Mexican culture. A situation that, after reviewing pertaining literature, indicates that a study of the group empowerment construct is performed for the first time. Additionally, it is also the first time in which a study in the Mexican context has as a unit of analysis, the group.

The estimation of the relationships of the proposed model, by means of structural equations, is another contribution that answers to exhortations of

academics (Kirkman & Rosen, 1997) that this type of models be submitted to testing by utilizing this multivariate statistical procedure to rigorously discern the causal relationships of the model.

6.9 Implications

The implication of relating the variables of the organizational context and the design structure of the work group to the processes of the group; then, these processes to the group empowerment, which are also related to group effectiveness, is that such information can be utilized to design more effective work groups. In this sense, the attention is focused on the characteristics that management can influence because the variables of organizational context and of group design are more controllable, since the processes of the group and group empowerment require different strategies in which team members are more involved.

For Mexican organizations, specially the ones that participated in the study, as well as for others, the dilemma that they encounter is to choose which measures to take to increase the autonomy in their work groups; due to the fact, that this dimension of group empowerment is a key element that showed relationship to some of the variables of results; even so, the group members perception showed a smaller degree of this element.

On the other hand, the process of evaluation shows a contrary significant relationship to what was expected, and that would imply a revision of current processes of evaluation to make modifications that would favor the development of group coordination and integration.

6.10 Limitations

One of the limitations of this study is the technique of measurement of the unit of analysis. The unit of analysis is the group. At this group level, a diversity of measurement approaches exists. The approach utilized consists of the answers aggregation from the group members; also, these answers had the group as reference. Conversely, another technique exists in which group members provide an answer of their perceptions in consensus. The group consensus captures the interaction process of group, while the process of aggregation does not. Therefore, if the technique of consensus had been utilized, it is probable that the information collected from the groups would have been more precise (Kirkman, et al., 2001).

Another limitation that was sought to overcome was the common method variance, which is generated by the utilization of self-report measurement instruments. Team members' perceptions were measured by means of a self-report instrument; nevertheless, to avoid that bias, other sources of information were incorporated, as follows: facilitators or group external leaders, and organization managers. However, a strategy could be designed to include variables that measure social desirability; thus, the inclusion of these variables might have helped to measure and to clarify the existence of common method variance (Podsakoff & Organ, 1986).

Another limitation related to measurement instruments was the interview aimed at organization managers. By means of this interview, the information of the organizational context and of the design of the group structure was obtained. Nevertheless, the recollected information had to be disaggregated, equalizing the information for each one of the teams, from each organization. This isometric

disaggregation reduced the variability of the information, in part, due to the fact that the manager answers might also reflect elements of social desirability.

This information could have been detected with the perception from the members of the teams; although, the alternative of the executives was due to time limitations and to the extensive size of the self-report instrument. Still, as it was previously mentioned, four items were included in this self-report instrument which were related to the variables of the organizational context, and these answers reflect differences of perception between managers and team members.

Another limitation of this study consists of not having measured the interaction of the members of the group directly, and the structure that this interaction generates; inasmuch as the design of the group structure is only an indirect measure of this interaction.

Another limitation of this study is the generalization of its conclusions. The group as the unit of analysis, and the difficulties to locate and to achieve the authorization to interview work group members from organizations of Monterrey, Mexico, generated a convenience sample, that is to say, a non- probabilistic sample.

A non- probabilistic sample generates generalization problems. Nevertheless, the characteristics of the employee/worker interviewed, and therefore, of the groups to which they belong, according the theoretical framework of the study, can be identified between the Mexican worker in transition, that shows a conflict between private and universal values; and the Mexican worker that has already assimilated modern values, such as interest in efficiency and work

results (DelaCerde & Núñez, 1998). In this manner, the investigator considers that the characteristics of the employee/worker interviewed are representative of those who work in modern and large organizations in Mexico.

Another limitation of this study is that a cross-sectional research design does not permit an evaluation of causality among the proposed relationships in the model. It is important to continue the investigation of this theme in a longitudinal design that supports the possibility to establish causality relationships among the variables that integrate the model. Besides, it would be necessary to test the existence of reciprocal links in some relationships of the proposed model, such as, the relationship among group empowerment and group performance (Kirkman & Rosen, 1999; Spreitzer, 1996).

In a multi-level perspective, two types of groups are identified; their origin is at the individual level; nevertheless, they are manifested at the group level. One of them is identified as shared properties, and the other is identified as configured properties (Kozlowski & Klein, 2000). In both types of groups, the properties of the group originate from the interaction of the characteristics, the behavior, and the cognitive processes of the group members.

The difference among the properties of each type of group consists of the following feature: in the group of shared properties, the processes in which the characteristics emerge are of composition where the properties are isometrics; that is to say, similar from the individual level to the group level, in a sense that the properties converge. On the other hand, in the group of configured properties, the processes in which the characteristics that emerge are a compilation, in which the

properties are discontinuous, since they capture the variability of the individual characteristics; in short, the properties do not converge, so in that sense, the processes are complex, discontinuous, and not lineal. The properties of both types of group are similarly functional, the difference being in the different processes of emergency (Kozlowski & Klein, 2000).

In this study, the constructs at group level assume a concurrence to the group of shared properties. It is considered that the characteristics, behaviors and cognitive processes of the members of the groups interviewed reflect the constructs at the group level. The agreement within the group that the tests of ANOVA design and that the intra-class correlation verified is an element that allows establishing the coincidence to the group of shared properties.

Considering this perspective of multi-level, another limitation of this study is related to the configured properties of group type. The question presented in the literature review related to the Mexican group and its cultural roots is: "How can we reconcile the Mexican individualism that obstructs participation of Mexicans in workgroups with the named cultural tendency to collectivism that is clearly observed in the Mexican family network?" (DelaCerde & Núñez, 1998: 98). It can have a possible answer by studying the group in the perspective of the configured properties, given that this perspective would be able to capture the implicit diversity in the contradictions between management and culture that the composition process cannot capture.

6.11 Future research

Questions of the academics about the empowerment construct (Kirkman & Rosen, 1999; Spreitzer, 1996) are the relationships between the empowerment of the individual and the empowerment of the group. This premise brings the following questions: does the presence of the empowered individual reinforce the empowerment of the group? Or can the effect be different? Or can the influence of the empowered group diminish the empowerment of the individual? It is necessary to simultaneously study the empowerment at both levels to establish the optimum degree of empowerment in these different levels of analysis.

Another element to consider for future research is the following: Flores Zambada (1995) identifies four perspectives of empowerment; psychological, structural, participative, and leadership. These perspectives are combined in a cybernetic system. In this system, the inputs are three empowerment perspectives -structural, participative, and leadership. The process is the psychological perspective which has as products: performance results and attitudinal results; this approach is at the individual level of analysis. The variables of the group design of the proposed model, which were captured at the level of the organization, represent a first intent of study of this approach. However, it requires an intensified study of the influences from these other perspectives in the group structure, as antecedents of the psychological empowerment construct at the group level of analysis; consequently, to expand the nomological network of the construct.

The perception of the team members shows that the degree of autonomy is the lowest of all the dimensions of group empowerment. Nicholls, Lane & Brehm

(1999) detected in their investigation about implementing self-management teams in Mexico that 232 Mexican managers mentioned two obstacles for implementing those types of teams; first, that the Mexican workers did not have the responsibility and the abilities to have an adequate performance within these teams; second, that Mexican managers were not willing to share power. Hence, the perception of the group members interviewed seems to coincide with the previous arguments.

On the other hand, (Kirkman & Rosen, 1999) in their research, find that empowered teams perform above self-management teams, identifying self-management teams only with the autonomy dimension. In spite of the superiority of empowered teams, autonomy continues as an important element of the construct, and its existence is necessary. In this manner, although Mexican culture helps us to explain this situation, it is necessary to continue expanding this study to explain the group empowerment results with more clarity.

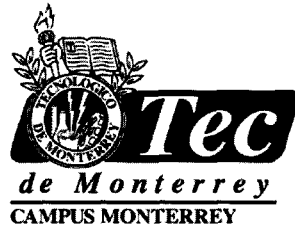
In the theoretical framework of this research, an approach related to the identification of two types of groups was reviewed: one, the group of individual origin that is the result of the interaction among the individuals that integrate the group; two, the group of social origin that is the result of the social influences and of the group context (Månson, 1993).

According to the previous statement, constructs utilized in this investigation, as mental models that arise from the interaction among the members of the group, and the aspects of the interaction shared by these members, is an argument oriented to the perspective of the individual origin of the group. That is

to say, the mental model is the result of the mentioned individual interaction. On the other hand, the mental model can coincide with the group of social origin since the cultural and institutional influences also determine a mental model.

As a result, in this investigation are also found constructs, as group membership that relates the group to its members through the identification to said group. An argument that coincides to the group of social origin, due to the social and institutional forces that influence the way in which the members interpret and conceive their group membership. In light of this, it is essential to continue intensifying the study of the influences that determine the “empowerment of the Mexican group” in order to better understand and enable the Mexican worker and the Mexican organization to increase their effectiveness.

Appendix A
Data Collection Instruments



Sea usted bienvenido (a) a formar parte de esta investigación de tesis de doctorado en administración.

Soy estudiante del ITESM y le agradezco de antemano su valiosa cooperación.

La participación de usted es muy importante porque servirá para validar y obtener un estudio de las características y comportamiento de los grupos de trabajo en nuestro país.

Su participación consiste en la realización de **dos actividades:**

La primera se refiere a una **actividad de asociación de palabras**, antes de iniciarla recibirá las instrucciones, ya que se requiere que todos los participantes inicien y terminen esta primera actividad al mismo tiempo, por favor, **no de vuelta** a esta hoja hasta que se le indique.

La segunda actividad se refiere al **llenado de un cuestionario**, al terminarlo y retirarse, le solicito que entregue los documentos de ambas actividades juntos.

Gracias

Tecnología

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Cuestionario

Solicito de usted, reflexionar y contestar sinceramente este cuestionario enfocado a conocer su opinión sobre aspectos importantes para el trabajo en equipo.

Este instrumento está diseñado para conocer sus sentimientos personales sobre su equipo de trabajo. Por favor ponga mucha atención a las instrucciones siguientes:

Lea cada pregunta con mucho cuidado

No tome mucho tiempo en cada pregunta

No conteste lo que crea que debería ser o lo que crea que nos gustaría que respondiera

No hay preguntas engañosas

Conteste lo que usted honestamente siente

Conteste todas las preguntas no se salte ninguna

Aunque algunas de las preguntas parezcan similares, su respuesta a cada una de ellas es muy importante para esta investigación

Su reacción inicial a cada pregunta es la mejor manera de responder

Aproximadamente tomará 20 minutos el responder todas las preguntas

Este instrumento le pide que indique el grado en que usted está de acuerdo o desacuerdo con cada afirmación. En la parte de abajo se da un ejemplo del tipo de preguntas que encontrará.

