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# **Behavioural Dynamic Model of Consensus, Cohesion, Conflict and Potency of Top Management Teams in a Textile and Apparel Sector**

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## **Abstract**

This research studied the relationships among the consensus, the cohesion, the conflict and the potency of the top management teams in a textile and apparel sector. In order to achieve its goal, this study used four validated scales: (a) Strategic Orientation of Business Enterprises Scale for measuring consensus, (b) Perceived Cohesion Scale for measuring cohesion, (c) Interpersonal Conflict Scale for measuring conflict, and (d) Guzzo, Yost, and Campbell Scale for measuring potency. The conclusions were the following: (a) by well managing cohesion, consensus and conflict, the top management team can acquire potency, (b) the used scales with small changes are appropriate for evaluating the constructs, and (c) the proposed model was validated, with the precision that the influence of cohesion by itself seems not too important. Finally, some topics were suggested for future researches.

**Keywords:** consensus, cohesion, conflict, potency, top management teams, textile sector

## **Introduction**

Teams and their importance in firms' successes is a widely studied topic. Teams are often evaluated to measure their contribution to firms' goals, using performance and effectiveness as measures; but, there is little explanation about the process which was responsible for these results. Any positive or negative result obtained by any team has its origin in an input, a process and an output. Furthermore, this research was focused on the process: the behavioural dynamics, specifically on four constructs: cohesion, consensus, conflict and potency and the correlation among each other. The result of this analysis was represented in a general model about the behavioural dynamics of the consensus, cohesion, conflict and potency.

Several authors have developed models to represent and conceptualize the relationships among different factors and how they impact on team performance (Loughry & Amason, 2014; Daspit & Tillman, 2013; Delgado, Romero, & Gomez, 2007; Ensley & Pearson, 2005; Youngjin & Alavi, 2001; Guzzo et al., 1993; Tannenbaum, Beard & Salas, 1992; Bollen & Hoyle, 1990; Driskell, Salas & Hogan, 1987; Bourgeois, 1980); however, these analysis were realized without the evaluation of the relationships of each one of these factors among them. These models have three components in common: (a) inputs with an individual, group and environmental level, (b) a process which composition varies from model to model, and (c) outcome composed by process gain or loss, or group performance. Specifically, the behavioural dynamics (which is present in the process) is the focus of this research.

## **Background of the Problem**

Several authors studied the influence of diverse variables into the teams, without the evaluation of the relationships of each one of these factors among them. Loughry and Amason (2014) studied the relations between positive relationship, task conflict and team performance, and found that existed "High levels of correlation among task, relationship and process conflict, and measurement and data analysis issues make it difficult to isolate the effects of each type of conflict" (p. 333). Also, Daspit and Tillman (2013) researched about the internal

factors of the team (internal team environment, shared leadership, and cohesion) and the influence of each factor on the cross-functional team's effectiveness, and found that the internal team environment indirectly influences the effectiveness of cross functional teams.

Delgado, Romero, and Gomez (2007) explained that the team performance can be measured using two different measures: (a) objective measures, which emphasizes the use of financial equations such as return on equity, return on assets and others to measure financial performance, and (b) subjective measures, which point out the analysis of behavioural dynamics such as cohesion, consensus, conflict, potency and others resulting from the interaction of team members. Although these authors go a step further presenting two different measures besides the classic financial equations, it is important to specify that team performance can not only be measured but also analyzed by these two currents. Even more, it is possible to state that financial performance can be considered an output and behavioural dynamics must be analyzed as part of the process responsible for such outputs.

Previous studies related to the behavioural dynamics were limited to the establishment of the presence or absence of constructs; but, did not research about how these constructs correlate among each other. In fact, diverse authors (Youngjin & Alavi, 2001; Guzzo et al., 1993; Bollen & Hoyle, 1990; Bourgeois, 1980) studied independently different behavioural elements. These authors developed scales using observed variables in an attempt to identify latent variables and finally establish the presence or absence of constructs. The method developed by these researchers pretended to establish the presence of a construct by measuring the individuals' perception as result of team interaction. Also, Ensley and Pearson (2005) researched on dynamic behavioural inside family and nonfamily top management teams. The four constructs in their studies: cohesion, conflict, consensus and potency, which they argued that are present in all top management team but might or might not be managed correctly. These authors claimed that family top management teams bundle through '*familiness*', and these special characteristics contributed with them to be better managers of behavioural constructs. According to Chrisman, Chua and Steier (2005), *familiness* is a term use to encompass why, when, and how family business succeeded or failed.

The analysis of Ensley and Pearson (2005) about the four constructs did not consider how they correlate among each other as part of their hypothesis. Although the work of Ensley and Pearson (2005) is considered an important contribution to family business studies; Nordqvist (2005) postulated that these authors' conclusions could be improved by placing the research on homogeneous top management teams from mature industries. Also, authors such as Bollen and Hoyle (1990), Jehn (1997), Guzzo et al. (1993), and Venkatraman (1989) agreed that the presence and analysis of behavioural dynamics are as important as reaching financial goals. In fact, it is possible to state that positive or negative financial results do not portray the top management team effective or ineffective management of behavioural dynamics. For example, it is possible to argue that a top management team which is able to successfully manage its behavioural dynamics could obtain negative financial results under given negative external conditions. Therefore, the study of behavioural dynamics and how do constructs correlate among each other as part of the process leading to team performance deserves an individual analysis without considering financial success as a variable.

### **Theoretical Framework**

This section contains the theory and interrelated concepts that are present and shape this study, which are the following: top management teams and previous related studies.

## ***Top Management Teams***

It seems clear that teams' importance relies on the organizations' need to increase competitiveness, become more flexible, and easily adapt to a changing economy scenarios (Delgado et al., 2007); however, organizations need more than just teams to exceed their planned annual profits; organizations need teams that work in between the next dimensions: (a) orientation to aim a task and achievement, (b) devotion to work and responsibility, (c) communication in teams, (d) team management, (e) team organization, and (f) team role status in the organization (Merkys et al., 2006).

Top management team has great impact on organizations primarily through the strategic decisions they take (Carpenter, 2011). In contrast, Katzenbach (1997) claimed that although organizations believe that an excellent top management team is the key to succeed in a given industry, top management team hardly behave as real teams due to the following reasons: (a) a meaningful purpose for a team at the top is difficult to define, (b) a top management team relates on abstract goals such as improve the company's performance, (c) tangible performance goals are hard to articulate, (d) the top goals are much harder to determine, (e) the right mix of skills is often absent, and (f) top management team assignments are based on members' formal position rather than skills.

There is no clear definition of what a top management team is. In respect, Kippenberger (1997) indicated that "the term top management team is used to refer the dominant coalition of senior managers at the top of an organization" (p. 23). According to Wu et al. (2002), a top management team is "usually composed of key managers who are responsible for making, planning, and execution of business strategies" (p. 172). None of the previous definitions give a clear insight on what a top management team clearly is in terms of the number, qualities and skills that managers should have to be considered as part of the top management team.

