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THE MEDIATING ROLE OF ABSORPTIVE CAPACITY ON THE RELATIONSHIP BETWEEN CLIMATE AND COMMITMENT

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Abstract

Much of prior research on organizational learning studied the role of firm's absorptive capacity. While there is an implicit research consensus on the definitions and outcomes of absorptive capacity, researchers do not seem to have reached a collective understanding of the process by which organizations become able to absorb external knowledge and then produce valuable outcomes. With this purpose we identify a well reviewed valuable outcome by the literature, i.e. the relation between climate and commitment, and we attempt to investigate the mediating role of absorptive capacity on the relation between organizational climate and commitment. The research model we propose was tested on a sample of 143 individuals belonging to some Italian organizations. Our findings show that absorptive capacity can act as leverage for achieving a higher level of employees' commitment to the organization.

Keywords: *Absorptive Capacity, Organizational Climate, Organizational Commitment*

1 INTRODUCTION

Facing a decade characterized by unprecedented turbulence in the business environment, industries are undergoing substantial changes either internally or externally (Williams, 1992). In order to success in such a turbulent environment companies have to recognize the knowledge dimension as a dominant source of competitive advantage; in fact, the firm's ability to learn faster than their competitors is perceived as the only key to a sustainable competitive advantage (Jansen et al., 2005). Absorptive capacity has been described by several authors as one of a firm's pivotal learning capabilities necessary to support the knowledge dimension (Autio et al., 2000). Absorptive capacity represents a dynamic set of organizational routines and processes, by which firms acquire, assimilate, transform, and exploit knowledge (Cohen and Levinthal, 1989; Zahra and George, 2002). The literature has frequently analyzed the role of absorptive capacity as a performance and competitive advantage driver (Liebeskind, 1996), as a facilitator of effectiveness (Zahra & George, 2002), as a factor promoting costs reduction (Zahra & George, 2002), as leading to first mover advantages (Ferrier et al., 1999) and higher responsiveness to customers (Matusik & Hill, 1998). However, while there is an implicit consensus on the outcomes and definitions of absorptive capacity, Zahra and George (2002) point out that the organizational literature does not seem to have reached a collective understanding of the process by which organizations become able to absorb external knowledge and then produce valuable outcomes.

A well-reviewed process by which firms become able to produce valuable outcomes, is the process that links a positive climate (based on perceptions of support, autonomy and low stress) to a higher level of employees organizational commitment, and results in lower employees' intentions to leave the organization (Currivan, 1999).

The existing literature never attempted to investigate the role of absorptive capacity as a mediator of the relation between climate and commitment. Nevertheless we follow recent scholars' suggestions advocating a further development of the climate construct in connection with absorptive capacity, proposing that absorptive capacity might influence the process that links climate to commitment and leads firms to reach positive outcomes.

Specifically, a further analysis of two climate-related dimensions as pivotal drivers of absorptive capacity has been advocated (i.e. the individual cognition and the shared mental models (Lane et al., 2006)), and we propose that such a cognitive dimension as organizational climate might be a key driver to increase a firm's absorptive capacity. On the other hand the commitment construct has never been associated by scholars with absorptive capacity; however it has been shown that climate, in its specific dimensions of innovativeness, fairness and affiliation positively influence the employees' level of commitment (Buchanan, 1974; Niehoff and Moorman, 1993).

Thus we suppose that the specific process by which firms with an innovativeness, fairness and affiliation-based climate supports increasing levels of employees' commitment is mediated by the effect of absorptive capacity.

2 THEORETICAL FRAMEWORK AND HYPOTHESES

2.1 Climate

The most widely accepted definitions of organizational climate describe it as "the shared perceptions of employees concerning the practices, procedures, and kinds of behaviors that get rewarded and supported in a particular setting" (Schneider, 1990), or as a "psychologically meaningful molar [environmental] descriptions that people can agree characterize a system practices and procedures" (Schneider, 1975).

While there seems to be a strong consensus on the concept of organizational climate, there is definitely less conformity on the identification of a dimensionality to describe this construct. Several authors have attempted to categorize the research on climate according to different standpoints. Koys and De Cotiis (1991) report the existence of 54 dimensions identified by the existing literature to investigate climate. This paper develops the climate construct according to three dimensions: innovativeness, fairness and affiliation. Innovativeness is defined as the "perception of the extent to which innovation, change and creativity are actively encouraged and rewarded within the firm, including risk-taking in new areas where one has little or no prior experience" (Klein & Sorra, 1996).

A fairness-based climate is defined as the "perception that organizational practices are equitable and neither arbitrary nor capricious" (Brock et al., 2005). Affiliation is conceptualized by Brock et al. (2005) as the "perception of a sense of *togetherness* among organization members, which reflects the caring and pro-social behavior critical to induce organization members to help each other".

We choose to use these three concepts for the following reasons.

Firstly, according to the recent literature the three mentioned climate dimensions are proved to be antecedents of the organizational commitment construct (e.g. McFarlin & Sweeney, 1992; Magner & Welker 1994; Ussahawanitchakit, 2008). In particular, recently King et al. (2007) demonstrated that managers developing innovative climates may produce innovative working methods that allow employees to better manage their work-loads and reduce working overloads, thus positively affecting commitment (Currivan, 2000).