	Totalmente de acuerdo						Totalmente en desacuerdo
1. En mi equipo aprovechamos el tiempo al realizar el trabajo	1	<u>2</u>	3	4	5	6	7
2. Los miembros de mi equipo continuamente mejoran los procesos de trabajo acordados	1	2	3	<u>4</u>	5	6	7
3. Se espera que los miembros del equipo trabajen para la empresa durante mucho tiempo	1	2	3	4	5	<u>6</u>	7

En la pregunta 1 la persona indica que está de acuerdo pero no totalmente. En la pregunta 2 la persona indica que está un poco en desacuerdo. En la pregunta 3 la persona indica que está en desacuerdo pero no totalmente.

Sección I. Con base a la forma en que se contestaron las tres preguntas anteriores encierre en un círculo el número que más adecuadamente refleja **sus sentimientos** con referencia a cada una de las afirmaciones de su grupo de trabajo.

	Totalmente de acuerdo			Totalmente en desacuerdo			
1. En mi equipo tratamos de <i>apoyar</i> a alguno de los miembros cuando tiene un problema personal grave.	1	2	3	4	5	6	7
2. El equipo cree que ningún trabajo es <i>demasiado difícil</i> .	1	2	3	4	5	6	7
3. El equipo cree que puede ser muy productivo.	1	2	3	4	5	6	7
4. El equipo cumple con sus objetivos.	1	2	3	4	5	6	7
5. En mi grupo de trabajo, estamos seguros de que podemos <i>confiar</i> totalmente entre nosotros.	1	2	3	4	5	6	7
6. El equipo determina <i>qué cosas</i> deben hacerse dentro del mismo.	1	2	3	4	5	6	7
7. El equipo es el que determina <i>cómo se deben</i> hacer las cosas.	1	2	3	4	5	6	7
8. El equipo cree que su trabajo es esencial.	1	2	3	4	5	6	7
9. El equipo espera ser <i>reconocido</i> como un equipo de alto desempeño.	1	2	3	4	5	6	7
10. El equipo tiene un impacto positivo en los clientes de esta empresa.	1	2	3	4	5	6	7
11. En mi equipo cuando necesitamos tomar una decisión importante, <i>expresamos</i> nuestros sentimientos al respecto antes de decidir.	1	2	3	4	5	6	7
12. En mi equipo generalmente estamos <i>muy activos</i> mientras desempeñamos nuestro trabajo.	1	2	3	4	5	6	7

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 13. En mi equipo nos echamos porras o nos animamos cuando hacemos el trabajo. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. En mi grupo de trabajo, cada quien espera toda la <i>verdad</i> de los demás miembros. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. El equipo hace la diferencia en esta organización. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 16. En mi equipo generalmente hacemos el trabajo con entusiasmo. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 17. Al equipo le <i>importa</i> lo que hace. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 18. El equipo tiene un impacto positivo en otros empleados que dependen de él. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 19. El equipo lleva a cabo tareas importantes para la empresa. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 20. En mi grupo de trabajo todos los miembros muestran una <i>integridad</i> absoluta. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 21. El equipo puede hacer mucho cuando trabaja duro. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 22. El equipo tiene un buen progreso en su trabajo. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 23. En mi grupo de trabajo sabemos que entre nosotros <i>respaldamos</i> completamente nuestra palabra. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 24. En mi grupo de trabajo, respetamos totalmente la competencia individual de los demás. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 25. El equipo hace sus propias elecciones sin que le sean dictadas por la gerencia. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 26. El equipo puede seleccionar <i>diferentes</i> maneras de hacer su trabajo. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 27. El equipo siente que el propósito del equipo es importante. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 28. El equipo siente que puede resolver cualquier problema que surja. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 29. El equipo tiene una sensación de <i>libertad</i> en lo que hace. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 30. En mi equipo, además, de ser compañeros de trabajo nos sentimos como amigos o cuates. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 31. En mi grupo de trabajo, los miembros somos confiables y honestos. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 32. El equipo siente que su trabajo tiene significado. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 33. El equipo tiene <i>confianza</i> en sí mismo. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 34. El equipo tiene una amplia variedad de alternativas para hacer las cosas. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 35. El equipo cree que su trabajo es valioso. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 36. El equipo siente que sus tareas valen la pena. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Sección II. Las siguientes afirmaciones están orientadas a reflexionar sobre los procesos que acontecen en su grupo de trabajo.

	Totalmente de acuerdo			Totalmente en desacuerdo			
	1	2	3	4	5	6	7
37. Los miembros de mi equipo no necesitan <i>verificar</i> el trabajo de los demás para asegurarse de que está hecho apropiadamente.	1	2	3	4	5	6	7
38. En mi grupo de trabajo, los participantes se sienten libres de dar su opinión en relación con asuntos de trabajo.	1	2	3	4	5	6	7
39. Me siento <i>a gusto</i> de formar parte de este grupo de trabajo.	1	2	3	4	5	6	7
40. Los miembros de mi equipo siempre practican buenas habilidades de interacción.	1	2	3	4	5	6	7
41. En mi grupo de trabajo, los participantes frecuentemente revisan en conjunto las asignaciones de trabajo.	1	2	3	4	5	6	7
42. El grupo al que pertenezco es <i>reconocido</i> por la organización.	1	2	3	4	5	6	7
43. En mi equipo somos buenos para coordinar el trabajo entre todos.	1	2	3	4	5	6	7
44. En mi grupo de trabajo, los participantes comparten ideas e información.	1	2	3	4	5	6	7
45. Otros compañeros de trabajo quieren formar parte de este grupo de trabajo.	1	2	3	4	5	6	7
46. En mi equipo estamos <i>enterados</i> de las actividades de trabajo de los compañeros.	1	2	3	4	5	6	7
47. En mi equipo encontramos fácil trabajar con los compañeros.	1	2	3	4	5	6	7
48. En mi equipo es fácil eliminar los desacuerdos para realizar el trabajo.	1	2	3	4	5	6	7

- | | | | | | | | |
|--|---|---|---|---|---|---|---|
| 49. En mi grupo de trabajo, las personas se dan tiempo para escuchar los problemas y preocupaciones de sus compañeros. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 50. En mi equipo de trabajo me siento como <i>en familia</i> . | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 51. Si tengo algún problema grave, los miembros de mi equipo me ayudarán a resolverlo. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 52. En mi grupo de trabajo se analizan abiertamente los temas. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 53. Los miembros de mi equipo están muy dispuestos a <i>compartir</i> información con otros miembros del equipo acerca de nuestro trabajo. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 54. Estoy orgulloso que otros sepan que soy parte de este grupo de trabajo. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Sección III. Las siguientes afirmaciones están orientadas a reflexionar sobre aspectos relacionados con las **consecuencias** de formar parte de su grupo de trabajo.

- | | Totalmente de acuerdo | | | | Totalmente en desacuerdo | | |
|---|------------------------------|---|---|---|---------------------------------|---|---|
| 55. Con frecuencia <i>actuamos espontáneamente</i> como un todo sin un acuerdo previo o planeación anticipada. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 56. Mi equipo de trabajo es plenamente apoyado por las políticas de recursos humanos de la empresa. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 57. Los miembros del equipo están satisfechos con su sueldo. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 58. Un beneficio de trabajar en una situación de equipo o grupo es que da a los miembros un sentido de <i>propósito común</i> . | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

59. Los miembros del equipo están satisfechos con las posibles oportunidades de promoción. 1 2 3 4 5 6 7
60. Mi equipo de trabajo *es plenamente apoyado* por el facilitador o coordinador de los equipos en la compañía. 1 2 3 4 5 6 7
61. El trabajo hecho en equipo/grupo es mejor que el trabajo realizado individualmente. 1 2 3 4 5 6 7
62. Los miembros del equipo están satisfechos con las relaciones del equipo con otros empleados y departamentos. 1 2 3 4 5 6 7
63. Se genera mayor cantidad de ideas o soluciones cuando se trabaja en una situación de equipo que de manera individual. 1 2 3 4 5 6 7
64. Los miembros del equipo están satisfechos con las asignaciones de trabajo actual del equipo. 1 2 3 4 5 6 7
65. Estoy *contento* con la manera en que mis colegas y yo trabajamos juntos. 1 2 3 4 5 6 7
66. Estoy muy *satisfecho* de trabajar en este equipo. 1 2 3 4 5 6 7
67. Mi equipo de trabajo es plenamente apoyado por la administración de la empresa. 1 2 3 4 5 6 7
68. Los miembros del equipo encuentran que sus valores y los valores de su equipo son muy similares. 1 2 3 4 5 6 7
69. Trabajamos juntos de manera creativa y efectiva como un grupo. 1 2 3 4 5 6 7
70. Los miembros del equipo están muy *contentos* de haber elegido trabajar en este equipo en lugar de otro. 1 2 3 4 5 6 7
71. Nuestro equipo produce un resultado que es mayor que la suma de las contribuciones individuales. 1 2 3 4 5 6 7

72. Para los miembros del equipo éste es el *mejor* de todos los posibles equipos para trabajar. 1 2 3 4 5 6 7
73. Los miembros del equipo aceptarían casi cualquier trabajo con tal de mantenerse trabajando en este equipo. 1 2 3 4 5 6 7
74. Este equipo realmente inspira lo mejor en los miembros del equipo en relación con la forma de desempeñar el trabajo. 1 2 3 4 5 6 7
75. A los miembros del equipo realmente les *interesa* el destino de este equipo. 1 2 3 4 5 6 7
76. Mi equipo de trabajo es considerado como un elemento muy importante para la operación de esta empresa. 1 2 3 4 5 6 7

Sección IV. A continuación se presentan una serie de preguntas sobre aspectos generales relacionados con usted. **Recuerde que esta información será manejada con absoluta confidencialidad.**

¿Cuántos años de experiencia de trabajo tiene? _____ ¿Cuántos años de trabajar en esta empresa? _____

¿Cuántos años de experiencia tiene en su puesto actual? _____ ¿Cuántos años de trabajar en grupos o equipos? _____

Número de personas a las que usted supervisa: _____

Por favor indique con una cruz su sexo: masculino _____ Por favor indique su edad: _____
femenino _____

Su escolaridad es (escoja una): sin primaria _____ primaria terminada _____
secundaria terminada _____

carrera técnica o corta _____ preparatoria _____ licenciatura o ingeniería _____
posgrado _____

Por favor indique su estado civil (escoja uno): soltero _____ casado _____
divorciado _____ separado _____

unión libre _____ viudo _____

Número de dependientes económicos: _____

Religión: (escoja una) católico _____ judío _____ protestante _____ otra _____

Información exclusiva solamente para la diferenciación del equipo con respecto a los otros equipos de la organización

Equipo al que pertenece la persona que contesta este cuestionario:



Evaluación de resultados, de cada uno de los equipos, por un responsable externo a los mismos

Este instrumento está diseñado para establecer una **evaluación de resultados** en cada uno de los equipos de trabajo de esta organización. Para contestar varias de las preguntas **considere o tome en cuenta los resultados o estadísticas** que se tenga registrados para cada equipo, en ese sentido antes de contestar **consulte** dichos registros.

Por favor ponga mucha atención a las instrucciones siguientes:

Lea cada pregunta con mucho cuidado

Conteste lo que usted honestamente considere

Conteste todas las preguntas no se salte ninguna

Aunque algunas de las preguntas parezcan similares, su respuesta a cada una de ellas es muy importante para esta investigación

Este instrumento le pide que indique el grado en que usted está de acuerdo o desacuerdo con cada afirmación. En la parte de abajo se da un **ejemplo** del tipo de preguntas que encontrará.

