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A Motive-based Approach**

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# **Making Sense of Managerial Competencies: A Motive-based Approach <sup>1</sup>**

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Revised Version of 2008/70/OB

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## **Abstract**

In this study, we analyse empirically a competency model. We assert that the emotional intelligence (EI) model may not be the best way of grouping managerial competencies and we propose a new way of embedding competencies within a motivational domain. We build on McClelland's concept of motives to propose a new way of grouping competencies. This study is based on data from employees of three medium-sized organizations (n=223) who completed a competency measure based on the proposal by Boyatzis and Goleman. We analyse empirically which of the factor structures (EI or motive-based) best fits the data. Our results confirm the appropriateness of grouping competencies into three clusters which have parallels with the three social motives of affiliation, power and achievement. Our study seeks to overcome the paucity of empirical research relevant to competency models and to expand the competency literature towards a theory of work motivation. Implications are drawn and future research directions are suggested.

**Keywords:** competencies, motives, emotional intelligence

## **Introduction**

The term ‘competence’ as a concept that serves to connect individuals and their actions, has been defined as “the capacity to get in touch with the environment in a constructive way” (Ingalls, 1979). And as Woodworth (1958) asserts, the most fundamental element in motivation is dealing with the environment. Since the pioneering work of Stogdill (1948), Katz (1955) and Mann (1965) on competence effectiveness, a burgeoning literature in the 1980s and 90s has gone on to identify an array of competencies linked to managerial success (e.g., Boyatzis, 1982; du Gay, Salaman & Rees, 1996; Lawler, 1994; Mansfield, 1996; Spencer and Spencer, 1993; McCall and Lombardo, 1983; McLagan, 1996; Mirabile, 1997; Posner and Kouzes, 1988).

Different ways of modelling competencies have been reported in the literature since the first three-dimensional models of technical, interpersonal and conceptual competencies appeared (e.g., Katz, 1955). They include those proposed by Bartram (2005), Goleman, Boyatzis & McKee (2002), McCall and Lombardo (1983), Pouser and Kouzes (1988, 1993) and Defillippi & Arthur (1994). Competency-based models subsequently emerged as tools to be employed in the workplace (e.g. Maurer, Wrenn, Pierce, Tross & Collins, 2003) and were considered to have a predictive validity over job performance (e.g., Boyatzis, 1982; Bartram, 2005; Beehr, Ivanitskaya, Hansen, Erofeev, Gudanowski, 2001; Caldwell & O’Reilly III, 1990; Guillén Ramo, Saris & Boyatzis, in press; McClelland, 1973). But despite an abundance of competency modelling practices, little empirical research relevant to competency models has been carried out (Maurer et al., 2003; Laber & Connor, 2000; Rogelberg, 2000). While an

exhaustive review of these models is beyond the purpose of this article, our intention here is to emphasize that the research agenda is evolving to meet contemporary organizational challenges (e.g., Antonacopoulou & Fitzgerald, 1996; Bartram, Robertson & Callinan, 2002; Halbesleben, Novicevic, Harvey & Buckley, 2003; Kurz & Bartram, 2002).

In this article, we describe more fully the relationship between competencies and motives. We use McClelland, Koestner and Weinberger's (1989) concept of motives as a guiding principle to postulate that respondent behavior in work situations is guided by motives; hence managerial competencies, which are efficient behaviors within organizational settings, can be structured in a similar way. In the following sections we briefly review connections between work competencies and both the EI and the motive-based literature, we elaborate our hypotheses and the method of analysis used to compare the EI and motive-based structures of competencies, and finally we present empirical results and draw implications for future research.

### **Competencies and Emotional Intelligence**

This study has as its starting point the model developed by Goleman et al. (2002) based upon competencies – identified by internal research at hundreds of corporations and organizations – as distinguishing outstanding performers (Boyatzis, 1982). Goleman et al. (2002) posited the concept of 'emotional intelligence' (EI), arguing that a high level of emotional intelligence is what promotes specific competencies that distinguish star from average performers in organizations.