Several studies have documented a positive association between fairness and organizational commitment (Lind & Tyler 1988; McFarlin & Sweeney, 1992; Kim & Mauborgne 1993; Magner & Welker, 1994; Meyer, Stanley, Herscovitch & Topolnytsky, 2002; Lau & Lim 2002). In particular, Lind and Tyler proved fairness as leading to positive organizational outcomes (among which, commitment), not because such procedures generate fair outcomes, but insofar as individuals give importance to a fair treatment *per se*. As they explained, fairness is important for employees as it is perceived as "a visible marker of group membership" and offers the individual a "dignity as a full-status member of the group" (Lind & Tyler 1988: 237).

As we are going to understand in the next section, although affiliation has never been demonstrated to directly influence commitment, several concepts closely related to affiliation have been shown to affect commitment (among which, perceived organizational support).

The second reason why we analyze the climate construct according to three dimensions is that Bock & Kim (2002) and later Bock et al. (2005) develop a theoretical framework to investigate factors supporting or inhibiting individuals' knowledge-sharing intentions. In particular, Bock et al. (2005) use affiliation, innovativeness and fairness as indicators to structure the latent variable "organizational climate", and proved it to be a significant antecedent of the subjective norm to share knowledge.

2.2 Commitment

A great deal of attention has been given to the theme of organizational commitment, mainly as a result of its ability to produce valuable outcomes for organizations, or to destroy value in case of a failure to prevent the best resources from leaving the organization.

Meyer and Allen (1990) conceptualize commitment as "a psychological state that binds the individual to the organization (i.e. making turnover less likely)". According to this perspective, Meyer and Herscovitch (2001) propose a general definition of the construct. They argue that the point of agreement of every definition is that "commitment is a stabilizing or obliging force, and it gives direction to behavior".

Actually the lack of consensus on the definition of commitment has contributed greatly to its treatment as a multi-dimensional concept. Three main approaches have appeared in the literature regarding organizational commitment: affective attachment, perceived costs, and obligation (Marsh & Mannari, 1977; Mowday and Steers, 1979; Farrell & Rusbult, 1981).

In this paper we refer to commitment in terms of "affective commitment", as conceptualized by Mohamed et al. (2006), that is as the "emotional attachment to the organization based on feelings of loyalty towards the employer". That is for several reasons. First, most of the prior studies involving organizational commitment have adopted the concept of affective commitment (e.g. Magner & Welker, 1994; Nourish & Parker, 1998). Second, according to Mohamed et al. (2006), affective commitment has been frequently recognized as the strongest and most consistent predictor of organization-relevant outcomes (e.g. employee retention, attendance, performance, and organizational citizenship behavior), and employee-relevant outcomes (e.g. health, stress and work-family conflict) (Meyer & Smith, 2000; Rhoades et al., 2001).

Third, the literature investigating antecedents of commitment shows that dimensions characterizing organizational climate (i.e. innovativeness, affiliation and fairness) have frequently been connected with the specific affective dimension of commitment. Specifically, the innovativeness construct, conceptualized as challenging and interesting job characteristics, is proven to be positively related to affective commitment (Buchanan, 1974).

The fairness construct, identified by Niehoff and Moorman (1993) as the concept of "perceived justice", is proven to be strongly correlated with affective commitment. In particular, Niehoff & Moorman argue that perceived fairness generates perceptions that the organization values or respects employees, which may in turn increase their willingness to contribute to the organization itself. Then, Kim and Mauborgne (1993) point out that fairness leads to "beyond the call of duty" behaviors and to increasing performance: a fair process enhances trust and commitment, generates voluntary cooperation and increasing performances, thus leading employees to go beyond the call of duty by sharing their knowledge and applying their creativity.

Affiliation has never been directly linked to commitment. However, the concept of affiliation might be related to the construct of Perceived Organizational Support (POS), identified by the organizational literature as driver of commitment. According to Eisenberger et al. (1990), perceived organizational support is a concept closely linked to affiliation, and describes a general perception regarding the degree to which an organization values its employees' contributions and cares about their well-being.

Later, Eisenberger et al. (1990) prove POS to meet the worker socio-emotional needs including approval, affiliation and self-esteem. Specifically, employees experiencing high POS tend to express stronger affiliation and loyalty to their organization, “interpreting the organization gains and losses as their own” (Loy et al., 2006). Since the positive relation between POS and organizational commitment has been confirmed by several studies (Masterson et al., 2000; Rhoades et al., 2001), we propose that even affiliation might be an antecedent of organizational commitment.

Formally:

Hypothesis 1 Innovativeness is positively related with affective organizational commitment

Hypothesis 2 Fairness is positively related with affective organizational commitment

Hypothesis 3 Affiliation is positively related with affective organizational commitment

Figure 1 depicts the relation between climate and commitment.