	Totalmente de acuerdo						Totalmente en desacuerdo
1. El equipo aprovecha el tiempo al realizar el trabajo	1	<u>2</u>	3	4	5	6	7
2. El equipo continuamente mejora sus procesos de trabajo	1	2	3	<u>4</u>	5	6	7
3. Los miembros del equipo han trabajado para la empresa durante mucho tiempo	1	2	3	4	5	<u>6</u>	7

En la pregunta **1** la persona indica que está de acuerdo pero no totalmente. En la pregunta **2** la persona indica que está un poco en desacuerdo. En la pregunta **3** la persona indica que está en desacuerdo pero no totalmente.

Identificación

Nombre de la organización _____

Nombre o identificación del equipo evaluado _____

Nombre de la persona que evalúa _____

Puesto de la persona que evalúa _____

Sección I. Con base a la forma en que se contestaron las tres preguntas anteriores encierre en un círculo el número que más adecuadamente refleje su **evaluación** con referencia a cada una de las afirmaciones del grupo de trabajo que calificará.

	Totalmente de acuerdo			Totalmente en desacuerdo			
1. El equipo alcanzó o excedió sus metas.	1	2	3	4	5	6	7
2. El equipo es capaz de corregir lo que no le gusta.	1	2	3	4	5	6	7
3. El equipo genera productos y servicios de alta calidad.	1	2	3	4	5	6	7
4. El equipo terminó sus tareas a tiempo.	1	2	3	4	5	6	7
5. El equipo siempre esta buscando mejores maneras de hacer las cosas.	1	2	3	4	5	6	7
6. El equipo proporciona un nivel satisfactorio de servicio global al cliente.	1	2	3	4	5	6	7
7. La cantidad de trabajo terminada por el equipo es muy grande.	1	2	3	4	5	6	7
8. El equipo busca soluciones innovadoras a los problemas del trabajo.	1	2	3	4	5	6	7
9. El equipo alcanza las metas de la organización con respecto al servicio al cliente.	1	2	3	4	5	6	7
10. La calidad de trabajo del equipo es muy alta.	1	2	3	4	5	6	7
11. El equipo revisa los procesos de trabajo.	1	2	3	4	5	6	7
12. El equipo mejora los procesos de trabajo para asegurar un mejor servicio al cliente.	1	2	3	4	5	6	7
13. Cuando surge una alta prioridad el equipo realiza un trabajo sobresaliente.	1	2	3	4	5	6	7
14. El equipo inicia cambios para mejorar la manera en que se lleva a cabo el trabajo.	1	2	3	4	5	6	7

15. El equipo obtiene el máximo resultado a partir de los recursos utilizados. 1 2 3 4 5 6 7
16. El equipo busca la mejora continua. 1 2 3 4 5 6 7
17. El desempeño del equipo es muy alto en comparación con otros grupos. 1 2 3 4 5 6 7

Guía de entrevista para directivos y responsables de equipos

A continuación se le harán una serie de preguntas relacionadas con el diseño de los equipos de trabajo en su organización.

Entre los temas de dichas preguntas se encuentran aspectos referentes a **variables del contexto de la organización**, tales como el apoyo que reciben los equipos en diferentes niveles de la estructura de la organización, aspectos relacionados con el diseño del trabajo de los equipos, aspectos relacionados con las políticas de recursos humanos orientadas hacia los equipos, las responsabilidades de los equipos, así como **variables del diseño** de la estructura de los equipos.

Con respecto a los mencionados **temas**, para cada uno de ellos se presenta **una serie de preguntas**, en ese sentido, se le solicita que **identifique el grado o nivel** en que usted considere se encuentran los equipos en su organización. Para tal efecto, se presenta en el **cuadro 1**, una escala de evaluación que consta de cinco niveles, los cuales pueden ser tomados como base para normar su criterio al emitir su juicio, mediante la selección de uno de ellos. Además, se le solicita **una breve explicación** que justifique su respuesta.

Cuadro 1

Nivel	Enfoque
0% a 9%	No lo tienen o se tienen únicamente planteamientos para iniciar esta situación
10% a 30%	Apenas se ha iniciado un planteamiento con respecto a este asunto, de manera que son incipientes las características de esta situación.
31% a 60%	Se tiene un avance respecto de este asunto.
61% a 90%	Se tiene un avance significativo y existe evidencia de que la situación es una práctica casi cotidiana
91% a 100%	Se tiene considerado como una situación permanente en el desempeño de los equipos

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Variables del contexto

Dirección y administración general

Estructura organizacional/social

*Apoyo socio político***En esta organización los equipos de trabajo:**

Tienen acceso a los recursos de la unidad o área de trabajo en que se desenvuelven

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Tienen acceso a los recursos de otros equipos

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Tiene acceso a información estratégica de la organización

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Tienen un alto grado de coordinación con otros equipos

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Son considerados como un elemento importante en la operación de la organización

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Tienen apoyo del personal sindicalizado

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Son considerados como una opción importante de desarrollo por los trabajadores

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Son supervisados o coordinados por un administrador que tiene un adecuado tramo de control

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Apoyo directivo

Apoyo directivo en un nivel general de la organización

En esta organización los equipos de trabajo:

Son apoyados por la alta dirección

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Obtienen de fácil manera, asistencia de expertos, cuando surge algún aspecto que el equipo no sabe como manejar

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Reciben retroalimentación de su desempeño de los niveles directivos superiores

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Proporcionan a otros equipos información necesaria para su desempeño

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Reciben información acerca de los actuales desarrollos y de los planes futuros que pueden afectar su trabajo

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Apoyo al equipo en la unidad de trabajo

Conducta del líder externo del equipo

En esta organización el líder externo o coordinador de los equipos de trabajo:

Proporciona muchas responsabilidades a los equipos que supervisa

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Solicita consejos cuando toma decisiones a los equipos que supervisa

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Permite establecer sus propias metas a los equipos que supervisa

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Deja el paso libre para que trabajen en sus problemas de desempeño a los equipos que supervisa

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Apoya el concepto de equipos

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Comunica que tiene altas expectativas de ellos a los equipos que supervisa

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Confía en los equipos que supervisa

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Utiliza para tomar decisiones la información de los equipos que supervisa

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Incrementa un sentido de control personal en los miembros de los equipos que supervisa

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Fomenta la auto evaluación en los equipos que supervisa

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
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uno:					
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¿Por qué?

Producción

Diseño del trabajo

Auto - administración

En esta organización los equipos de trabajo:

Establecen los métodos, procedimientos y horarios de trabajo

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Deciden quién realiza las tareas

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Toman las decisiones relacionadas con el trabajo

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Participación

En esta organización los equipos de trabajo (la mayor parte de sus miembros):

Tienen oportunidad de participar en la toma de decisiones

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Son tomados en cuenta la mayor parte del tiempo por la manera de realizar el trabajo

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Variedad en la tarea

En esta organización los equipos de trabajo:

Tienen una variedad en el trabajo muy alta

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Tienen rutinas de trabajo que se encuentran poco estructuradas

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Tienen oportunidad (los miembros de los equipos, en su mayor parte) de aprender las diferentes tareas que se realizan

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Tienen oportunidad (los miembros de los equipos, en su mayor parte) de llevar a cabo las tareas más interesantes

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Tienen oportunidad de cambiar con frecuencia las asignaciones de trabajo para enfrentar las cargas de trabajo que enfrentan

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Significado de la tarea

En esta organización los equipos de trabajo:

Hacen una contribución importante para atender a los clientes de la empresa

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Hacen un esfuerzo por cumplir con las fechas y tiempos programados

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Hacen su trabajo buscando establecer una diferencia para las personas que lo reciben o lo usan

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Tienen metas y/o tareas de un alto significado para ellos

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Identidad de la tarea

En esta organización los equipos de trabajo:

Son responsables de todos los aspectos de un producto en su área

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Son responsables de un área única o segmento de la actividad de la empresa

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Responsabilidad sobre el producto/servicio

En esta organización los equipos de trabajo:

Tienen la responsabilidad de decidir la programación de su producto/servicio

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Toman decisiones importantes tales como asignaciones de trabajo relacionadas con su producto/servicio

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Tienen la responsabilidad de medir la calidad de sus productos

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Monitorean la calidad

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Entrenan para la calidad

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Manejan asuntos de los clientes (internos/externos)

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Manejan quejas de los clientes(internos/externos)

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Trabajan con un producto/servicio completo

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Recursos Humanos

Políticas de Recursos humanos basadas en el equipo

Compensación basada en el equipo

En esta organización los equipos de trabajo:

Deciden recibir su compensación como grupo

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

La compensación que reciben debe basarse en el desempeño del equipo

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Capacitación

En esta organización los equipos de trabajo:

Son entrenados para realizar trabajos de diferentes equipos

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Reciben una capacitación técnica adecuada para las tareas que tienen que realizar

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Reciben una capacitación adecuada en calidad y servicio al cliente

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Reciben una capacitación en habilidades para trabajar en equipo

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Evaluación del desempeño

En esta organización los equipos de trabajo:

Evalúan formalmente el desempeño de sus propios miembros

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Consideran el desempeño del equipo más importante que el desempeño individual

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Consideran que la evaluación del desempeño de los miembros del equipo depende de su desempeño como miembro del equipo

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Decisiones de ingreso y participación

En esta organización los equipos de trabajo:

Deciden quiénes pueden ser miembros de los mismos

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Participan en el entrenamiento de los miembros de los mismos

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Participan en la disciplina de los miembros de los mismos

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Participan en la selección de los miembros de los mismos

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Promoción

En esta organización los equipos de trabajo:

Consideran que un trabajo efectivo en apoyo de los mismos es crítico para el avance en la organización de sus integrantes

Seleccione uno:	0% a 9%	10% a 30%	31% a 60%	61% a 90%	91% a 100%
-----------------	---------	-----------	-----------	-----------	------------

¿Por qué?

Estructura de diseño del grupo

Liderazgo

¿Existe liderazgo de los equipos? _____

Si existe, ¿Qué tipo de liderazgo existe en los equipos? _____

¿Existe rotación en el liderazgo de los equipos? _____

¿Qué responsabilidades tiene el líder del equipo, con respecto a los siguientes aspectos?

Reportes de información _____

Supervisión de los miembros _____

Organización de reuniones _____

Registros de actividades _____

Otras responsabilidades: _____

Poder

Poder sobre información

El diseño de la estructura del grupo genera que solamente alguno o algunos de los miembros tenga acceso a información clave o importante para el desempeño de los grupos _____

Poder de recompensa o castigo

El diseño de la estructura del grupo genera que solamente alguno o algunos de los miembros tenga la posibilidad de sancionar o recompensar a los miembros del equipo _____

Poder de expertos

El diseño de la estructura del grupo intencionalmente integra alguno o algunos de los miembros con capacidades o habilidades especiales que les permita a dichos miembros ser considerados como expertos por los demás miembros del equipo _____

Poder de legitimidad

El diseño de la estructura del grupo establece una jerarquía en el mismo que permita a alguno o algunos miembros tengan mayor rango que los demás miembros del equipo _____

Participación / involucramiento

¿En el diseño de la estructura de los equipos existen actividades que fomenten o generen una mayor participación / involucramiento de los miembros del equipo, tales como?