Despite the overwhelming popularity of EI, the validity of the construct is still shrouded in controversy (Bastian, Burns & Nettelbeck, 2005; Guillén, 2007; Matthews, Zeidner & Roberts, 2002; Newsome, Day & Catano, 2000). EI is defined by Salovey & Mayer (1990) as the “ability to monitor one’s own and others’ feelings and emotions, to discriminate among them, and to use this information to guide one’s thinking and action”. The body of research related to EI has come up with different approaches (e.g., Salovey and Mayer, 1990; Bar-On, 1998, 2000; Goleman et al., 2002; Petrides & Furnham, 2000, 2001). From this, claims have arisen that conceptualizing competencies as a behavioural approach to EI is problematic (e.g., Conte, 2005; Matthews et al., 2002). Indeed, Petrides, Frederickson & Furnham (2004) have suggested that such behaviour be labelled “perceived self-efficacy” in daily situations, as an alternative to the term “intelligence”.

Goleman et al. (2002) took eighteen managerial competencies identified in previous work by Boyatzis (1982) and grouped them into four theoretical clusters in accordance with the construct of EI as mental ability proposed by Mayer and Salovey (Mayer and Salovey, 1997; Mayer, Caruso & Salovey, 2000). These clusters are (1) self-awareness; (2) self-management; (3) others’ awareness; and, (4) relations management. However, it is the lack of validity of these factors that has come to be regarded as the most notable limitation of Goleman et al.’s (2002) framework (e.g., Boyatzis and Sala, 2004; Pérez et al., 2004). Likewise, Guillen (2007) concluded on the basis of empirical research that the EI clustering of competencies did not fit with data derived from three medium-sized organizations. Hence we postulate that the categories proposed by Salovey and Mayer for their EI model may not be the best

way of grouping behavioural competencies derived from data in an organizational setting.

Proposition 1: The fit of the data to the model formed by the four theoretical EI clusters suggests that a different factor structure may be better for grouping work competencies.

McClelland & Boyatzis (1982) stated the existence of a leadership motive pattern that was significantly associated with managerial success. In seeking an alternative structure of competencies, we position our study within a stream of the literature that places competence within the motive-based domain (e.g. Kehr, 2004, Bandura, 1997; Atkinson, 1964; McClelland, 1985a). This approach may help to develop our understanding of the structure of work behaviors by tracing their connection with a theory of work motivation.

### **Competencies and Motives**

In elaborating a new underlying structure of competencies, we separate conceptually the competency-based model from EI. As mentioned previously, by drawing a connection between competencies and motives we are harking back to the work by David C. McClelland from the 1950s onwards, which has its roots in social motives and forms the basis of human motivational theory. Social motives drive actions in a particular way (McClelland et al., 1989). They are defined as relatively stable characteristics that energize, lead and select experience and behaviours, and that are activated in specific situations (McClelland, 1980, 1985a).

McClelland (1985a) claimed that perceived abilities (competencies) are related to explicit motives, as both variables “are influenced by the subjects’ cognitive understanding of what kind of people they are”. (1985a:818). In this article, we build on the argument by Burke (1980) that there is a unique semantic space for internal representations (i.e., motives) and actions (managerial behaviors). Motives refer to the “why” of behavior (McClelland, 1985b, p. 4); people need to incorporate behaviors in meaningful units to preserve a coherent self-concept (McCall, 1987). In short, motives are the reasons people attribute to their own actions (McClelland, 1995). Self-attributed motives are considered to be largely cognitively based and to predict behavior of immediate significance to the corresponding motive (King, 1995). Tracing the connection between internal and external meanings, motives provide a convenient construct that serves to give meaning to a variety of behaviors or competencies (McClelland, 1951).

Thus competencies (as meaningful attributions of actions) give expression to the internal meanings relevant to the self (i.e., explicit motives) in order to preserve a coherent concept of the self. Both cognitive and active aspects of behaviour should be organized consistently (White, 1959). Hence we posit that it is more appropriate to structure managerial competencies within a motivational domain than a purely EI information processing (or mental) one.