## ***Previous related studies***

Ensley and Pearson (2005) conducted a research on a sample of 224 top management teams of new ventures to explore the behavioural dynamics of top management teams in family and non-family organizations. The authors' argued that familial top management teams have better behavioural dynamics than non-family top management teams, due to a component called "familiness" which is present only in familial top management teams.

In order to prove this hypothesis, Ensley and Pearson (2005) measured four elements of team behavioural dynamics which are decisive for team's effectiveness: cohesion, consensus, and conflict which together result in team's potency, with different scales. Finally, the authors concluded that family top management teams should be separate in two categories: (a) parental top management teams, where the parents are present and (b) familial top management teams, compounded by siblings, cousins and other family members. Parental top management teams have better behavioural dynamics than non-family top management team, but this last group has better behavioural dynamics than familial teams.

The elements considered by the mentioned authors, are present in the interaction of team members. Even more, the positive presence of these elements can be an indication of team effectiveness. Therefore, is possible to infer close connections between the three first elements: cohesion, consensus and conflict. In fact, in a research performed by Youngjin and Alavi (2001), these authors found that the group cohesion and the members attraction to the group, increased task participation, which at the same time enhanced group consensus.

Additionally, Knight et al. (1999) denoted that team processes or dynamics such as interpersonal conflict and agreement seeking are likely to influence the level of consensus within top management team. Even more, these authors also argued that cohesiveness is opposite to interpersonal conflict. The next paragraphs detail one by one the three elements considered by Ensley and Pearson (2005) as part of the behavioural dynamics within teams.

There is no agreement in the literature about the nature of perceived cohesion. Bollen and Hoyle (1990) indicated that cohesion “encompasses individual’s sense of belonging to a particular group and his or her feeling of morale associated with membership in the group” (p. 498). The same authors argued that cohesion in a top management team environment refers to the unity of purpose and experience showed by the team as a whole. In fact, is such the importance of cohesion in group integration that cohesive teams react faster, are more flexible, use superior problem solving techniques, and are more productive and efficient than less cohesive teams (Smith, Smith, Olian, Sims & Scully as cited in Ensley and Pearson, 2005).

Moreover, the study of cohesion as an important element of team’s effectiveness has guided to the development of two perspectives in an attempt to understand the nature of cohesion. According to Bollen and Hoyle (1990):

The first perspective gathers research and theory that focuses on factors which contribute to team’s cohesion. The second perspective gathers research and theory that focuses on team cohesion as an independent construct that can be conceptualized and measure apart from the factors that produce it. This last perspective can be divided into two approaches: the first explain cohesion as an objective attribute of the team as a whole and relies primarily on composite measures of inter-member ratings to operationalize cohesion. The second considers cohesion as a function of each member’s perception of his or her own standing in the team. (p. 483).

To comply with its objectives, this research focused on the second perspective of cohesion which assets team cohesion as an independent construct measurable independently from the factors that produce it. Additionally, this research considered both approaches of the second perspective, the team as a whole and the personal perceptions. These perspectives and approaches of cohesion were measured using the Perceived Cohesion Scale (PCS) provided by Bollen and Hoyle (1990).

According to Bourgeois (1980), consensus is a key stone in team effectiveness and team performance because consensus precedes action. Even more, consensus among the top management teams (TMT) supposes an agreement on the objectives’ priority which leads to a successful attaining. Therefore, considering the clearness of this concept among all the other concepts, Carpenter (2011) indicated that consensus can be defined as “the ability of the team members to agree on and accept a course of action” (p. 160). In contrast, Amason (as cited in Ensley and Pearson, 2005), argued that consensus is far more than agreement because real consensus requires active cooperation, faith and trust among members.

Conflict is another element of the behavioural dynamic inside teams. Jehn (1994) indicated that conflict can be defined as “awareness by the parties involved that there are discrepancies, or incompatible wishes or desires present” (p.225). According to Amason (as cited in Ensley and Pearson, 2005) and Jehn (1994), among top management team there are two types of conflict present: cognitive and relationship conflict. On the one hand, cognitive conflict is task oriented conflict which is considered to be able to improve decision quality. On the other hand, relationship conflict is based on interpersonal issues, likes, dislikes, affective or

relationship conflict; therefore, managers or team leaders should pay attention to this type of conflict to manage it and avoid further behaviour complications.

Although the presence of conflict can be positive or negative for team effectiveness, the lack of conflict has been associated with complacency about problems and decisions (Jehn, 1994). Therefore, it seems that positive conflict, task oriented or cognitive conflict, is needed to encourage conflict of ideas which allows better achieving common objectives. On the contrary, high levels of cognitive conflict are detrimental for group performance. Team members became overwhelmed with the conflicting information, became side-tracked, and loss sight of the main goal of the discussion (Jehn, 1997). Additionally, interpersonal or affective conflict seriously limits team and individual level performance. In fact, when relationship conflict is present the team members' efforts focused heavily on solving this conflict and the team's productivity is affected (Jehn, 1995).

This research argues that the confluence and good management of cohesion, conflict and consensus, and potency, bring a result of performance. The mentioned model places potency in a privilege position because potency is a predictor of performance. Guzzo, Yost and Campbell (1993) indicated that potency can be defined as "the share belief members have about the team's general effectiveness when faced with a broad set of tasks in a complex environment" (p. 89). Even more, Lester, Meglino and Korsgaard (2002) indicated that "group potency established during group's development was a significant predictor of work group outcomes later in the group's existence" (p.357). In respect, Guzzo et al. (1993) explained that the potential of the group to contribute to the organization's effectiveness is establish by the fit of team's goals with organization's goals, the position of the team in the organization, and the nature of the team's work.

Although group potency is the result of the parallel construction of individual self-efficacy; group potency and self-efficacy are two different constructs. On the one hand, self-efficacy reflects and individual's belief about his or her own competence; on the other hand, group potency reflects the competency of the team as a whole. Therefore, the individual belief of performance may be completely different from theirs belief about the team's performance (Jong, Ruyter & Wetzels, 2005). Even more, Guzzo et al. (1993) argued that there are internal and external factors which contribute to the team's sense of potency. Internal factors are related to the qualities and attributes of the individual members. External factors depend on the social system the team is embedded in, for example, companies which bring ample resources for teams such as opportunities for training, information, materials, budget, and others. This last factor calls for means to stimulate the team members' perceptual agreement of their potency.

A large group of models can be presented as an example, but these two models have been taken into consideration due to their similarities with some of the ideas presented in this research. According to Driskell et al. (1987), the inputs reflected the team's potential for productivity which cannot be said to be equal to effectiveness. In respect, Driskell et al. (1987) indicated that the process is the catalyst of the potential and the current effectiveness, because during the process is possible to observe not only what individuals bring to the team as input, but also the result of team interaction. The Model of Team Effectiveness of Driskell et al. (1987) was composed as follows:

A. Input factors: (a) individual level factors (skills, status and personality of the group member), (b) group level factors (structure, norms and size of the group), and (c)

environmental level factors (task characteristics, reward structure, and level of environmental stress).