Cursos de capacitación diseñados específicamente con esa intención _____

Fijación de metas comunes _____

Fomento de responsabilidad _____

Fomento de mejoramiento _____

Fomento de innovaciones _____

Otras actividades: _____

Status

En la integración del equipo o equipos, los miembros presentan algunas de las siguientes características:

Tienen distintas categorías de acuerdo a los tabuladores de sueldos

_____ Algunos son de planta y otros eventuales _____

Tienen distinta antigüedad (de manera significativa) en la organización _____

Tienen distinta antigüedad (de manera significativa) en el equipo _____

Otras: _____

Composición del grupo

En esta organización los equipos de trabajo:

Están integrados por elementos que tienen una amplia variedad de capacidades _____

Están integrados por elementos que tienen una amplia variedad de experiencias _____

Están integrados por miembros que tienen habilidades complementarias _____

La mayoría de los miembros conocen los trabajos que se llevan a cabo en el equipo _____

Tienen mucha flexibilidad para que los miembros puedan cambiarse _____

Tamaño

En esta organización los equipos de trabajo:

Están integrados por el siguiente número de miembros:

Appendix B
Mental Model from Team/Organization

Team / organization	Technology conc/total %	Information conc/total %	Team conc/total %	Work conc/total %	Purpose conc/total %	Interaction conc/total %	mean Modmenp %
1	90.48	69.84	84.76	67.57	60.71	66.04	73.23
2	75.37	80.57	70.85	77.66	78.51	67.56	75.09
3	69.32	73.60	78.10	83.52	78.18	73.64	76.06
Organization A (mean)	78.39	74.67	77.90	76.25	72.47	69.08	74.79
4	72.41	92.59	74.17	70.59	87.50	64.00	76.88
5	60.87	79.17	83.78	75.00	66.67	60.00	70.91
6	76.92	100.00	66.10	71.43	46.15	46.67	67.88
7	48.89	80.43	49.70	65.12	60.00	36.36	56.75
8	93.75	73.17	85.94	66.67	75.76	65.12	76.73
9	48.00	91.18	61.40	73.91	35.29	66.67	62.74
10	57.14	84.21	69.23	75.00	72.73	28.57	64.48
11	66.67	94.74	85.45	69.57	84.00	47.62	74.67
12	52.94	92.31	73.33	60.00	52.63	42.86	62.35
13	31.58	86.67	68.01	61.70	86.79	55.56	65.05
14	62.22	90.20	73.83	71.43	86.36	64.29	74.72
15	59.46	90.00	42.09	80.39	43.18	53.85	61.49
16	55.56	78.95	69.65	60.71	65.71	44.00	62.43
17	31.58	73.33	45.86	53.57	57.14	23.08	47.43
18	27.27	92.31	66.67	93.33	41.67	58.33	63.26
19	44.83	66.67	61.90	77.78	80.00	42.31	62.25
20	42.50	84.00	80.01	70.27	70.37	65.52	68.78
21	74.29	60.87	71.14	70.73	62.50	48.57	64.68
22	82.14	73.68	92.00	96.55	96.55	60.00	83.49
23	49.06	70.00	55.18	59.02	50.75	31.48	52.58
24	48.39	77.78	59.55	52.63	62.86	43.33	57.42
25	71.05	83.78	79.76	79.07	78.79	58.06	75.09
26	85.19	88.46	70.45	76.67	75.00	42.86	73.10
27	48.98	75.44	49.49	65.57	36.73	51.02	54.54
28	56.52	64.71	88.00	73.08	78.26	27.27	64.64
29	75.00	72.73	86.11	57.89	75.00	40.00	67.79
30	65.28	75.00	77.14	82.43	55.22	61.40	69.41
Organization B (mean)	58.83	81.20	69.85	70.74	66.06	49.21	65.98
31	71.43	67.86	72.75	70.45	75.61	54.05	68.69
32	64.52	85.71	55.68	80.00	62.96	52.38	66.88
33	62.30	57.69	65.15	74.03	63.64	55.77	63.10
34	82.14	82.61	84.69	84.00	66.67	61.11	76.87
35	61.90	89.47	64.05	66.67	66.67	80.00	71.46
36	60.87	87.88	58.33	52.94	70.00	76.47	67.75
37	86.67	90.91	64.29	83.33	87.50	87.50	83.37
38	86.67	86.36	76.92	33.33	76.19	64.29	70.63
39	47.50	86.27	51.52	60.98	64.86	56.41	61.26
40	47.37	66.67	51.28	82.61	66.67	56.67	61.88
41	69.57	72.92	71.55	74.07	67.44	67.92	70.58
42	64.86	50.00	46.67	64.29	61.11	45.16	55.35
43	40.00	35.00	62.96	59.09	44.44	81.25	53.79
44	65.22	55.56	78.26	69.57	58.82	42.86	61.71
45	73.33	78.26	71.43	88.89	45.45	93.33	75.12
Organization C (mean)	65.62	72.88	65.04	69.62	65.20	65.01	67.23

	Technology conc/total	Information conc/total	Team conc/total	Work conc/total	Purpose conc/total	Interaction conc/total	mean Modmenp
Team / organization	%	%	%	%	%	%	%
46	73.68	95.92	73.61	57.89	66.67	54.55	70.39
47	75.56	87.50	71.01	66.00	76.92	86.27	77.21
48	76.47	80.43	81.02	77.27	81.82	46.43	73.91
49	75.00	81.54	78.62	64.06	66.10	70.37	72.61
50	74.29	84.29	76.86	87.30	54.24	62.71	73.28
51	65.15	72.97	69.33	82.61	73.02	46.30	68.23
52	66.67	70.73	75.02	70.21	51.85	61.70	66.03
53	54.17	52.17	74.29	70.83	70.83	44.00	61.05
54	89.66	86.05	65.52	94.74	66.67	68.57	78.53
55	73.91	83.67	67.53	69.23	68.42	50.00	68.80
56	63.46	77.27	76.06	87.50	61.70	56.60	70.43
Organization D (mean)	71.64	79.32	73.53	75.24	67.11	58.86	70.95
57	73.77	70.27	69.59	70.83	73.33	50.00	67.97
58	62.50	81.71	75.85	79.41	56.14	50.00	67.60
59	68.42	94.74	61.25	73.47	69.44	57.58	70.82
60	56.52	73.08	77.15	77.59	49.02	56.25	64.93
61	73.81	73.55	65.12	66.94	61.86	50.00	65.21
62	63.64	95.83	83.33	80.95	68.18	57.89	74.97
63	82.76	84.85	78.60	79.07	64.71	62.16	75.36
Organization E (mean)	68.77	82.00	72.98	75.47	63.24	54.84	69.55
64	50.00	72.22	74.77	75.00	72.50	64.71	68.20
65	60.19	71.13	70.91	79.46	69.15	69.47	70.05
66	79.31	83.87	77.78	78.79	78.57	75.00	78.89
67	64.44	90.00	65.18	80.43	69.44	65.91	72.57
68	61.40	70.69	90.46	68.85	75.00	61.22	71.27
69	58.82	73.58	72.35	85.71	71.11	72.09	72.28
70	46.15	64.52	81.25	68.97	69.23	64.29	65.73
71	70.27	68.09	74.53	80.43	69.23	85.00	74.59
72	75.00	72.97	79.80	85.37	58.97	60.98	72.18
73	84.09	72.92	82.61	83.05	80.00	82.93	80.93
Organization F (mean)	64.97	74.00	76.96	78.61	71.32	70.16	72.67
Overall mean	65.00	78.03	71.08	72.98	66.76	58.22	68.68

Appendix C
Theta Matrix: Outer Residual Covariance

0Theta .. Outer residual covariance

	cr343	cr446	cr547	mg450	mg551	mg654	tecnol
cr343	0.084						
cr446	-0.104	0.572					
cr547	-0.115	-0.108	0.297				
mg450	-0.013	0.015	0.019	0.220			
mg551	0.023	-0.049	-0.020	-0.097	0.132		
mg654	-0.036	0.095	0.022	-0.047	-0.185	0.479	
tecnol	0.000	0.020	-0.011	0.024	-0.021	0.020	0.380
equip	0.000	-0.030	0.016	-0.023	0.022	-0.023	-0.352
propo	-0.001	0.092	-0.050	0.004	-0.017	0.033	-0.030
ig	0.008	-0.036	0.004	-0.057	0.036	-0.014	0.058
ag	0.012	0.049	-0.051	-0.040	0.049	-0.063	-0.089
cg	-0.019	0.015	0.031	0.071	-0.011	-0.062	-0.006
si	-0.035	0.007	0.068	0.037	-0.090	0.162	-0.049
po	0.030	0.031	-0.079	-0.021	0.019	-0.018	0.041
ta2	0.006	-0.058	0.020	0.008	-0.003	-0.004	0.033
pd	-0.013	0.013	0.019	-0.019	-0.006	0.037	0.020
pr	0.017	-0.016	-0.025	0.002	0.004	-0.011	0.017
sc	-0.008	0.007	0.012	0.023	0.003	-0.035	-0.054
te	0.005	-0.013	-0.004	0.004	0.007	-0.022	0.096
se	0.003	0.022	-0.019	-0.008	0.014	-0.023	-0.062
ce	-0.006	-0.010	0.018	0.004	-0.016	0.032	-0.009
decis57	-0.010	0.017	0.010	-0.042	0.003	0.043	-0.037
decis58	-0.005	0.004	0.009	0.058	-0.023	-0.019	0.019
decis59	0.007	-0.008	-0.009	-0.028	0.024	-0.020	0.066
decis60	0.020	-0.028	-0.025	-0.033	0.031	-0.031	0.035
evalu56	0.024	-0.051	-0.021	-0.060	0.033	-0.003	0.043
evalu55	0.092	-0.208	-0.072	-0.049	0.073	-0.107	0.123
evalu54	0.075	-0.165	-0.061	-0.090	0.074	-0.060	0.111
capac50	0.008	-0.024	-0.003	0.021	-0.004	-0.017	-0.015
capac51	0.012	-0.024	-0.011	0.015	0.006	-0.033	0.026
capac52	-0.001	0.010	-0.003	-0.015	0.006	0.003	-0.001
capac53	-0.015	0.028	0.014	-0.015	-0.008	0.036	-0.009
apdire13	-0.027	0.024	0.042	0.078	-0.050	0.019	-0.029
apdire9	0.000	0.015	-0.008	-0.047	0.015	0.023	-0.006
apdire11	0.015	-0.028	-0.015	0.005	0.013	-0.034	0.022
apsopo3	0.047	-0.098	-0.041	-0.037	0.042	-0.051	0.104
apsopo5	-0.012	0.011	0.018	0.031	-0.021	0.009	0.012
apsopo6	0.009	-0.004	-0.015	-0.029	0.018	-0.006	-0.019
lidext15	0.007	-0.024	-0.001	0.024	-0.005	-0.018	0.020
lidext16	-0.008	0.028	0.001	-0.022	0.004	0.019	-0.019
lidext23	0.007	-0.026	0.000	-0.004	0.006	-0.009	0.002
autoa24	0.054	-0.113	-0.047	-0.031	0.041	-0.055	0.051
autoa25	-0.062	0.143	0.047	0.033	-0.042	0.056	-0.066
autoa26	-0.018	0.028	0.021	0.012	-0.017	0.025	-0.011
varie30	-0.003	-0.012	0.013	-0.034	-0.004	0.052	-0.054
varie31	-0.005	0.003	0.008	-0.007	-0.005	0.020	-0.020
varie32	0.002	-0.011	0.003	-0.019	0.001	0.021	-0.022
signi34	-0.006	0.008	0.009	-0.025	-0.005	0.043	-0.006
signi35	-0.016	0.048	0.005	-0.043	0.011	0.027	-0.013