Proposition 2: The factor structure based on motivations will fit the data better than the factor structure commonly specified in the EI literature.

McClelland postulated the existence of three social motives: achievement, affiliation and power (e.g. McClelland et al., 1953). The achievement motive is a desire to do things better, to reach standards of excellence (McClelland et al. 1953). The affiliation motive is defined as the need to create, maintain and use positive social relationships with other people (Boyatzis, 1973). The power motive is defined as the desire to have an impact on others through influence, discussion, help, persuasion or aggression (McClelland, 1975). We posit that managerial competences can be grouped according to the three motives structure.

Proposition 3: Managerial competencies can be grouped according to the three factor structure formed by the power, achievement and affiliation motives.

## **Methods and Results**

### **The Measurement Instrument: Emotional Competency Inventory (ECI-2)**

The Emotional Competency Inventory (ECI-2) is a 360° instrument, a self-report and informant measure that assesses how a person expresses their handling of emotions in life and work settings (Boyatzis and Sala, 2004). The ECI-2 version of the questionnaire has 72 items with response categories based on frequency of demonstration or observation. An optional answer of 'I don't know' is fed into the data as a blank. Responses are indicated on a scale of 1 to 5, progressively labeled from 'the behavior is never shown' (1) to 'the behavior is consistently shown by the individual' (5). As mentioned, the test specifies eighteen competencies which are grouped into four theoretical clusters: (1) self-awareness, formed by accurate self-

assessment, self-confidence and emotional self-awareness; (2) self-management, formed by flexibility, transparency, initiative, optimism, achievement, orientation and emotional self-control; (3) others' awareness, constituted by empathy, organizational awareness and service orientation; and (5) relations management, constituted by inspirational leadership, teamwork, developing others, conflict management, change catalyst and influence. Table 1 provides more details about the specific text of the items of the ECI-2.

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**Table 1. Sample of items of the ECI-2**

Sample of Items included in the Structural Equation Models (Spanish and English text items of the ECI-2)			
Cluster		ECI-2 items (Spanish)	ECI-2 items (English)
Self-Awareness	Self-Awareness	Es consciente de sus propios sentimientos	Aware of own feelings
	Accurate Self-Assessment	Conoce sus puntos fuertes y débiles	Acknowledges own strengths and weaknesses
	Self-Confidence	Cree que esta capacitado para hacer bien su trabajo actual	Believes oneself to be capable for a job
Self-Management	Adaptability	Se desenvuelve bien ante situaciones inesperadas	Handles unexpected demands well
	Initiative	Actúa para crear nuevas oportunidades	Initiates actions to create possibilities
	Achievement Orientation	Fija objetivos medibles y retadores	Sets measurable and challenging goals
	Optimism	Conserva el optimismo a pesar de los inconvenientes	Stays positive despite setbacks
	Transparency	Cumple sus promesas	Keeps their promises
Social-Awareness	Organizational Awareness	Comprende la estructura informal de la organización	Understands informal structure in the organization
	Empathy	Escucha atentamente	Listens attentively
	Service Orientation	Asume responsabilidades personales para satisfacer las necesidades de los clientes	Takes personal responsibility for meeting customer needs
Relationship Management	Change Catalyst	Aboga por el cambio a pesar de la oposición	Advocates change despite opposition
	Developing Others	Proporciona información constructiva	Gives constructive feedback
	Conflict Management	Hace aflorar los desacuerdos cuando es necesario	Airs disagreements or conflicts
	Influence	Consigue el apoyo de personas clave	Gets support from key people
	Inspirational Leadership	Articula una visión ilusionante	Articulates a compelling vision
	Teamwork and Collaboration	En un grupo, fomenta la participación de otros	In a group, encourages others' participation

The original ECI-2 is in English but we used a Spanish-language version based on the translation provided by Hay Group.