- B. Process: group interaction process which could be composed by process gain or process loss.
- C. Outcomes: group performance.

Tannenbaum et al. (1992) indicated that their model can be considered representative of the variables present in group effectiveness. In fact, these authors recommended that all variables to fit in the model should be considered in context depending on the peculiarities of each firm. This model also distinguishes between teamwork and task work on both individual and group level. Additionally, the importance for this study and the resulting model rely on the recognition and presentation of conflict and cohesion made by the authors perhaps with some difference on where these constructs fit inside the model, but accepting their presence and significance. The Model of Team Effectiveness of Tannenbaum et al. (1992) was composed as follows:

- A. Organizational and situational characteristics: (a) reward systems, (b) resource scarcity, (c) management control, (d) level of stress, (e) organizational climate, (f) competition, (g) inter-group relations, and (h) environmental uncertainty.
- B. Input:
  - a. Task characteristics: task organization, task type, and task complexity
  - b. Work structure: work assignment, team norms, and communications structure
  - c. Individual characteristics: task KSA's, general abilities, motivation, attitude, personality, and mental model
  - d. Team characteristics: power distribution, member, homogeneity, team resources, climate-team, and cohesiveness
- C. Throughput
  - a. Team processes: co-ordination, communication, conflict resolve, decision making, problem solving, and boundary spanning
  - b. Team interventions: individual training, team training, and team building
- D. Output
  - a. Team changes: new norms, new roles, new communications patterns, and new processes.
  - b. Team performance: quality, quantity, time, errors, and costs.
  - c. Individual changes: task KSA's attitudes, motivation, and mental models.
- E. Feedback.

Nordqvist (2005) commented about the research of Ensley and Pearson (2005), and stated that "familiness" cannot be the only advantage contributing to more effective behavioural processes in familial top management teams, and suggested three routes for extending the results of the commented research: (a) to extend the perspective on top management teams to more homogeneous teams among well-established industries, (b) to extend the concept of "familiness", and (c) to extend the family business definition. Following the recommendations of Nordqvist (2005), this research adopted the first route and pretended to research on the relationship between cohesion, consensus, conflict and potency within more uniformed top management teams from a mature industry, in this case, the Peruvian textile and clothing industry was selected because this industry gathered the elements asked by the referenced author as will be described in the next paragraphs.

## **Methodological Design**

### ***Statement of the Problem***

There were not studies which permit to explain the relationships among the consensus, the cohesion, the conflict and the potency of the top management teams in the textile and apparel sector, situation which has constrained a better comprehension about the relationships inside the teams and also, has constrained their expected results.

### ***Purpose of the Research***

The purpose of this research was to find the relationships among the consensus, the cohesion, the conflict and the potency of the top management teams in a textile and apparel sector, for contributing to the management of the firms of that sector.

### ***Population and Sample***

This research, following Nordqvist (2005), focused in the textile and apparel sector (allowing choice due to its large number of companies) on an important number of firms which were all part of a homogeneous sector. Therefore, the population in this research was defined by the total medium and the large firms reported by the Peru Top Publications (2007) and Peruvian Exporters Association (ADEX in Spanish). According to these two sources, there are 330 medium and large firms in this sector. These firms have a number of employees between 50 and 200 the medium firms, and over two hundred the large firms (Shimizu, 2004).

The selected group of firms was considered legal businesses located mainly in cities like Lima and Arequipa. The specific groups under analysis were the top management teams working in these firms. The respondents were top management teams members whom were identified by each business's CEO. A questionnaire was sent to all teams' members in all 330 firms. As result, 196 answered questionnaires were obtained from 72 firms.

### ***Hypotheses***

The hypotheses about the presence of the four constructs in the Peruvian TMTs at Peruvian textile and apparel firms (PTAF), are the following:

- A. General Hypothesis: There is correlation and also relation among the constructs cohesion, consensus, conflict and potency and among each other in the TMTs working at PTAF.
- B. Specific Hypotheses:
  - a. Specific Hypothesis 1: Cohesion and potency are positively related in the TMT working at PTAF.
  - b. Specific Hypothesis 2: Consensus and Conflict are negatively related in the TMT working at PTAF.
  - c. Specific Hypothesis 3: Cohesion and Conflict are negatively related in the TMT working at PTAF.
  - d. Specific Hypothesis 4: Conflict and Potency are negatively related in the TMT working at PTAF.
  - e. Specific Hypothesis 5: Consensus and Potency are positively related in the TMT working at PTAF.



McDowell and Zhang (2009) found a significant and consistent relationship between potency and cohesion mainly because teams that get along well together should have a sense of ability to perform. For Larson and Wikstrom (2001), consensus and conflict are intertwined and coexist in relational interaction; also, these authors stated that the function of consensus is dynamics is to create stability and continuity, and the function of conflict dynamics is to create change and transformation. Also, according to Ensley and Pearson (2001), the members of cohesive teams are less likely to take their disagreement personally. In fact, the members of cohesive teams should be more effective in embracing conflict than less cohesive teams. Therefore, cohesion is negatively related to the level of affective conflict experienced during decision making.

A research which was performed by Lira, Ripoll, Peiro and Gonzales (2006), found that group potency moderates the relation between conflict and team effectiveness. The present research, following Lira et al. (2006) work pretends to analyse the relation between conflict and potency and presents the next hypothesis. Also, according to Hornaday (2001), there is a positive correlation between consensus and potency. Although the research of Hornaday (2001) was performed using sex composition as variable, it is important to point out that apparently, consensus and potency are correlated no matter its composition or teams' purpose. To answer these hypotheses, the existing scales developed by Guzzo et al. (1993), Venkatraman (1989), Bollen and Hoyle (1990), and Jehn (1995) will be tested to find out whether these scales for measuring cohesion, consensus, conflict and potency are useful to measure these constructs in TMTs working at PTAF.

### ***Data Collection***

After identifying the 330 businesses as the selected population, an interview was held with each business's CEO. The interview had as purpose to get the companies' participation and to obtain information about the number of top management teams' members and the right day and hour to apply the questionnaire. The questionnaires were applied in the top management teams' work place with assistance of MBA students of CENTRUM Católica Graduate Business School, who were previously familiarized with the questionnaire to avoid errors during the data collection, and were randomly supervised by the researcher. Also, the questionnaires were divided in four blocks, each one of them containing specific questions for cohesion, consensus, conflict and potency. These different blocks were not presented as such to the subjects to favour a spontaneous answer to each question.