signi37	-0.032	0.084	0.017	-0.096	0.011	0.092	-0.027
respo41	0.037	-0.102	-0.018	-0.002	0.014	-0.030	-0.001
respo43	0.008	0.008	-0.021	-0.119	0.044	0.046	-0.027
respo46	0.036	-0.093	-0.021	-0.026	0.022	-0.018	-0.007
lider62	0.004	-0.007	-0.004	-0.004	0.005	-0.005	0.003
lider65	0.004	-0.007	-0.004	-0.004	0.005	-0.005	0.003
lider66	0.004	-0.007	-0.004	-0.004	0.005	-0.005	0.003
lider64	0.071	-0.124	-0.077	-0.069	0.078	-0.094	0.052
poder71	-0.017	0.004	0.032	0.014	-0.028	0.046	-0.076
poder72	0.027	-0.080	-0.011	-0.044	0.020	0.008	-0.006
poder73	0.028	-0.117	0.008	-0.055	0.008	0.048	-0.067
status80	-0.015	0.041	0.008	0.017	-0.013	0.009	-0.003
status81	0.000	-0.042	0.023	-0.022	-0.015	0.061	-0.050
status82	0.019	-0.019	-0.028	-0.004	0.028	-0.060	0.043
compo85	0.020	-0.031	-0.023	-0.006	0.019	-0.036	-0.011
compo87	0.044	-0.079	-0.045	0.016	0.032	-0.092	0.026
compo89	0.005	-0.014	-0.003	0.013	0.000	-0.016	0.022
coord	0.000	0.000	0.000	0.056	-0.025	-0.011	-0.005
memb	-0.007	-0.037	0.034	0.000	0.000	0.000	-0.023
modm	0.084	-0.018	-0.162	-0.105	0.035	0.048	0.000
gpempow	0.016	-0.082	0.013	0.080	-0.048	0.011	-0.001
perfout	0.034	-0.054	-0.039	-0.041	0.063	-0.093	-0.008
attout	-0.053	0.042	0.086	0.038	-0.035	0.034	0.041
deciinyp	0.088	-0.220	-0.058	-0.058	0.057	-0.061	0.085
evalua	-0.050	0.090	0.052	0.072	-0.049	0.023	-0.027
capacit	0.102	-0.196	-0.099	-0.121	0.104	-0.090	0.119
apdire	-0.017	0.049	0.008	-0.083	0.022	0.050	-0.004
apsopo	0.008	-0.005	-0.013	-0.053	0.034	-0.014	0.028
lidext	0.106	-0.215	-0.096	-0.114	0.101	-0.092	0.089
autoadm	0.039	-0.042	-0.057	-0.167	0.090	-0.002	0.030
variedad	0.084	-0.150	-0.089	-0.119	0.105	-0.095	0.094
signific	-0.035	0.011	0.065	0.118	-0.075	0.028	-0.016
respuesta	-0.082	0.151	0.083	0.052	-0.076	0.111	-0.176
estrlide	0.018	-0.115	0.028	-0.017	-0.018	0.061	-0.081
estrpode	0.024	0.019	-0.060	-0.132	0.084	-0.032	0.043
estrstat	0.077	-0.109	-0.096	-0.154	0.109	-0.062	0.080
estrcomp	0.078	-0.097	-0.106	-0.156	0.125	-0.095	0.153

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 0Theta .. Outer residual covariance
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	equip	propo	ig	ag	cg	si	po
equip	0.337						
propo	-0.063	0.779					
ig	-0.049	-0.045	0.288				
ag	0.089	-0.047	-0.018	0.456			
cg	0.008	-0.015	-0.128	-0.111	0.333		
si	0.035	0.092	-0.049	-0.066	-0.081	0.394	
po	-0.042	0.037	-0.111	-0.190	-0.077	-0.053	0.567
ta2	-0.029	-0.018	-0.007	-0.031	0.047	-0.135	-0.124
pd	-0.022	0.027	0.003	0.018	-0.054	0.029	0.034

pr	-0.013	-0.025	0.010	-0.018	0.052	-0.029	-0.033
sc	0.050	0.001	-0.019	0.002	-0.004	0.004	0.004
te	-0.095	0.042	0.009	0.050	-0.087	-0.007	0.056
se	0.058	0.001	0.042	0.131	-0.062	0.027	-0.042
ce	0.012	-0.027	-0.041	-0.140	0.106	-0.017	0.000
decis57	0.040	-0.042	0.026	-0.004	-0.057	0.053	-0.020
decis58	-0.023	0.045	-0.046	0.006	0.059	-0.027	0.026
decis59	-0.040	-0.186	0.088	-0.009	-0.001	-0.053	-0.082
decis60	-0.027	-0.054	0.051	-0.005	-0.010	-0.039	-0.030
evalu56	-0.027	-0.110	0.027	-0.007	-0.046	0.033	-0.025
evalu55	-0.102	-0.115	-0.008	-0.021	0.044	-0.068	-0.033
evalu54	-0.083	-0.177	0.024	-0.019	-0.024	-0.002	-0.044
capac50	0.007	0.061	-0.029	-0.002	0.033	-0.025	0.013
capac51	-0.025	0.004	-0.002	-0.001	0.034	-0.044	-0.003
capac52	0.002	-0.009	0.021	0.000	-0.018	0.002	-0.006
capac53	0.013	-0.040	0.004	0.002	-0.036	0.052	-0.002
apdire13	0.025	0.014	-0.055	-0.001	0.074	-0.017	-0.003
apdire9	0.006	-0.001	0.016	0.004	-0.068	0.061	0.016
apdire11	-0.020	-0.007	0.014	-0.004	0.028	-0.052	-0.015
apsopo3	-0.086	-0.099	-0.006	-0.004	-0.001	0.000	-0.003
apsopo5	-0.008	-0.029	-0.024	0.001	0.027	0.005	-0.001
apsopo6	0.014	0.036	0.025	-0.001	-0.027	-0.005	0.001
lidext15	-0.019	0.007	-0.029	0.000	0.035	-0.016	0.009
lidext16	0.018	0.006	0.024	0.002	-0.037	0.022	0.000
lidext23	0.005	-0.064	0.023	-0.010	0.019	-0.035	-0.044
autoa24	-0.051	0.030	-0.039	-0.004	0.004	-0.001	0.032
autoa25	0.061	0.005	0.058	0.008	-0.010	-0.014	-0.029
autoa26	0.015	-0.040	0.003	-0.001	0.002	0.012	-0.017
varie30	0.051	0.000	-0.028	-0.005	-0.052	0.088	0.007
varie31	0.020	-0.007	-0.006	-0.002	-0.013	0.025	-0.003
varie32	0.020	0.006	-0.015	-0.002	-0.027	0.043	0.008
signi34	0.006	-0.005	-0.037	0.005	-0.055	0.102	0.035
signi35	0.022	-0.081	0.081	-0.002	-0.054	0.006	-0.047
signi37	0.041	-0.132	0.084	0.003	-0.148	0.127	-0.032
respo41	-0.002	0.028	-0.054	-0.012	0.034	-0.010	0.007
respo43	0.031	-0.051	0.069	-0.002	-0.143	0.099	-0.011
respo46	0.004	0.016	-0.036	-0.011	0.003	0.011	0.004
lider62	-0.003	0.001	0.003	-0.001	0.000	-0.005	-0.001
lider65	-0.003	0.001	0.003	-0.001	0.000	-0.005	-0.001
lider66	-0.003	0.001	0.003	-0.001	0.000	-0.005	-0.001
lider64	-0.050	0.014	0.050	-0.011	-0.006	-0.083	-0.016
poder71	0.070	0.011	-0.030	-0.009	0.007	0.030	-0.016
poder72	0.011	-0.043	-0.025	-0.012	-0.026	0.048	-0.009
poder73	0.070	-0.056	-0.061	-0.026	-0.034	0.096	-0.026
status80	-0.002	0.040	-0.008	0.009	-0.003	0.012	0.024
status81	0.050	-0.025	-0.070	-0.009	-0.035	0.114	0.010
status82	-0.037	-0.031	0.065	-0.004	0.032	-0.105	-0.039
compo85	0.002	0.070	0.010	-0.003	0.014	-0.050	0.005
compo87	-0.035	0.094	0.002	-0.005	0.070	-0.122	0.005
compo89	-0.019	-0.011	-0.007	0.000	0.023	-0.019	-0.001
coord	0.011	-0.053	-0.010	-0.064	0.064	-0.021	0.037
memb	0.012	0.075	-0.012	-0.119	0.170	-0.055	-0.060
modm	0.000	0.000	0.063	0.051	-0.056	0.046	0.006
gpempow	0.006	-0.037	0.000	0.000	0.000	0.000	0.000
perfout	0.004	0.033	0.010	0.089	-0.122	-0.095	0.214
attout	-0.050	0.093	-0.017	-0.021	-0.046	0.095	0.091

deciinyp	-0.073	-0.057	-0.086	-0.018	0.007	0.042	0.021
evalua	0.035	-0.083	0.047	-0.004	0.069	-0.082	-0.074
capacit	-0.106	-0.051	0.001	-0.009	-0.059	0.021	0.022
apdire	0.027	-0.196	0.124	-0.009	-0.094	0.031	-0.090
apsopo	-0.006	-0.174	0.122	-0.014	-0.022	-0.066	-0.102
lidext	-0.080	-0.030	-0.005	-0.016	-0.040	0.000	0.010
autoadm	-0.010	-0.155	0.147	-0.011	-0.150	0.033	-0.067
variedad	-0.074	-0.124	0.102	-0.019	-0.040	-0.077	-0.064
signific	0.020	-0.048	-0.090	-0.006	0.121	-0.019	-0.021
responsa	0.155	0.083	0.004	0.000	-0.007	0.032	-0.021
estrlide	0.080	-0.031	-0.112	-0.025	-0.003	0.113	-0.008
estrpode	-0.028	-0.104	0.189	-0.002	-0.118	-0.047	-0.066
estrstat	-0.072	-0.030	0.078	-0.002	-0.122	0.026	0.012
estrcomp	-0.125	-0.161	0.152	-0.004	-0.103	-0.045	-0.044