### **Comparison of the EI and Motives Clusters of Competences**

Within the model proposed by Goleman et al., (2002), competencies are divided into ‘awareness competencies’ (clusters: self-awareness and others awareness) and ‘managerial competencies’ (clusters: self-management and relations management). Two raters categorized the ‘managerial competencies’ definitions with respect to achievement, affiliation and power motives. Average interrater reliability was .95. Disagreements in categorization were resolved by discussion, and the groups of competencies were used as the competence modeling within a motives-based domain.

We introduced two differences into the categorization of ‘awareness competencies’ and ‘managerial competencies’ proposed by Goleman et al. (2002): ‘emotional self-control’ was not considered a managerial competency as it was not categorized in any of the three motives factors; ‘service orientation’ that was originally assigned to the ‘others’ knowledge’ cluster was considered a managerial competency defined as anticipating, recognizing and meeting customer and client needs. Table 2 presents the competencies and their corresponding clusters according to both the EI and the motive-based frameworks.

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**Table 2. Structure of competencies within the EI and motives models.**

Competencies	Definition	EI THEORETICAL CLUSTERS				SOCIAL MOTIVES		
		Self-Awareness	Others Awareness	Self Mgt.	Relations Mgt.	Achievement	Power	Affiliation
Self-Confidence	A strong sense of one's self-worth and capabilities.	X						
Accurate Self-Assessment	Knowing one's inner resources, abilities, and limits.	X						
Emotional Self-Awareness	Recognizing how our emotions affect our performance.	X						
Empathy	Sensing others' feelings and perspectives, and taking an active interest in their concerns.		X					
Service Orientation	Anticipating, recognizing, and meeting customers' or clients' needs.		X					○
Organizational Awareness	Understands informal structure in the organization		X					
Achievement Orientation	Striving to improve or meeting a standard of excellence.			X		○		
Emotional Self-Control	Keeping disruptive emotions and impulses in check.			X				
Transparency	Maintaining integrity, acting congruently with one's values.			X				○
Adaptability	Flexibility in handling change.			X				○
Initiative	Readiness to act on opportunities.			X		○		
Optimism	Persistence in pursuing goals despite obstacles and setbacks			X		○		
Influence	Having impact on others.				X		○	
Change Catalyst	Initiating or managing change.				X	○		
Inspirational Leadership	Inspiring and guiding individuals and groups.				X		○	
Developing Others	Sensing others' development needs and bolstering their abilities.				X		○	
Conflict Management	Negotiating and resolving disagreements.				X		○	
Teamwork and Collaboration	Working with others towards a shared goal. Creating group synergy in pursuing collective				X			○

Concentrating on ‘managerial competencies’, we see that the two clusters suggested in the EI literature are spread over three clusters if we assume a motive-based clustering. The ‘self management’ factor spreads across two separate factors (achievement and affiliation), while the ‘relations management’ factor is spread over three different factors (affiliation, achievement and power). Below, we test which structure best fits our data.

## **Participants**

Participants for the study were recruited from three Spanish medium-sized public companies. At the time of data collection, these organizations employed a total of 304 employees. To meet the criteria for inclusion in the research project, employees had to have tenure and perform managerial tasks as part of their job. In total, 223 individuals were invited to participate in an information session and all of them agreed to be included in the study. 220 reported gender (110 women and 110 men) and 212 reported age (mean: 35.93; SD: 9.92).

Two of the organizations share a common vision, objectives and structure but are located in two different regions of Spain. They are public corporations whose mission is the representation, defence and promotion of the interests of trade, industrial and service organizations located in the region in which they operate. The third company is a Spanish public institution in the energy sector.

Data from the two public institutions with shared vision and other relevant characteristics were merged as Group 1, with a total sample size of 118 participants.

The third organization had 105 participants (Group 2). Both are medium-sized organizations (49 and 69 employees respectively). Both have similar age profiles (mean = 39.42, SD=9.51 and mean = 37.37, SD = 9.31 respectively) and a majority of women on their staff (58% and 77% respectively).