### **Results**

Each construct and their respective models were analyzed to establish the fit of the model to the data obtained by applying a questionnaire to the top management teams in the Peruvian textile and apparel industry. For each construct, a model featuring observed and latent variables was developed using AMOS software. These models follow the findings and indications obtained from authors whom studied the existence and relevance of these constructs such as Bollen and Hoyle (1990), Jehn (1997), and others. The next figures and tables show the obtained results for each one of the constructs after the analysis with AMOS.

Table 1: Cohesion Scale

Sense of belonging		Totally disagree										Totally agree											
		0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
V1	1. I feel a sence of belonging of this company's TMT																						
V2	2. I feel that I am a member of this company's TMT																						
V3	3. I see myself as part of this company's TMT																						
Feeling of morale		Totally disagree										Totally agree											
		0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
V4	1. I am enthusiastic about being part of this company's TMT																						
V5	2. I am happy to be part of this company's TMT																						

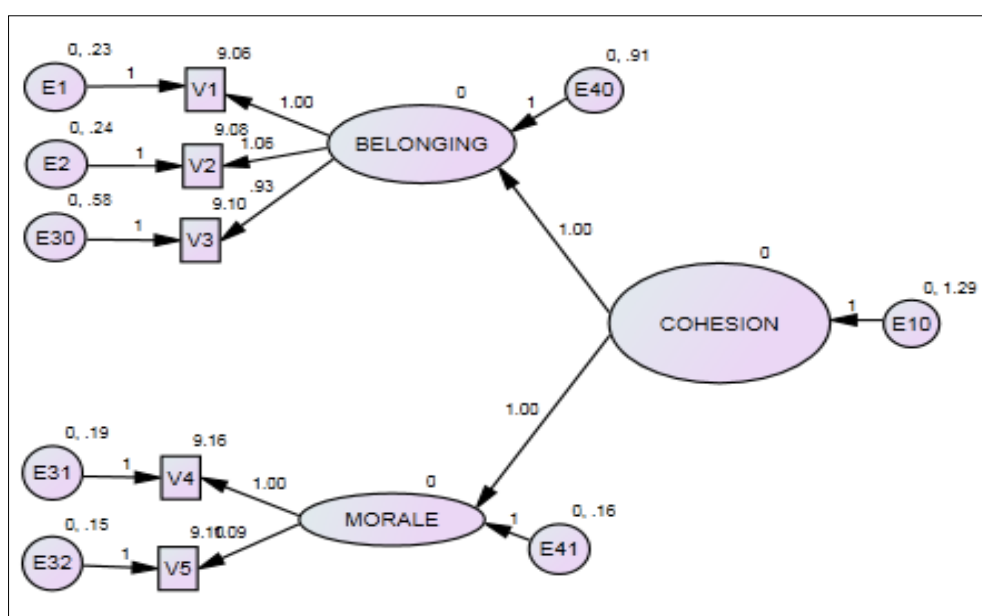


Figure 1: Cohesion Structural Model

Table 2: Goodness-of-Fit for the Cohesion Structural Model

Adjustment Index	Default Model	Independence Model	Saturated Model	Value Indicating	Acceptable Fit
$\chi^2$	7.799	1063.789	0.000	$\approx 0.09$	$p \leq 0.05$
RMSEA	0.069	0.731	0.000	$\approx 0.00$	$RMSEA \leq 0.08$
NFI	0.993	0	1.000	$\approx 0.09$	$NFI \geq 0.90$
IFI	0.996	0	1.000	$\approx 0.09$	$IFI \geq 0.90$
CFI	0.996	0	1.000	$\approx 0.09$	$CFI \geq 0.90$
PNFI	0.397	0	0.000	Higher Values	$PNFI \geq 0.60$
PCFI	0.399	0	0.000	Higher Values	$PCFI \geq 0.60$
$\chi^2$ Normed	1.95	106.379			$\leq 5.00$
AIC	39.799	1083.789	40.000	Low Values	$p \leq 0.05$

The table 2 shows the obtained results after the processing of the data with AMOS. The last group of this table presents the minimum results needed to establish goodness-of-fit. As discussed before, some specific indices must be taken into consideration to establish the goodness of fit of a model. On the one hand, for this specific construct the results obtained such as  $\chi^2$ , PNFI (Parsimony Normed Fit Index) and PCFI (Parsimony-adjusted Comparative

Fit Index) present values which differed from the minimum values needed to establish and acceptable fit. On the other hand, values such as RMSEA (Root Mean Square Error of Approximation), NFI (Normed Fit Index), IFI (Incremental Fit Index), CFI (Comparative Fit Index),  $\chi^2$  Normed and AIC (Akaike Information Criterion) present values which, according to authors like Hair et al. (2005) and Garson (2012) can be interpreted as an acceptable fit. Furthermore, being these findings contradictory, and not being able to establish with certainty the goodness of fit for this construct's structural model, the next step is to closely observe the research, on this construct, performed by Bollen and Hoyle (1990).

This research obtained similar results for  $\chi^2$ , so another goodness of fit measure, such as the incremental fit indices presented above, needed to complement the chi square statistic's results. Moreover, being these results optimal the researcher concluded that it was possible to establish the fitness of good in the cohesion model for his specific research. Following the results of Bollen and Hoyle (1990), it is possible to conclude that based on the optimal results obtained for the incremental fit indices, the cohesion model for this specific research presents goodness-of-fit, therefore the model should be accepted. Even more, according to Garson (2012), the fit of all model's components is not needed to establish the goodness-of-fit for the entire model. In other words, and being the case of this research, the fact that some indices do not present acceptable results does not mean that the model should be rejected. In fact, according to the same author, there is not an agreement on the number of indices needed to accept or reject a model, but all researchers such as Thompson (2000) and Kline (2005) (all cited in Garson (2012) agree that should be more than one index. The next graphics and tables present the results for consensus, conflict and potency:

Table 3: Consensus Scale (STROBE)

		None					Lots				
		1	2	3	4	5	1	2	3	4	5
<b>Agressiveness dimension</b>											
V23	1. Sacrificing profitability to gain market share.										
V24	2. Cutting prices to increase market share										
V25	3. Setting prices below competition										
V26	4. Seeking market share position at the expense of cash flow and profitability										
<b>Analysis dimension</b>											
V27	1. Emphasize effective coordination among different functional areas.										
V28	2. Information systems provide support for decision making.										
V29	3. When confronted with a major decision, we usually try to develop through analysis.										
V30	4. Use of planning techniques.										
V31	5. Use of the outputs of management information and control systems.										
<b>Defensiveness dimension</b>											
V33	1. Significant modifications to the manufacturing technology.										
V34	2. Use of cost control systems for monitoring performance.										
V35	3. Use of production management techniques.										
V36	4. Emphasis on product quality through use of quality circles.										
<b>Futurity dimension</b>											
V38	2. We emphasize basic research to provide us with future competitive edge.										
V39	3. Forecasting key indicators of operations										
V40	4. Formal tracking of significant general trends										
V41	5. "What-if" analysis of critical issues.										
<b>Riskiness dimension</b>											
V48	2. We seem to adopt a rather conservative view when making major decisions.										
V49	3. New projects are approved on a "stage-by-stage" basis rather than with "blanket" approval.										
V50	4. A tendency to support projects where the expected returns are certain.										
V51	5. Operations have generally followed the "tried and true" paths.										