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 0Theta .. Outer residual covariance
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	ta2	pd	pr	sc	te	se	ce
ta2	0.239						
pd	-0.025	0.078					
pr	0.012	-0.040	0.090				
sc	0.016	-0.047	-0.083	0.193			
te	-0.012	0.027	-0.032	0.011	0.368		
se	-0.086	0.011	-0.010	0.001	-0.055	0.199	
ce	0.078	-0.026	0.028	-0.007	-0.186	-0.130	0.225
decis57	0.004	0.006	-0.011	0.008	-0.049	0.011	0.022
decis58	-0.015	-0.010	0.007	0.002	0.035	-0.006	-0.017
decis59	0.045	-0.032	-0.014	0.067	0.007	0.005	-0.008
decis60	0.027	-0.003	0.000	0.004	0.013	-0.004	-0.005
evalu56	0.017	-0.027	0.027	-0.005	-0.014	-0.012	0.018
evalu55	0.080	-0.062	0.043	0.019	0.112	-0.080	-0.004
evalu54	0.061	-0.061	0.052	0.005	0.046	-0.055	0.017
capac50	0.010	0.007	-0.009	0.005	0.033	-0.016	-0.007
capac51	0.013	-0.006	0.000	0.008	0.036	-0.011	-0.014
capac52	0.000	0.006	-0.001	-0.006	-0.013	0.007	0.002
capac53	-0.017	-0.006	0.008	-0.004	-0.041	0.014	0.015
apdire13	0.004	-0.015	-0.032	0.071	0.029	-0.007	-0.013
apdire9	-0.025	0.011	0.026	-0.054	-0.051	0.015	0.020
apdire11	0.024	-0.002	-0.008	0.016	0.036	-0.012	-0.013
apsopo3	0.013	-0.049	0.060	-0.025	0.035	-0.031	0.004
apsopo5	-0.007	-0.020	0.002	0.025	0.006	-0.001	-0.003
apsopo6	0.006	0.024	-0.006	-0.024	-0.009	0.003	0.003
lidext15	0.003	-0.014	0.008	0.008	0.030	-0.014	-0.007
lidext16	-0.010	0.016	-0.002	-0.019	-0.033	0.016	0.008
lidext23	0.041	-0.012	-0.027	0.059	0.023	-0.013	-0.004
autoa24	0.012	-0.016	0.049	-0.053	0.048	-0.042	0.005
autoa25	-0.018	0.036	-0.060	0.042	-0.058	0.056	-0.010
autoa26	0.000	-0.008	-0.014	0.033	-0.014	0.008	0.002
varie30	-0.004	0.001	0.002	-0.004	-0.042	-0.006	0.031
varie31	0.001	0.000	-0.005	0.008	-0.014	0.000	0.009

varie32	-0.003	0.001	0.006	-0.010	-0.018	-0.005	0.015
signi34	-0.042	-0.011	0.042	-0.050	-0.052	0.006	0.027
signi35	0.011	0.012	-0.023	0.020	-0.050	0.028	0.008
signi37	-0.031	0.006	0.012	-0.027	-0.137	0.052	0.043
respo41	0.037	-0.015	0.003	0.016	0.058	-0.049	0.004
respo43	-0.011	0.022	0.022	-0.065	-0.095	0.022	0.042
respo46	0.032	-0.009	0.007	0.002	0.034	-0.041	0.012
lider62	0.003	0.001	0.001	-0.002	0.004	-0.002	0.000
lider65	0.003	0.001	0.001	-0.002	0.004	-0.002	0.000
lider66	0.003	0.001	0.001	-0.002	0.004	-0.002	0.000
lider64	0.058	0.012	0.012	-0.036	0.065	-0.039	-0.009
poder71	0.020	0.004	-0.042	0.060	-0.008	-0.010	0.013
poder72	0.027	-0.021	0.012	0.010	0.004	-0.033	0.025
poder73	0.056	-0.029	-0.014	0.061	0.000	-0.057	0.047
status80	-0.031	0.010	0.010	-0.029	-0.017	0.017	-0.003
status81	0.000	-0.024	0.010	0.017	-0.030	-0.024	0.039
status82	0.039	0.006	-0.021	0.024	0.046	-0.003	-0.026
compo85	0.021	0.024	-0.014	-0.013	0.033	-0.012	-0.010
compo87	0.044	0.019	-0.014	-0.005	0.095	-0.034	-0.031
compo89	0.005	-0.011	0.004	0.008	0.020	-0.007	-0.007
coord	-0.014	-0.019	0.047	-0.046	-0.143	-0.034	0.118
memb	0.056	-0.030	0.069	-0.065	-0.186	-0.076	0.180
modm	-0.107	-0.002	0.000	0.003	-0.024	0.093	-0.062
gpempow	0.000	0.004	0.040	-0.067	-0.114	-0.037	0.102
perfout	-0.080	0.000	0.000	0.000	-0.026	0.088	-0.056
attout	-0.095	0.060	0.005	-0.091	0.000	0.000	0.000
deciinyp	0.041	-0.066	0.078	-0.028	0.076	-0.088	0.025
evalua	0.032	-0.005	-0.082	0.134	0.011	0.025	-0.028
capacit	0.027	-0.033	0.099	-0.107	0.043	-0.060	0.022
apdire	0.028	-0.005	-0.028	0.050	-0.080	0.034	0.022
apsopo	0.067	-0.009	-0.043	0.080	-0.002	0.007	-0.005
lidext	0.052	-0.026	0.073	-0.075	0.064	-0.073	0.020
autoadm	0.039	0.011	0.016	-0.041	-0.069	0.012	0.034
variedad	0.084	-0.014	0.020	-0.011	0.052	-0.041	0.001
signific	0.017	-0.051	-0.040	0.133	0.053	-0.021	-0.016
responsa	-0.008	0.056	-0.105	0.083	-0.070	0.045	0.007
estrlide	0.046	-0.040	-0.014	0.076	0.011	-0.064	0.047
estrpode	0.029	0.039	-0.003	-0.050	-0.055	0.038	0.003
estrstat	0.008	0.012	0.078	-0.138	-0.020	-0.014	0.024
estrcomp	0.032	-0.011	0.072	-0.095	-0.004	-0.003	0.005

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 0Theta .. Outer residual covariance
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	decis57	decis58	decis59	decis60	evalu56	evalu55	evalu54
decis57	0.146						
decis58	-0.137	0.169					
decis59	0.121	-0.114	0.804				
decis60	0.035	-0.087	0.199	0.120			
evalu56	0.112	-0.093	0.319	0.066	0.298		
evalu55	-0.011	-0.062	0.364	0.181	0.284	0.831	

evalu54	0.112	-0.131	0.530	0.166	0.465	0.744	0.888
capac50	-0.060	0.021	-0.202	-0.005	-0.150	0.006	-0.154
capac51	-0.061	0.036	0.020	0.030	-0.043	0.094	0.006
capac52	0.026	-0.036	0.021	0.022	0.009	-0.023	-0.004
capac53	0.070	-0.012	0.117	-0.040	0.139	-0.058	0.114
apdire13	-0.047	0.105	0.124	-0.052	-0.050	-0.023	-0.065
apdire9	0.056	-0.042	-0.137	-0.045	0.068	-0.119	0.007
apdire11	-0.031	-0.016	0.070	0.074	-0.041	0.133	0.029
apsopo3	-0.019	0.050	0.259	0.020	0.306	0.406	0.539
apsopo5	-0.020	0.083	0.168	-0.046	0.087	0.025	0.104
apsopo6	0.021	-0.087	-0.186	0.044	-0.108	-0.053	-0.141
lidext15	-0.061	0.075	-0.001	-0.026	-0.001	0.077	0.041
lidext16	0.045	-0.053	-0.062	0.001	-0.015	-0.119	-0.079
lidext23	0.071	-0.098	0.332	0.124	0.080	0.235	0.210
autoa24	-0.075	0.030	-0.264	-0.014	0.018	0.252	0.154
autoa25	0.057	-0.041	0.146	0.021	-0.135	-0.391	-0.351
autoa26	0.047	-0.005	0.211	0.001	0.082	-0.005	0.083
varie30	0.124	-0.096	-0.087	-0.041	0.092	-0.009	0.092
varie31	0.047	-0.035	0.021	-0.005	0.034	-0.004	0.034
varie32	0.051	-0.041	-0.082	-0.026	0.038	-0.003	0.038
signi34	0.039	0.051	-0.131	-0.145	0.160	-0.110	0.109
signi35	0.147	-0.159	0.327	0.113	0.114	-0.018	0.110
signi37	0.274	-0.189	0.358	0.009	0.363	-0.155	0.297
respo41	-0.017	-0.031	-0.126	0.031	-0.027	0.288	0.127
respo43	0.216	-0.238	-0.032	0.048	0.182	-0.053	0.162
respo46	0.028	-0.077	-0.124	0.038	0.012	0.256	0.150
lider62	-0.001	-0.009	-0.009	0.012	-0.006	0.021	0.005
lider65	-0.001	-0.009	-0.009	0.012	-0.006	0.021	0.005
lider66	-0.001	-0.009	-0.009	0.012	-0.006	0.021	0.005
lider64	-0.022	-0.162	-0.158	0.199	-0.102	0.364	0.088
poder71	0.099	-0.095	0.042	0.017	-0.028	0.011	-0.023
poder72	0.107	-0.108	0.081	0.035	0.177	0.286	0.340
poder73	0.237	-0.236	0.154	0.066	0.245	0.439	0.493
status80	-0.058	0.084	-0.169	-0.083	-0.072	-0.208	-0.188
status81	0.136	-0.058	0.018	-0.080	0.210	0.122	0.286
status82	-0.033	-0.062	0.203	0.169	-0.073	0.171	0.015
compo85	-0.049	-0.055	-0.266	0.066	-0.218	0.011	-0.223
compo87	-0.153	-0.007	-0.312	0.115	-0.324	0.164	-0.251
compo89	-0.036	0.042	0.064	0.003	0.019	0.072	0.059
coord	0.035	-0.043	-0.035	0.007	0.075	-0.018	0.068
memb	-0.001	-0.013	-0.060	0.004	0.063	0.038	0.086
modm	0.048	-0.081	0.128	0.080	0.024	-0.027	0.011
gpempow	-0.007	-0.009	-0.105	-0.005	0.058	-0.010	0.056
perfout	-0.042	-0.029	-0.262	0.025	-0.080	-0.010	-0.089
attout	-0.032	0.032	-0.227	-0.058	0.013	-0.114	-0.047
deciinyp	0.000	0.000	0.000	0.000	0.324	0.691	0.711
evalua	0.053	-0.027	0.649	0.129	0.000	0.000	0.000
capacit	-0.003	-0.074	-0.153	0.064	0.261	0.556	0.572
apdire	0.295	-0.279	0.760	0.199	0.370	0.154	0.470
apsopo	0.193	-0.256	0.772	0.292	0.229	0.358	0.433
lidext	0.018	-0.140	-0.174	0.120	0.176	0.624	0.520
autoadm	0.285	-0.382	0.376	0.253	0.319	0.290	0.491
variedad	0.109	-0.276	0.348	0.315	0.201	0.651	0.561
signific	-0.039	0.168	0.462	-0.063	0.104	0.153	0.191
respuesta	0.133	-0.130	-0.096	-0.010	-0.294	-0.508	-0.582
estrslide	0.195	-0.146	0.094	-0.017	0.230	0.401	0.457

estrpode	0.168	-0.314	0.271	0.277	0.084	0.070	0.126
estrstat	0.061	-0.183	-0.257	0.105	0.138	0.236	0.272
estrcomp	0.084	-0.197	0.341	0.241	0.330	0.451	0.589