### **Data collection**

Participants attended an information session and were asked to complete the competency questionnaire via intranet. The 223 participants rated themselves on the ECI-2. Additionally, all participants were assessed using the informants' version of the questionnaire by other observers (superiors, colleagues, subordinates, others). All of them were assessed by their immediate superior and could voluntarily choose additional observers from their professional environment for additional assessments.

Self-views are widely considered to be less accurate than informants' views (e.g., Hofstee, 1994; John and Robins, 1993). Others' assessments offer the opportunity for individuals to understand their own personal characteristics and how these affect their work performance. All the participants in the study attended a session in which the two versions of the ECI-2 (self-assessment and informants assessment) were visualized and discussed with others who worked with them on a daily basis. The two people in charge of this session were the participant and his/her immediate superior. The individuals participated voluntarily in the process and the resulting assessment served for developmental purposes, as suggested by Conger & Toegel (2003). The organizations committed to provide feedback and facilitate communication to trigger the developmental processes of the participants. Participants were told explicitly that

the questionnaire findings were for personal use only and would not impact organizational policies such as pay, performance evaluation or career planning. Participants could change the default profile discussion partner if a reasonable case could be made (e.g., they had worked together for a very short period of time) and could invite other people from the organization to the discussion. The objective of this session was to gain a 'consensus profile' of the items included in the instrument. They were required to reach an agreement on the 72 items. The resulting profile was used as the basis for our study. The study deals with the psychometric qualities of the consensus ratings of competencies. This distinguishes it from previous studies, including the ECI-2, for which the validation studies used informant assessments only, discarding self-assessment.

### **Data analysis**

We followed a three-step procedure in the analysis of the data. (1) We ran a preliminary analysis before testing our hypotheses with two purposes: (1a) to assess quality of the items on the competency questionnaire; and (1b) to test the measurement equivalence of the competence structure across groups (Group 1 with 118 participants and Group 2 with 105 participants) with multi-group confirmatory factor analysis (CFA) models – using Maximum Likelihood as the estimation procedure available in the SEM program LISREL 8.51 software. Then, (2) we estimated the reliabilities and correlations of the competencies corrected for measurement errors; and (3) we tested the hypotheses.

### **Results of the Preliminary Analyses**

***Item Quality.*** We adjusted the first order models (competencies) and modified them by deleting invalid items (Coenders, Batista-Foguet and Saris, 2005). The strategy followed was to run a CFA without restricting the relationships between the items and the factors (competencies), except for identification restrictions. The quality of the items was analyzed as follows: (1) items with loadings lower than .40 on the corresponding competency were deleted due to poor quality; and (2) items with loadings higher than .40 on another competency that was not theoretically appropriate were deleted because of theoretical invalidity. Results suggested that 52 out of 72 items met the quality requirements. Unweighted summated scales (competencies) were calculated for 17 out of the 18 competencies of the model by Boyatzis and Goleman. (The competency that was not considered in any further analysis due to poor quality was ‘accurate self-assessment’).

***Multigroup Analysis.*** As it was considered crucial to assess the degree to which the items and measured constructs had the same meaning for respondents in different organizational contexts (e.g. Batista-Foguet et al., in press; Little, 1997; Cheung and Rensvold, 1999), we tested the equivalence between participants in Group 1 (organizations 1 and 2) and Group 2 (organization 3). The measurement equivalence of the competency structure across the groups in our sample was tested with multi-group CFA models – the maximum likelihood being the estimation criteria used from the interactive LISREL 8.7 software. (For further details on the procedure and the diagnostic indexes of SEM, see Batista-Foguet, Boyatzis, Guillen & Serlavos, 2007 and Guillen, Saris & Boyatzis, in press). Results using SEM confirmed the comparability among the groups as participants attributed the same semantic

properties to the items. It thus seemed reasonable to merge the data of the organizations and henceforth the sample size for subsequent analyses was the total number of participants (n=223). Means and standard deviations of the ECI-2 scales with the appropriate items are provided in Table 3

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**Table 3. Means and Standard Deviations of the competencies (n=223)**