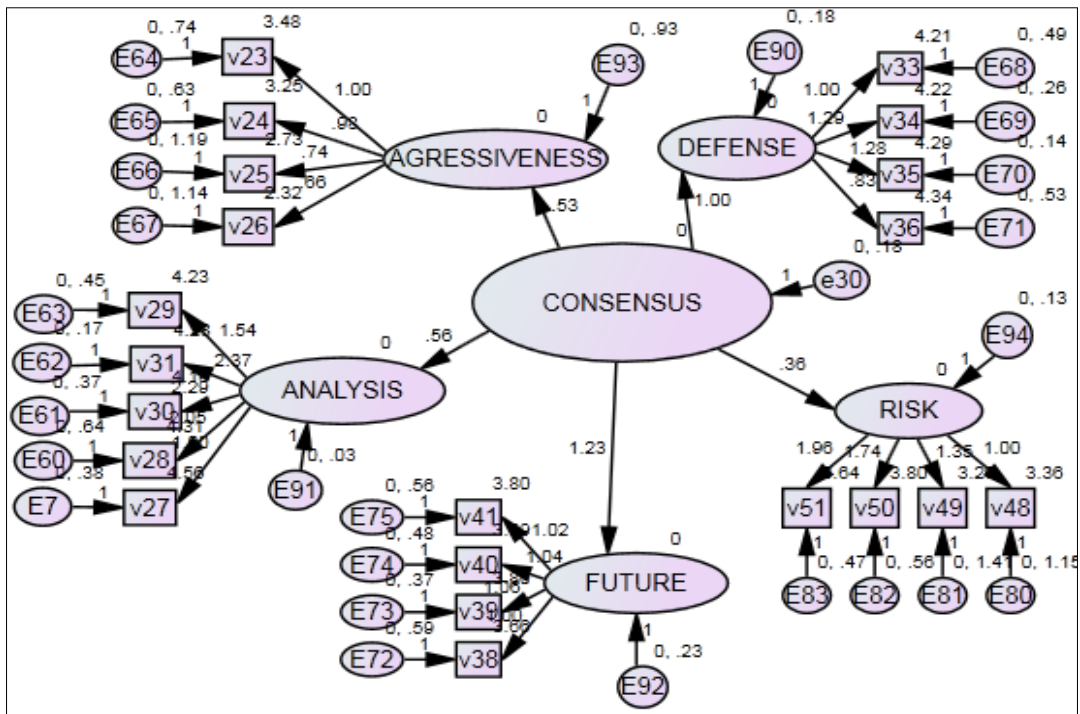


Figure 2: Consensus Structural Model

Table 4: Goodness-of-Fit for the Consensus Structural Model

Adjustment Index	Default Model	Independence Model	Saturated Model	Value Indicating	Acceptable Fit
$\chi^2$	298.17	1063.789	0.000	$\approx 0.00$	$p \leq 0.05$
RMSEA	0.056	0.172	0.000	$\approx 0.00$	$RMSEA \leq 0.08$
NFI	0.81	0	1.000	$\approx 0.90$	$NFI \geq 0.90$
IFI	0.918	0	1.000	$\approx 0.90$	$IFI \geq 0.90$
CFI	0.915	0	1.000	$\approx 0.90$	$CFI \geq 0.90$
PNFI	0.645	0	0.000	Higher Values	$PNFI \geq 0.60$
PCFI	0.729	0	0.000	Higher Values	$PCFI \geq 0.60$
$\chi^2$ Normed	1.95	6.805			$\leq 5.00$
AIC	170	1613.89	40.000	Low Values	

Table 5: Conflict Scale

		Affective conflict				
		None				Lots
		1	2	3	4	5
V7	1. How much friction is present in your work?					
V8	2. To what extent are personalities clashes present in your work group?					
V9	3. How much anger is present in your work group?					
V10	4. How much emotional conflict is there in your work group?					
		Cognitive conflict				
		None				Lots
		1	2	3	4	5
V11	1. To what extent are there differences of opinions regarding the task in your work group?					
V12	2. How often do people in your work group disagree about the sork being done?					
V13	3. How frequently are there disagreements about the task you are working on in your workgroup?					
V14	4. How often do people in your wok group disagree about ideas regarding the task?					

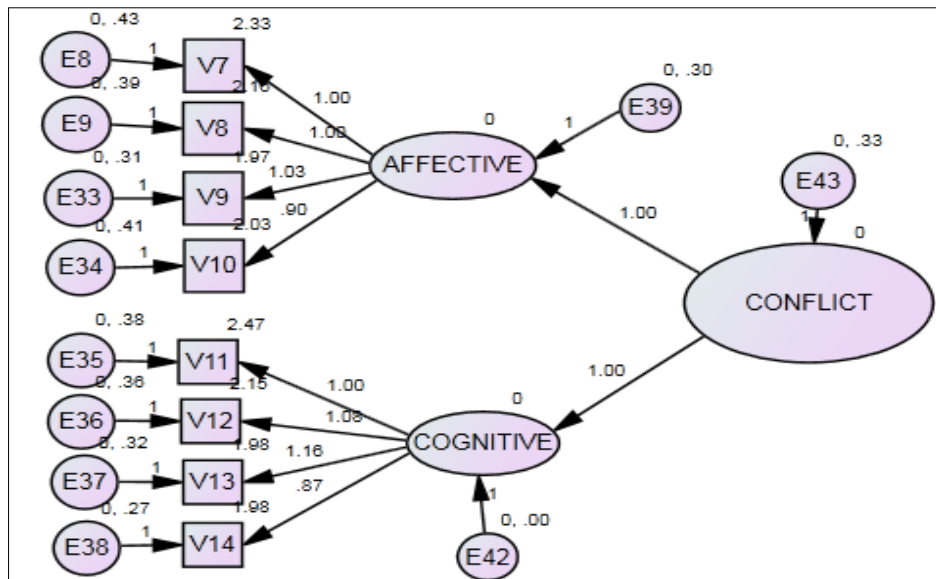


Figure 3: Conflict Structural Model

Table 6: Goodness-of-Fit for the Conflict Structural Model

Adjustment Index	Default Model	Independence Model	Saturated Model	Value Indicating	Acceptable Fit
$\chi^2$	69.284	757.793	0.000	$\approx 0.00$	$p \leq 0.05$
RMSEA	0.116	0.364	0.000	$\approx 0.00$	$RMSEA \leq 0.08$
NFI	0.909	0	1.000	$\approx 0.90$	$NFI \geq 0.90$
IFI	0.932	0	1.000	$\approx 0.90$	$IFI \geq 0.90$
CFI	0.931	0	1.000	$\approx 0.90$	$CFI \geq 0.90$
PNFI	0.617	0	0.000	Higher Values	$PNFI \geq 0.60$
PCFI	0.632	0	0.000	Higher Values	$PCFI \geq 0.60$
$\chi^2$ Normed	3.647	27.064			$\leq 5.00$
AIC	119.284	789.793	88.000	Low Values	

Table 7: Potency Scale

		None		Lots		
		1	2	3	4	5
V15	1. This team has confidence in itself					
V16	2. This team believes it can become unusually good at producing high-quality work					
V17	3. this team expects to be known as a high-performing team					
V18	4. This team feels it can solve any problem it encounters					
V19	5. This team believes it can be very productive					
V20	6. This team can get a lot done when it works hard					
V21	7. No task is too tough for this team.					
V22	8. This team expects to have a lot of influence around here.					