0Theta .. Outer residual covariance

	capac50	capac51	capac52	capac53	apdire13	apdire9	apdire11
capac50	0.133						
capac51	0.044	0.049					
capac52	-0.009	-0.008	0.013				
capac53	-0.127	-0.065	0.002	0.144			
apdire13	0.000	0.028	-0.037	0.011	0.250		
apdire9	-0.059	-0.070	0.018	0.085	-0.149	0.174	
apdire11	0.060	0.056	0.002	-0.092	0.013	-0.094	0.088
apsopo3	-0.153	-0.002	-0.025	0.139	-0.022	0.062	-0.051
apsopo5	-0.093	-0.009	-0.025	0.099	0.134	-0.027	-0.046
apsopo6	0.104	0.009	0.026	-0.109	-0.133	0.023	0.050
lidext15	0.006	0.025	-0.023	-0.003	0.062	-0.037	0.003
lidext16	-0.005	-0.030	0.020	0.010	-0.075	0.062	-0.021
lidext23	-0.002	0.035	0.009	-0.034	0.083	-0.140	0.096
autoa24	0.083	0.027	-0.019	-0.067	-0.144	0.071	0.008
autoa25	-0.026	-0.017	0.033	0.003	0.100	-0.072	0.017
autoa26	-0.082	-0.020	-0.003	0.080	0.098	-0.031	-0.023
varie30	-0.022	-0.077	0.005	0.072	-0.057	0.103	-0.073
varie31	-0.015	-0.023	0.002	0.028	0.005	0.014	-0.018
varie32	-0.003	-0.037	0.002	0.029	-0.047	0.063	-0.038
signi34	-0.140	-0.105	-0.015	0.202	-0.062	0.217	-0.186
signi35	-0.093	-0.034	0.045	0.056	-0.030	-0.003	0.019
signi37	-0.306	-0.175	0.052	0.321	-0.118	0.246	-0.185
respo41	0.137	0.047	-0.020	-0.122	-0.010	-0.071	0.078
respo43	-0.087	-0.118	0.060	0.105	-0.290	0.243	-0.087
respo46	0.109	0.020	-0.006	-0.092	-0.068	-0.017	0.055
lider62	0.013	0.006	0.002	-0.016	-0.015	-0.004	0.012
lider65	0.013	0.006	0.002	-0.016	-0.015	-0.004	0.012
lider66	0.013	0.006	0.002	-0.016	-0.015	-0.004	0.012
lider64	0.228	0.103	0.035	-0.284	-0.253	-0.061	0.202
poder71	0.059	-0.013	0.001	-0.035	0.092	-0.085	0.036
poder72	-0.017	-0.030	-0.003	0.040	-0.041	0.031	-0.009
poder73	0.020	-0.055	-0.004	0.033	0.008	-0.019	0.015
status80	-0.012	-0.018	-0.006	0.028	-0.015	0.067	-0.060
status81	-0.083	-0.093	-0.021	0.155	0.031	0.097	-0.115
status82	0.081	0.096	0.024	-0.158	-0.006	-0.162	0.167
compo85	0.204	0.066	0.017	-0.221	-0.108	-0.063	0.123
compo87	0.314	0.152	0.005	-0.360	-0.088	-0.175	0.226
compo89	-0.012	0.021	-0.012	0.003	0.045	-0.035	0.011
coord	-0.052	-0.036	0.019	0.050	-0.137	0.119	-0.045
memb	-0.031	-0.017	0.010	0.028	-0.126	0.100	-0.032
modm	-0.031	-0.002	0.033	-0.004	-0.074	0.012	0.028
gpempow	-0.041	-0.025	0.015	0.037	-0.168	0.139	-0.049
perfout	0.083	0.016	0.020	-0.093	-0.206	0.089	0.024

attout	-0.033	-0.038	0.009	0.047	-0.172	0.174	-0.082
deciinyp	-0.023	0.003	-0.049	0.059	-0.088	0.079	-0.031
evalua	-0.069	0.057	0.007	0.001	0.339	-0.305	0.123
capacit	0.000	0.000	0.000	0.000	-0.342	0.202	-0.016
apdire	-0.249	-0.079	0.063	0.193	0.000	0.000	0.000
apsopo	-0.098	0.035	0.054	-0.002	0.050	-0.184	0.159
lidext	0.106	0.034	0.005	-0.112	-0.322	0.106	0.070
autoadm	-0.110	-0.066	0.091	0.053	-0.329	0.140	0.040
variedad	0.056	0.076	0.051	-0.148	-0.237	-0.068	0.200
signific	-0.109	0.032	-0.070	0.119	0.464	-0.248	-0.005
responsa	0.127	-0.034	0.035	-0.100	0.137	-0.123	0.049
estrslide	0.012	-0.061	-0.033	0.069	0.106	-0.031	-0.027
estrpode	-0.023	-0.001	0.104	-0.076	-0.328	0.063	0.117
estrstat	0.026	-0.031	0.053	-0.043	-0.483	0.270	-0.007
estrcomp	-0.132	0.007	0.064	0.037	-0.368	0.152	0.049

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 0Theta .. Outer residual covariance
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	apsopo3	apsopo5	apsopo6	lidext15	lidext16	lidext23	autoa24
apsopo3	0.502						
apsopo5	0.164	0.158					
apsopo6	-0.198	-0.170	0.183				
lidext15	0.082	0.055	-0.060	0.048			
lidext16	-0.076	-0.054	0.059	-0.044	0.049		
lidext23	-0.017	0.006	-0.005	-0.013	-0.034	0.245	
autoa24	0.150	-0.078	0.068	0.040	-0.017	-0.111	0.325
autoa25	-0.310	-0.003	0.024	-0.071	0.053	0.084	-0.342
autoa26	0.057	0.097	-0.101	0.006	-0.020	0.070	-0.133
varie30	0.009	-0.025	0.024	-0.036	0.038	-0.018	0.047
varie31	-0.004	0.005	-0.004	-0.012	0.008	0.020	-0.020
varie32	0.010	-0.022	0.021	-0.016	0.021	-0.030	0.052
signi34	0.259	0.116	-0.133	0.023	0.020	-0.219	0.091
signi35	-0.051	-0.012	0.016	-0.079	0.047	0.155	-0.199
signi37	0.219	0.114	-0.129	-0.097	0.096	-0.011	-0.204
respo41	-0.022	-0.090	0.092	0.023	-0.037	0.077	0.188
respo43	0.018	-0.128	0.127	-0.124	0.129	-0.048	0.056
respo46	-0.017	-0.109	0.111	-0.004	-0.008	0.062	0.186
lider62	-0.010	-0.018	0.019	-0.003	0.002	0.007	0.016
lider65	-0.010	-0.018	0.019	-0.003	0.002	0.007	0.016
lider66	-0.010	-0.018	0.019	-0.003	0.002	0.007	0.016
lider64	-0.174	-0.317	0.329	-0.059	0.034	0.120	0.271
poder71	-0.183	-0.039	0.052	-0.033	0.003	0.154	-0.092
poder72	0.139	-0.008	-0.001	-0.005	-0.012	0.087	0.108
poder73	0.069	-0.042	0.038	-0.033	-0.016	0.249	0.092
status80	-0.011	0.021	-0.021	0.011	0.017	-0.149	0.010
status81	0.187	0.090	-0.103	0.012	-0.012	0.000	0.059
status82	-0.133	-0.098	0.107	-0.024	-0.013	0.191	-0.059
compo85	-0.291	-0.225	0.245	-0.043	0.036	0.028	0.118
compo87	-0.339	-0.280	0.304	-0.009	-0.006	0.076	0.202
compo89	0.070	0.046	-0.050	0.030	-0.032	0.014	0.003

coord	0.082	-0.029	0.024	-0.029	0.043	-0.080	0.062
memb	0.109	-0.025	0.018	-0.008	0.024	-0.086	0.106
modm	-0.048	-0.048	0.051	-0.051	0.039	0.051	-0.075
gpempow	0.116	-0.036	0.028	-0.015	0.040	-0.133	0.123
perfout	-0.061	-0.156	0.161	-0.033	0.053	-0.113	0.182
attout	0.097	-0.032	0.026	-0.008	0.048	-0.212	0.144
deciinyp	0.530	0.063	-0.098	0.101	-0.095	-0.011	0.429
evalua	-0.152	0.147	-0.137	-0.003	-0.068	0.372	-0.475
capacit	0.431	-0.102	0.073	0.024	-0.001	-0.120	0.501
apdire	0.125	0.086	-0.094	-0.105	0.040	0.319	-0.342
apsopo	0.000	0.000	0.000	-0.078	-0.010	0.451	-0.292
lidext	0.252	-0.197	0.181	0.000	0.000	0.000	0.495
autoadm	0.075	-0.171	0.166	-0.158	0.114	0.200	0.000
variedad	0.091	-0.204	0.198	-0.069	0.009	0.302	0.163
signific	0.193	0.338	-0.352	0.133	-0.166	0.202	-0.262
responsa	-0.645	-0.137	0.181	-0.122	0.088	0.153	-0.352
estrlide	0.120	0.039	-0.047	0.015	-0.052	0.200	0.096
estrpode	-0.158	-0.248	0.259	-0.171	0.133	0.167	-0.076
estrstat	0.149	-0.251	0.242	-0.083	0.109	-0.152	0.394
estrcomp	0.358	-0.096	0.072	-0.062	0.050	0.053	0.178

0Theta .. Outer residual covariance

	autoa25	autoa26	varie30	varie31	varie32	signi34	signi35
autoa25	0.432						
autoa26	0.085	0.098					
varie30	-0.083	0.006	0.201				
varie31	0.005	0.020	0.056	0.020			
varie32	-0.065	-0.013	0.100	0.024	0.053		
signi34	-0.184	0.030	0.154	0.029	0.089	0.452	
signi35	0.206	0.084	0.019	0.029	-0.012	-0.094	0.266
signi37	0.109	0.166	0.207	0.079	0.084	0.376	0.305
respo41	-0.196	-0.079	0.063	0.009	0.039	-0.122	-0.104
respo43	-0.045	-0.034	0.227	0.055	0.119	0.187	0.171
respo46	-0.190	-0.080	0.104	0.019	0.060	-0.075	-0.062
lider62	-0.009	-0.012	-0.002	-0.002	0.000	-0.022	0.000
lider65	-0.009	-0.012	-0.002	-0.002	0.000	-0.022	0.000
lider66	-0.009	-0.012	-0.002	-0.002	0.000	-0.022	0.000
lider64	-0.152	-0.215	-0.036	-0.034	0.003	-0.386	-0.003
poder71	0.096	0.038	0.103	0.049	0.034	-0.140	0.079
poder72	-0.187	0.013	0.164	0.048	0.079	0.072	0.024
poder73	-0.207	0.048	0.326	0.110	0.145	0.002	0.097
status80	0.014	-0.022	-0.027	-0.019	-0.004	0.119	-0.080
status81	-0.187	0.072	0.254	0.077	0.120	0.284	-0.018
status82	0.130	-0.028	-0.165	-0.037	-0.090	-0.376	0.117
compo85	0.012	-0.154	-0.042	-0.027	-0.008	-0.292	-0.047
compo87	-0.036	-0.220	-0.155	-0.066	-0.057	-0.489	-0.126
compo89	-0.028	0.018	-0.042	-0.010	-0.022	-0.003	-0.024
coord	-0.062	-0.028	0.041	0.000	0.030	0.124	0.022
memb	-0.111	-0.044	0.020	-0.009	0.023	0.114	-0.024