<i>Descriptive Statistics</i> n=223			
Competencies	Items	Mean	SD
Self-Confidence	4	15.43	1.90
Emotional Self-Awareness	4	16.04	1.72
Emotional Self-Control	3	11.37	1.68
Adaptability	4	15.78	1.60
Initiative	3	11.40	1.63
Optimism	3	11.98	1.46
Achievement Orientation	3	7.44	1.09
Transparency	4	16.67	1.71
Organizational Awareness	3	11.15	1.64
Empathy	3	12,00	1.26
Service Orientation	2	8.24	1,00
Change Catalyst	2	7.07	1.30
Developing others	2	6.73	1.39
Conflict Management	3	8.90	1.82
Influence	3	10.61	1.66
Inspirational Leadership	4	14.35	2.16
Teamwork and collaboration	3	12.40	1.30

## Reliabilities and correlations of competencies corrected for measurement errors.

The unweighted summated scales (competencies) with appropriate items calculated and their correlation and reliability corrected for measurement error are shown in Table 4. The reliability of the competencies was calculated using the  $\Omega$  coefficient as suggested by Coenders et al. (2005):

$$\Omega_j = 1 - (ErrorVar_j / Var_j)$$

$$ErrorVar_j = \sum_{k=1}^K var_{kj} \times error_{kj}$$

The error variance of a competency  $j$  ( $ErrorVar_j$ ) was calculated by the summation of the multiplication of the  $k$  items' variances that form that competency ( $var_{kj}$ ) by the items' standardized error variances ( $error_{kj}$ ). The reliability ( $\Omega_j$ ) of a competency  $j$  was computed by subtracting the division of the error variance ( $ErrorVar_j$ ) from the variance of the competency scale ( $Var_j$ ) to 1. The reliability values ranged from .61 ('conflict management') to .83 ('organizational awareness'). Only 'conflict management' showed a value lower than .65, but we retained it for further analyses in order to ensure comparability with other studies and to seek a competency structure covering all theoretical competencies. The other competencies showed acceptable reliability values.

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**Table 4. Reliability and correlations between competencies corrected for measurement error (n=223)**

n=223	Composite Reliability	Self-Confidence	Emotional Self-Awareness	Emotional Self-Control	Adaptability	Achievement Orientation	Initiative	Optimism	Transparency	Org. Awareness	Empathy	Service Orientation	Change Catalyst	Developing Others	Inspirational Leadership	Teamwork & Collaboratoin	Conflict Management	Influence	
Self-Confidence	0,76	1,00																	
Emotional Self-Awarenes	0,75	0,43	1,00																
Emotional Self-Control	0,72	0,30	0,19	1,00															
Adaptability	0,78	0,77	0,50	0,51	1,00														
Achievement Orientation	0,69	0,82	0,40	0,42	0,80	1,00													
Initiative	0,69	0,84	0,40	0,29	0,81	0,98	1,00												
Optimism	0,78	0,73	0,37	0,41	0,64	0,72	0,82	1,00											
Transparency	0,76	0,49	0,62	0,39	0,58	0,51	0,43	0,27	1,00										
Organizational Awareness	0,83	0,37	0,33	0,30	0,44	0,29	0,26	0,23	0,31	1,00									
Empathy	0,65	0,47	0,74	0,62	0,73	0,60	0,52	0,48	0,74	0,41	1,00								
Service Orientation	0,69	0,70	0,53	0,25	0,83	0,75	0,79	0,53	0,69	0,57	0,72	1,00							
Change Catalyst	0,71	0,66	0,34	0,00	0,48	0,81	0,83	0,54	0,17	0,13	0,28	0,50	1,00						
Developing Others	0,69	0,65	0,29	0,12	0,46	0,59	0,51	0,30	0,39	0,40	0,33	0,62	0,51	1,00					
Inspirational Leadership	0,74	0,90	0,42	0,26	0,82	0,97	0,93	0,78	0,52	0,47	0,59	0,78	0,70	0,80	1,00				
Teamwork and Collaboration	0,66	0,61	0,54	0,49	0,69	0,78	0,75	0,62	0,61	0,28	0,75	0,70	0,51	0,38	0,71	1,00			
Conflict Management	0,61	0,52	0,24	0,11	0,32	0,50	0,48	0,16	0,26	0,13	0,21	0,34	0,76	0,44	0,49	0,40	1,00		
Influence	0,69	0,83	0,41	0,32	0,74	0,80	0,84	0,66	0,49	0,32	0,67	0,76	0,61	0,66	0,96	0,67	0,55	1,00	