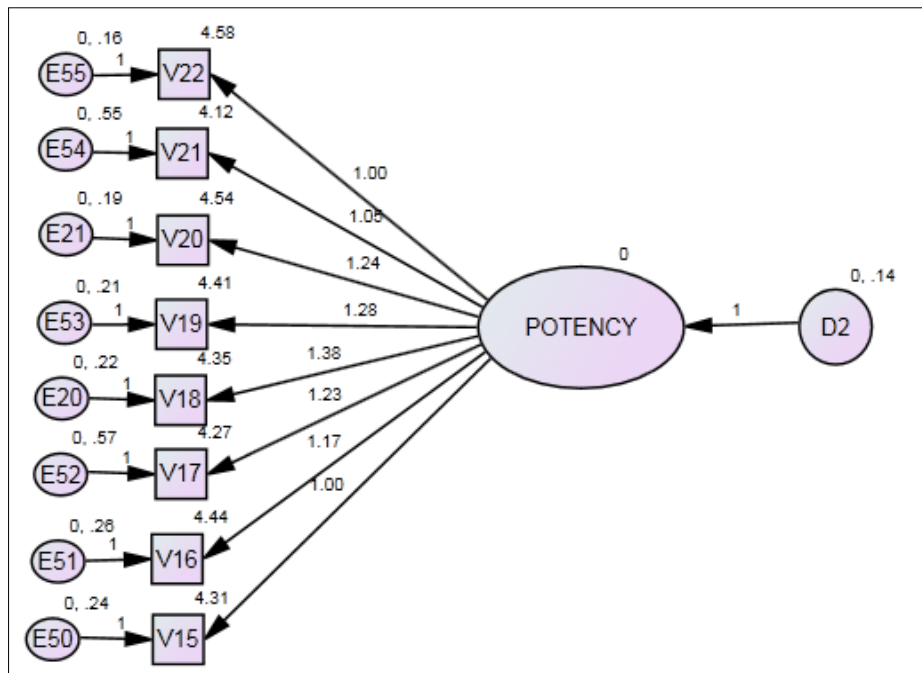


Figure 4: Potency Structural Model

Table 8: Goodness-of-Fit for the Potency Structural Model

Adjustment Index	Default Model	Independence Model	Saturated Model	Value Indicating	Acceptable Fit
$\chi^2$	57.726	548.052	0.000	$\approx 0.00$	$p \leq 0.05$
RMSEA	0.98	0.364	0.000	$\approx 0.00$	$RMSEA \leq 0.08$
NFI	0.895	0	1.000	$\approx 0.90$	$NFI \geq 0.90$
IFI	0.929	0	1.000	$\approx 0.90$	$IFI \geq 0.90$
CFI	0.927	0	1.000	$\approx 0.90$	$CFI \geq 0.90$
PNFI	0.639	0	0.000	Higher Values	$PNFI \geq 0.60$
PCFI	0.662	0	0.000	Higher Values	$PCFI \geq 0.60$
$\chi^2$ Normed	3.647	27.064			$\leq 5.00$
AIC	105.726	580.052	88.000	Low Values	

The results for the last three constructs show some similarities for the three of them. According to the results, those three models are significant which means that these models present goodness-of-fit or, in other words, strongly portray factual bases present in the data obtained from the Peruvian textile and apparel industry. In fact, it is possible to state that the latent variables presented in each one of the constructs are also present among the top management teams from Peruvian textile and apparel industry. Even though, there are several similarities between the results of these constructs which point out to a positive goodness-of-fit, it is also important to mention that for both, conflict and potency, there is not an acceptable result for the RMSEA. However, being this index the only one in a set of nine indices which presents an unacceptable result, the models should be accepted based on Garson (2012) explanation about the number of indices needed to accept or reject a model. This explanation has been fully detailed in previous paragraphs.



After finding the goodness of fit for each one of the constructs therefore accepting their models, and establishing their presence in the Peruvian textile and apparel industry, the next step is to find the goodness of fit for the general model presented in the first chapter of this research. These general includes the presence of all the four constructs and their relations. The next figure presents the general model and their latent and observed variables:

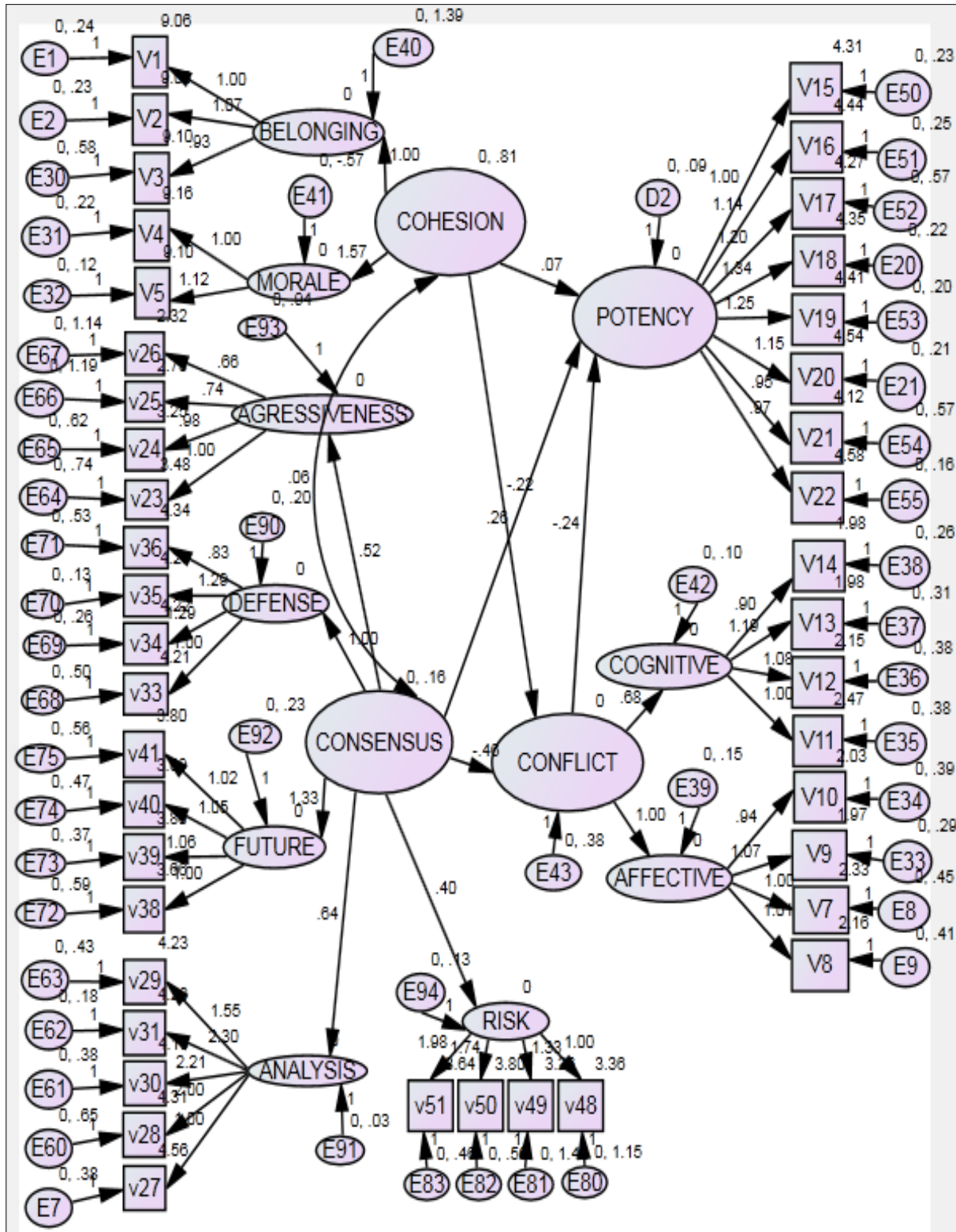


Figure 5: General Structural Model

The proposed model was analyzed using structural equations to verify the importance of the relation between the constructs' latent variables. The correlation coefficients were used to, having the hypothesis presented in first chapter as a guide, obtained conclusions on the model goodness-of-fit and therefore the confirmation of the offered hypothesis. The most important results from this figure are to establish the relation between the constructs given the data obtained from the top management teams working in the Peruvian textile and apparel industry. The results presented in the next table show the type of relation between all the four constructs:

Adjustment Index	Default Model	Independence Model	Saturated Model	Value Indicating	Acceptable Fit
$\chi^2$	1351.041	4972.567	0.000	$\approx 0.00$	$p \leq 0.05$
RMSEA	0.059	0.151	0.000	$\approx 0.00$	$RMSEA \leq 0.08$
NFI	0.728	0	1.000	$\approx 0.90$	$NFI \geq 0.90$
IFI	0.869	0	1.000	$\approx 0.90$	$IFI \geq 0.90$
CFI	0.866	0	1.000	$\approx 0.90$	$CFI \geq 0.90$
PNFI	0.648	0	0.000	Higher Values	$PNFI \geq 0.60$
PCFI	0.771	0	0.000	Higher Values	$PCFI \geq 0.60$
$\chi^2$ Normed	1.68	5.507		$\leq 5.00$	$\leq 5.00$
AIC	1633.041	5054.103	1890.000	Low Values	

Table 9: Goodness-of-Fit for the General Model

As it is possible to see, the value for  $\chi^2$  is 1351.041 and  $p = 0.000$ , which according to Hair et al. (2005), should be  $p \leq 0.05$  to be accepted. Therefore, due to the obtained results, it is possible to infer that the model reflects the given reality presented by the data under analysis. Even more, the  $\chi^2$  Normed = 1.68 and because it is lower than 5.00, it is possible to state that the general model has a positive goodness-of-fit. Furthermore, the RMSEA obtained is equal to 0.059, which according to Hair et al. (2005), needs to present a result minor or equal to 0.08 therefore, it is possible to infer that the general model has an acceptable goodness-of-fit.

Moreover, the other indices presented in the table above support the detailed results in previous paragraphs and identify the model's goodness-of-fit as acceptable. Furthermore, the result obtained for the AIC index talks about a good parsimony proposal, and an acceptable goodness-of-fit. However, one index, the NFI obtained a value of 0.80 which is lower to the minimum required result, 0.90. An interpretation for the obtained result shows a model's goodness-of-fit to be considered poor. In general terms, the model has acceptable values for goodness-of-fit because most of their indices are above the recommended minimum values according to Hair et al. (2005).

The analysis given to the results is similar to a regression analysis. The gamma estimator weight between consensus and conflict is -0.46, which means that every time consensus is high in one unit, conflict goes down -0.46 units. Therefore, in this first analysis, the relation between these two constructs is good as expected. The gamma estimator weight between cohesion and conflict is -0.22 and means that when cohesion is high one unit, conflict goes down 0.22 units. The relation between these two constructs is also good but there is margin for improvement. As for the relation between cohesion and consensus the relation's indicator



is a covariance. This relation can be explained as the inexistence of a lineal correlation between these two constructs due to the covariance's value being close to zero.

The results obtained at analysing the relation between potency and the other constructs is one of the most important findings of this research. The gamma estimator results were expected to be high and significant having into consideration the results obtained for the general model. The relation between cohesion and potency presented a gamma estimator weight of 0.07 and this result means that when cohesion goes high one unit, potency goes high 0.07 units. Therefore, the relation between these two constructs is not strong. Furthermore, the gamma estimator weight between consensus and potency is 0.26 which means that when consensus goes high one unit, potency also have the same behaviour. The result of this is a positive relation between these two constructs. Finally, the relation between conflict and potency presented a gamma estimator weight of -0.24 which means that when conflict goes high one unit, potency goes down 0.24 units. Therefore, these constructs showed to have a good relation as showed by the results.

The next table presents the degree of influence between one latent variable over the others. The meaning of this table does not rely solely on the gamma estimator weight, but on other indicators to conclude whether the relation is strong or not. One of the indicators used is the Standard Error (SE) which explains the deviation of the data in a distribution. Another indicator used to calculate the significance of the relation between latent variables is the Critic Relation (CR) which calculation requires combining the results obtained for the gamma estimator's weight and the standard error.