modm	0.111	0.005	-0.036	-0.005	-0.022	-0.083	0.133
gpempow	-0.117	-0.060	0.017	-0.016	0.026	0.153	-0.032
perfout	-0.103	-0.143	-0.010	-0.031	0.019	-0.022	-0.069
attout	-0.127	-0.077	0.025	-0.020	0.036	0.219	-0.090
deciinyp	-0.621	-0.044	0.184	0.027	0.112	0.283	-0.209
evalua	0.460	0.225	-0.180	0.012	-0.143	-0.383	0.302
capacit	-0.584	-0.162	0.134	-0.009	0.107	0.246	-0.158
apdire	0.256	0.220	0.084	0.074	-0.002	-0.044	0.480
apsopo	0.262	0.155	-0.058	0.034	-0.072	-0.378	0.438
lidext	-0.533	-0.194	0.144	0.000	0.106	0.029	-0.127
autoadm	0.000	0.000	0.160	0.053	0.072	-0.063	0.377
variedad	-0.156	-0.078	0.000	0.000	0.000	-0.339	0.209
signific	0.093	0.249	-0.073	0.026	-0.076	0.000	0.000
responsa	0.507	0.039	0.059	0.051	-0.001	-0.336	0.198
estrlide	-0.250	0.076	0.337	0.114	0.150	0.097	0.003
estrpode	0.199	-0.061	-0.035	-0.006	-0.021	-0.286	0.369
estrstat	-0.347	-0.213	0.125	-0.013	0.103	0.137	-0.018
estrcomp	-0.207	-0.058	-0.029	-0.026	0.001	0.032	0.193

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 OTheta .. Outer residual covariance
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	signi37	respo41	respo43	respo46	lider62	lider65	lider66
signi37	0.909						
respo41	-0.303	0.278					
respo43	0.483	-0.037	0.544				
respo46	-0.184	0.250	0.076	0.247			
lider62	-0.026	0.019	0.007	0.019	0.003		
lider65	-0.026	0.019	0.007	0.019	0.003	0.003	
lider66	-0.026	0.019	0.007	0.019	0.003	0.003	0.003
lider64	-0.451	0.330	0.124	0.331	0.051	0.051	0.051
poder71	-0.038	0.125	0.011	0.118	0.004	0.004	0.004
poder72	0.121	0.154	0.162	0.175	0.005	0.005	0.005
poder73	0.153	0.327	0.252	0.354	0.011	0.011	0.011
status80	0.012	-0.098	-0.021	-0.095	-0.008	-0.008	-0.008
status81	0.301	0.076	0.177	0.106	-0.014	-0.014	-0.014
status82	-0.252	0.066	-0.113	0.039	0.021	0.021	0.021
compo85	-0.410	0.194	-0.003	0.179	0.030	0.030	0.030
compo87	-0.761	0.316	-0.180	0.256	0.045	0.045	0.045
compo89	-0.040	-0.003	-0.087	-0.020	-0.002	-0.002	-0.002
coord	0.178	-0.057	0.184	-0.016	0.001	0.001	0.001
memb	0.094	-0.023	0.130	0.005	0.003	0.003	0.003
modm	0.111	-0.069	0.103	-0.043	0.005	0.005	0.005
gpempow	0.126	-0.056	0.169	-0.017	0.003	0.003	0.003
perfout	-0.132	0.062	0.138	0.085	0.019	0.019	0.019
attout	0.114	-0.079	0.162	-0.040	-0.001	-0.001	-0.001
deciinyp	0.002	0.296	0.103	0.295	0.008	0.008	0.008
evalua	0.028	-0.131	-0.325	-0.187	-0.013	-0.013	-0.013
capacit	0.038	0.224	0.326	0.273	0.024	0.024	0.024
apdire	0.697	-0.184	0.306	-0.109	-0.010	-0.010	-0.010
apsopo	0.244	-0.012	0.076	0.005	0.011	0.011	0.011

lidext	-0.165	0.369	0.294	0.401	0.038	0.038	0.038
autoadm	0.515	0.018	0.590	0.136	0.024	0.024	0.024
variedad	-0.066	0.259	0.243	0.289	0.043	0.043	0.043
signific	0.000	-0.052	-0.476	-0.144	-0.034	-0.034	-0.034
responsa	-0.080	0.000	0.000	0.000	0.003	0.003	0.003
estrslide	0.117	0.323	0.137	0.326	0.000	0.000	0.000
estrpode	0.243	-0.056	0.424	0.034	0.032	0.032	0.032
estrstat	0.129	0.121	0.522	0.217	0.033	0.033	0.033
estrcomp	0.338	-0.041	0.398	0.043	0.023	0.023	0.023

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 0Theta .. Outer residual covariance
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	lider64	poder71	poder72	poder73	status80	status81	status82
lider64	0.881						
poder71	0.067	0.249					
poder72	0.093	0.108	0.239				
poder73	0.191	0.353	0.442	0.935			
status80	-0.143	-0.106	-0.105	-0.240	0.108		
status81	-0.236	0.115	0.255	0.472	-0.043	0.435	
status82	0.369	0.046	-0.066	-0.064	-0.104	-0.287	0.359
compo85	0.520	0.082	-0.033	0.013	-0.043	-0.215	0.225
compo87	0.774	0.078	-0.073	-0.051	-0.076	-0.378	0.395
compo89	-0.043	-0.029	-0.009	-0.036	-0.002	-0.011	0.011
coord	0.018	-0.094	0.018	-0.045	0.035	0.022	-0.062
memb	0.049	-0.111	0.018	-0.057	0.035	0.010	-0.053
modm	0.092	-0.015	-0.036	-0.066	-0.022	-0.107	0.113
gpempow	0.045	-0.157	-0.006	-0.129	0.065	-0.011	-0.074
perfout	0.325	-0.097	-0.028	-0.116	0.039	-0.130	0.052
attout	-0.018	-0.189	-0.040	-0.205	0.115	-0.005	-0.144
deciinyp	0.130	-0.053	0.378	0.528	-0.092	0.411	-0.206
evalua	-0.222	0.211	-0.108	-0.001	-0.142	-0.159	0.307
capacit	0.413	-0.196	0.275	0.264	-0.034	0.186	-0.104
apdire	-0.169	0.137	0.152	0.334	-0.178	0.142	0.116
apsopo	0.195	0.200	0.112	0.322	-0.260	-0.077	0.394
lidext	0.665	-0.041	0.316	0.444	-0.121	0.140	0.044
autoadm	0.408	0.069	0.241	0.414	-0.180	0.076	0.171
variedad	0.749	0.083	0.235	0.416	-0.254	-0.092	0.398
signific	-0.591	0.129	0.021	0.130	-0.064	0.188	-0.066
responsa	0.047	0.372	-0.099	0.136	-0.056	-0.097	0.149
estrslide	0.000	0.349	0.438	0.925	-0.202	0.557	-0.180
estrpode	0.548	0.000	0.000	0.000	-0.118	-0.277	0.370
estrstat	0.567	-0.183	0.156	0.095	0.000	0.000	0.000
estrcomp	0.391	-0.236	0.118	-0.002	-0.078	-0.093	0.173

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 0Theta .. Outer residual covariance
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	compo85	compo87	compo89	coord	memb	modm	gpempow
compo85	0.400						
compo87	0.576	0.914					
compo89	-0.043	-0.020	0.025				
coord	-0.033	-0.093	-0.019	1.000			
memb	-0.016	-0.041	-0.007	0.788	1.000		
modm	0.037	0.029	-0.016	0.060	0.113	1.000	
gpempow	-0.019	-0.057	-0.013	0.850	0.768	0.084	1.000
perfout	0.209	0.276	-0.034	0.235	0.155	0.125	0.334
attout	-0.028	-0.082	-0.018	0.740	0.661	-0.023	0.736
deciinyp	-0.126	-0.110	0.048	0.068	0.128	-0.162	0.112
evalua	-0.111	-0.079	0.051	-0.206	-0.236	0.101	-0.311
capacit	0.052	0.089	0.001	0.199	0.244	-0.036	0.283
apdire	-0.265	-0.461	-0.011	0.043	-0.035	0.196	-0.064
apsopo	-0.009	0.010	0.012	-0.062	-0.103	0.207	-0.163
lidext	0.246	0.369	-0.019	0.127	0.175	-0.023	0.184
autoadm	0.067	-0.034	-0.072	0.173	0.114	0.227	0.126
variedad	0.284	0.443	-0.013	0.050	0.059	0.162	0.034
signific	-0.378	-0.405	0.110	-0.216	-0.199	-0.134	-0.280
responsa	0.245	0.223	-0.090	-0.153	-0.214	0.069	-0.256
estrlide	-0.082	-0.166	-0.015	-0.082	-0.081	-0.147	-0.160
estrpode	0.256	0.275	-0.074	0.138	0.084	0.297	0.114
estrstat	0.219	0.226	-0.067	0.257	0.260	0.095	0.330
estrcomp	0.000	0.000	0.000	0.228	0.221	0.195	0.270

0Theta .. Outer residual covariance

	perfout	attout	deciinyp	evalua	capacit	apdire	apsopo
perfout	1.000						
attout	0.383	1.000					
deciinyp	0.032	0.092	1.000				
evalua	-0.351	-0.409	-0.509	1.000			
capacit	0.281	0.276	0.821	-0.759	1.000		
apdire	-0.232	-0.183	-0.122	0.569	-0.175	1.000	
apsopo	-0.176	-0.323	-0.173	0.735	-0.219	0.843	1.000
lidext	0.299	0.146	0.758	-0.642	0.921	-0.181	-0.063
autoadm	0.124	0.020	0.123	-0.025	0.389	0.698	0.628
variedad	0.170	-0.103	0.302	0.041	0.488	0.376	0.647
signific	-0.459	-0.314	0.056	0.658	-0.486	0.223	0.227
responsa	-0.094	-0.264	-0.716	0.473	-0.749	0.152	0.250
estrlide	-0.192	-0.210	0.597	-0.015	0.205	0.213	0.156
estrpode	0.222	0.023	-0.298	0.102	0.138	0.513	0.607
estrstat	0.411	0.331	0.404	-0.754	0.841	-0.090	-0.144
estrcomp	0.223	0.192	0.314	-0.240	0.667	0.399	0.372

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0Theta .. Outer residual covariance

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lidext autoadm variedad signific responsa estrlide estrpode

lidext 1.000
autoadm 0.455 1.000
variedad 0.685 0.767 1.000
signific -0.524 -0.471 -0.355 1.000
responsa -0.494 -0.006 -0.128 0.016 1.000
estrlide 0.343 0.176 0.189 0.322 0.088 1.000
estrpode 0.250 0.843 0.720 -0.616 0.178 -0.288 1.000
estrstat 0.811 0.611 0.545 -0.864 -0.424 -0.076 0.539
estrcomp 0.577 0.766 0.711 -0.490 -0.563 -0.205 0.704
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0Theta .. Outer residual covariance

estrstat estrcomp

estrstat 1.000
estrcomp 0.751 1.000
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