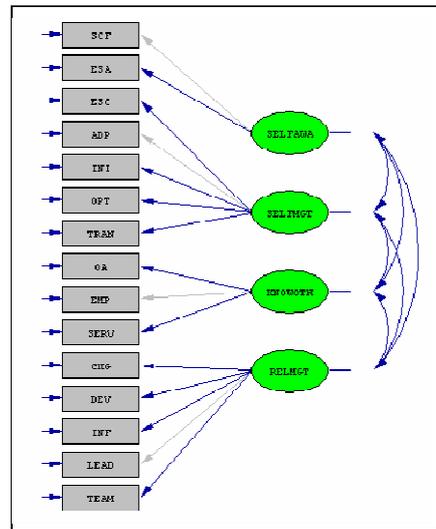
Using the obtained estimates of the competencies' qualities, the disattenuated correlations (without measurement errors) were estimated. The corrected correlations for measurement error among competencies ranged from .00 ('change catalyst' and 'emotional self-control') to .98 (between 'achievement orientation' and 'initiative'). The correlation matrix did not show a clear pattern, which may suggest that competencies are linked empirically in a different way from the theoretical proposal.

### **Results of the hypotheses testing.**

We followed a two-step strategy to assess our research hypotheses. First, we tested the whole EI structure. Then, we considered the two theoretical EI clusters of managerial competencies ('self-management' and 'relations management') and assessed whether the competencies included in both clusters best fit the EI structure or the motive-based one, and tested the full model with a three factor structure formed by the social motives of affiliation, achievement and power.

*Competencies and the EI factor structure.* The four clusters, 'self-awareness', 'self-management', 'others knowledge' and 'relations management' were assessed through SEM, but the data did not fit the theoretical models. The theoretical conceptual framework is presented in Figure 1. The values of the 'fit' were as follows: 368.75 (Chi-Square), 84 (df), .00 (p-value), .124 (RMSEA) and .18 (SRMR). The expected change parameters (ECP) suggested numerous modifications; hence new structural possibilities were desirable. These results supported our first proposition suggesting that a different factor structure would be better than the model formed by the four theoretical EI clusters to group the competencies.

**Figure 1. Output of the conceptual model tested through SEM using LISREL.**



*Comparison of EI and motives structures.* The test was limited to ‘managerial’ competencies, that, as mentioned, were clustered according to the two theoretical approaches (EI or motives). First, we considered the theoretical EI cluster ‘self-management’ (see Table 2). Within the EI framework the competencies should form one factor. Conversely, in accordance with the motives structure the competencies are grouped within two factors: ‘adaptability’ and ‘transparency’ form the affiliative motive factor and ‘initiative’, ‘optimism’ and ‘achievement orientation’ form the achievement motive factor. We tested through SEM a model with the two factors (affiliative and achievement motives). We restricted the correlation between the factors to be equal to 1, as predicted by the EI framework that considers that the five competencies form one unique factor (‘self-management’). If the motives structure had a better fit than the EI one, we would expect the correlation between the two factors to be other than 1. Methodology scholars report that most fit indices used in structural equation modeling actually have different sensitivity to misspecifications of

models (e.g. Saris, Satorra and Sörbom, 1987). In order to test whether such misspecification is present in the model, we used the approach based on Saris, Satorra and Van der Veld (2008) using the Jrule program. The values of the Chi-Square were (5)=157; P-value= .000. The Jrule program suggested that the assumption that the correlation was equal to 1 was wrong. We estimated the model again, freeing the relation between the two factors. The values of the Chi-Square were (4)=83; P-value= .00. This lack of fit was due to the high power of many tests on restriction which was close to .99. The largest misspecification was a correlated error of .07, which would not change the estimates in the model at all.<sup>2</sup> The correlation between the factors was .63, which was indeed far from 1. This result supported the proposition that a structure of two factors (affiliative and achievement motives) is better than a structure of one factor, as suggested by the EI theory.