		Estimate	S.E.	C.R.	P
CONFLICT	<i>COHESION</i>	-0.218	0.057	-3.847	***
CONFLICT	<i>CONSENSUS</i>	-0.461	0.169	-2.728	0.006
POTENCY	<i>COHESION</i>	0.075	0.027	2.738	0.006
POTENCY	<i>CONFLICT</i>	-0.236	0.06	-3.929	***
POTENCY	<i>CONSENSUS</i>	0.261	0.088	2.957	0.003
BELONGING	<i>COHESION</i>	1			
MORALE	<i>COHESION</i>	1.567	0.383	4.093	***
AFFECTIVE	<i>CONFLICT</i>	1			
COGNITIVE	<i>CONFLICT</i>	0.683	0.121	5.652	***
AGRESSIVENESS	<i>CONSENSUS</i>	0.524	0.238	2.203	0.028
FUTURE	<i>CONSENSUS</i>	1.328	0.249	5.325	***
ANALYSIS	<i>CONSENSUS</i>	0.637	0.143	4.438	***
DEFENSE	<i>CONSENSUS</i>	1			
RISK	<i>CONSENSUS</i>	0.397	0.139	2.843	0.004

Table 10: Gamma Estimator's weights, Standard Error and Critic Relation

The research question and hypothesis resulting can now be responded and verified. All six hypotheses can be confirmed based on the results obtained by applying the structural equation modelling (SEM), as follows:

- A. General Hypothesis: There is relation among cohesion, conflict, consensus and potency in TMTs from the PTAF.

The values for  $\chi^2$  and the p-value are important to validate the SEM. In this study the data set considers over 30 interviewed which represent a normal distribution with 95%

confidence level. Comparing  $\chi^2 = 1351.041$  with the normal distribution this value falls on the reject area therefore SEM is adequate. Based on this result is possible to conclude that the observed variables explain the latent variables and late the four constructs, and they are correlated among each other even with variables of superior order.

B. Specific Hypotheses:

- a. *Specific Hypothesis 1: Cohesion and potency are positively related in TMT working at PTAF.* With a 95% confidence level, the gamma estimator between cohesion and potency is 0.07; therefore there is a positive relation between these two constructs in TMT working in the PTAF.
- b. *Specific Hypothesis 2: Consensus and Conflict are negatively related in the TMT working in the PTAF.* With a 95% confidence level, the gamma estimator between consensus and conflict is -0.46, which means that there is effectively a negative relation between consensus and conflict in TMT working at PTAF.
- c. *Specific Hypothesis 3: Cohesion and Conflict are negatively related in the TMT working at PTAF.* With a 95% confidence level, the gamma estimator between cohesion and conflict is -0.22, therefore it is possible to state that there is a negative relation between cohesion and conflict in TMT working at PTAF.
- d. *Specific Hypothesis 4: Conflict and Potency are negatively related in the TMT working at PTAF.* With a 95% confidence level, the gamma estimator between conflict and potency is -0.24 meaning that there is a negative relation between conflict and potency in TMT working at PTAF.
- e. *Specific Hypothesis 5: Consensus and Potency are positively related in the TMT working at PTAF.* With a 95% confidence level, the gamma estimator between consensus and potency is 0.26 which means that there is in fact a positive relation between consensus and potency in TMT working at PTAF.

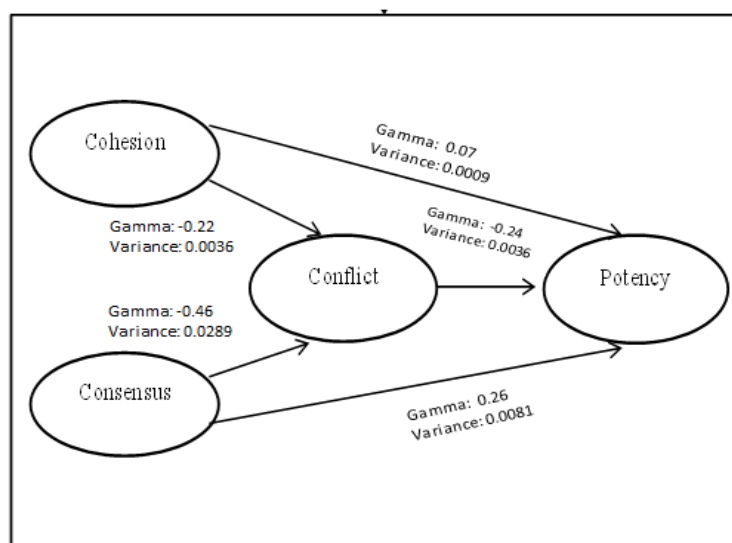


Figure 6: Significance Test and Gamma estimators.

The hexogen variables: cohesion and consensus explain the endogen variables: conflict and potency. In fact, at 95% confidence is possible to state that according to the SEM gamma

estimators there is an inconsistent mediation; this means that the endogen variable potency is explained following the path of the mediating variable conflict because the gamma estimators present negative values (Little, Card, Bovaird, Preacher & Crandall, 2007).

## **Discussion**

The importance of the results mentioned in paragraphs above relies on the fact that there is no other research about the correlation among these four constructs. Although authors like Jehn (1996), Bollen (1990), and others have researched on at least one of the constructs and their relation with at least other construct, and although Ensley and Pearson (2005) have researched on the four constructs in family business, none of them have research on the four constructs' correlation among each other. This research is also important because it constitutes the first study of some of the behavioural dynamics in any group of Peruvian management teams.

The findings in this research are consistent with the findings from other researches over the same topics; the only difference is that the constructs of those researches were analyzed in an isolated way. In fact, in the case of cohesion, this research encounters the same difficulties, and the similarity of the results obtained using structural equation modelling in both, the research of Bollen (1990) and this research, was very high. This can be explained by the fact that in both researches a rather small dataset was used. This fact causes those indices such as  $\chi^2$  statistics which tend to discriminate on sample, to show values which are considered unacceptable.

## **Conclusions**

The conclusions of this study are the following:

- A. The obtained results showed that by well managing cohesion, consensus and conflict, the top management team can acquire potency, in the top management teams from the Peruvian textile and apparel sector.
- B. The four constructs perception can be measure, using the scales: (a) Strategic Orientation of Business Enterprises Scale (for measuring consensus), (b) Perceived Cohesion Scale (for measuring cohesion), (c) Interpersonal Conflict Scale (for measuring conflict), and (d) Guzzo, Yost, and Campbell Scale (for measuring potency), with only small adjustments, in the top management teams from the Peruvian textile and apparel sector.
- C. The general model (*figure 5*) can be accepted and therefore can also be accepted that the cohesion, the consensus, and the conflict influence directly on potency, and at the same time potency is moderated by conflict. In fact, potency depends on the way a top management team manage their conflict, their consensus, and their cohesion. The influence of cohesion by itself seems not too important. Also, the constructs perception can be definitely measure in Peruvian top management teams from apparel and textile industry, and the constructs do correlate among each other.

## **Recommendations for future researches**

The recommendations for future researches are the following:

- A. Managers should pay close attention to conflict because this construct increase means a decrease of the other constructs.

- B. To apply this methodological design for researching about the cohesion, the consensus, the conflict and the potency in textile and apparel firms in other economic sectors, countries and regions.
- C. To increase the data size for avoiding complications as the found complication while analyzing cohesion in the top management team.
- D. Further studies could research on the influence of behavioural dynamics over performance in the Peruvian top management teams.

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