The second theoretical EI cluster of managerial competencies was named 'relations management' (see table 2). In this case, we could not follow the above method because the competencies within the 'relations management' cluster corresponded to all three motivational factors (achievement, affiliation and power). An additional difficulty was that only one competency ('change catalyst') corresponded to the achievement factor and another ('teamwork and collaboration') to the affiliation factor. To make these two factors stronger in the analyses, we added three competencies per factor: 'transparency', 'adaptability' and "service orientation" were included for the affiliative factor and "optimism", 'initiative' and 'achievement orientation' for the achievement one. The model tested was the motive model specified in Table 2, except that we allowed 'change catalyst' and 'teamwork and

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<sup>2</sup> Two error variances were negative. Restricting these error variances to .000 changed the correlation between the factors to .81 which is still rather far from 1. Also in that case no misspecification was indicated by Jrule.

collaboration' to load also on the general factor (called 'power' in the motive-based model and 'relations management' in the EI approach). The loading of these two competencies on the general factor is in accordance with the EI specification of the 'relations management' factor. If the motive-based approach is correct, the model should fit the data but the loadings on the general factor mentioned above are expected to be non-significant if the motive-based model is correct, and significantly different from zero if the EI model is correct. On the basis of this approach we were able to test whether the motive-based structure fit better with the data for the management items than the EI model.

This model did not fit the data.<sup>3</sup> Jrule suggested that a correlated error had to be introduced between the items "change catalyst" and "conflict management" which turned out to be highly significant (.44 with a t-value 6.0). After these corrections, the chi2 value was 65.5 with df=48, and Jrule suggested only minor errors which did not have any effect on the estimates of the other parameters. The results obtained supported the motive structure as the loading of 'teamwork and collaboration' on the affiliative factor was .68 (t-value of 3.0) and on the factor formed by 'influence', 'inspirational leadership', 'developing others' and 'conflict management' was .17 with a t-value of .74. At the same time, the loading of 'change catalyst' on the achievement factor was 0.78 with t-value of 2.81, and on the second factor was -.04 with a t-value of .16. This analysis clearly indicates that these two items do not belong to the second factor as the EI model suggests, but respectively to factor 1 and factor 3,

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<sup>3</sup> Because some items after correction for measurement error correlated very highly the correlation matrix turned out to be no positive definite. Therefore the matrix has been analysis with the ULS estimator of LISREL.

as the motive model suggests.<sup>4</sup> This result supported our contention statement that a model of three factors (affiliative, achievement and power motives) may be a better model on which to structure managerial competencies than its EI counterpart.

## **Discussion**

The four theoretical EI clusters were not empirically corroborated using SEM. Thus a new structure positing competencies within a motivational domain was tested. McClelland's conceptualization offers a set of clearly defined needs as they relate to workplace behaviors (Steers, Mowday & Shapiro, 2004). Thus, the empirical framework of this paper placed competencies within a motive domain.

We found evidence to support our three research propositions. First, the fit of the data to the theoretical EI model suggested that a different structure may be better for grouping 'managerial competencies'. Additionally, we followed a procedure to test whether the social motives structure was a better fit with data than the EI one – as proved to be the case. We tested the full model of 'managerial' competencies and found the three factor structure formed by the power, achievement and affiliation motives was adequate for grouping competencies. While we assessed the structure of managerial competencies using SEM, additional research will be necessary to determine how motives and competencies relate in practice and how they interact to determine performance. Sample size was a limitation and therefore generalization is not recommended. Results were more descriptive and suggestive than inferential and conclusive.

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<sup>4</sup> Some error variances turned out to be non-significant but negative. They were restricted to .0001 which did not harm the estimated values of the other parameters in the model

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