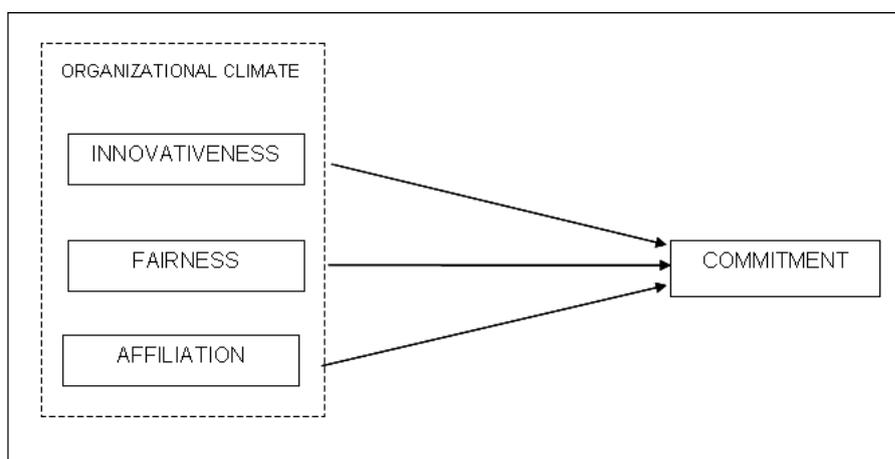


Figure 47 - Research model: the direct effect

2.3 Absorptive capacity

Cohen and Levinthal (1989, 1990) are the first to introduce the term absorptive capacity, and they define it as the mix of firm’s capabilities “to recognize the value of new knowledge, to assimilate it and to apply it to commercial ends”. According to them, through R&D activities organizations learn something more about certain areas of science and technology, and shed light on the link between each area and the organization’s markets and products, thus becoming able to identify and value external knowledge (Cohen and Levinthal, 1989; 1990). Over time organizations outline their ability to assimilate external knowledge by patterning specific knowledge sharing and internal communication tools able to spread knowledge internally. Moreover, firms get confident and skilled at using that knowledge to forecast technological trends create products and markets and maneuver strategically.

Zahra and George (2002) propose a reconceptualization of the whole concept. Specifically, they redefine absorptive capacity as a set of “complementary organizational routines and processes, by which firms acquire, assimilate, transform and exploit knowledge to produce a dynamic organizational capability”.

While the three organizational climate dimensions have been frequently proven to be antecedents of organizational commitment (e.g. McFarlin & Sweeney, 1992; Magner & Welker 1994; Ussahawanitchakit, 2008), not only absorptive capacity has never been studied as a mediator of the relationship between climate and commitment, but it was even never analyzed as a construct closely linked with organizational climate. However the climate construct has often been investigated as an

antecedent of the knowledge transfer process and absorptive capacity has frequently been considered to be one of the most significant determinants of knowledge transfer itself (e.g., Szulanski, 1996; Lane & Lubatkin 1998; Gupta & Govindarajan 2000; Yeoh, 2009). Specifically, four characteristics have been confirmed to influence the process of knowledge transfer: a climate in which individuals are highly trusting of others and of the organization (Hinds & Pfeffer 2003), an open climate with free-flowing information (Leonard & Sensiper 1998; Jarvenpaa & Staples 2000; Hinds & Pfeffer 2003), a climate that is tolerant of well-reasoned failure (Leonard & Sensiper 1998), and a climate infused with pro-social norms (Constant et al., 1996; Hinds & Pfeffer 2003). These four characteristics have been summed up by Bock et al. (2005) as fairness (a trusting climate), innovativeness (a climate that is tolerant of failure and within which information freely flows), and affiliation (a climate characterized by pro-social norms).

Moreover, a review of absorptive capacity's concept and antecedents shows some suggestions for a further development of the construct. Specifically, Lane et al. (2006) suggests that future research develops individual cognition and existing shared mental models as pivotal drivers of absorptive capacity, since they can "provide insights into what new knowledge is recognized, how it is transformed and combined, and how it is applied". According to the above-mentioned definition of climate as "shared mental models" by Schneider (1990), we propose that such a cognitive dimension as organizational climate may be a key driver for firms to increase their absorptive capacity.

Another suggestion has been given by Jansen et al. (2005): they identify three internal drivers of absorptive capacity, namely the coordination capabilities (cross-functional interfaces, participation in decision making and job rotation), system capabilities (formalization and routinization) and socialization capabilities (connectedness and socialization tactics). Specifically, socialization tactics are used by organizations to structure shared socialization experiences (Ashforth & Saks, 1996), by "affecting the establishment of interpersonal relations and leading to congruence of values, needs, and beliefs among individuals within units" (Jansen et al., 2005). Since the concept of climate is closely linked to the creation of shared perceptions and beliefs among organizational members, we suppose that climate may act as a driver of absorptive capacity (Figure 2).

Formally,

Hypothesis 4 The relation between innovativeness and affective organizational commitment is mediated by absorptive capacity

Hypothesis 5 The relation between fairness and affective organizational commitment is mediated by absorptive capacity

Hypothesis 6 The relation between affiliation and affective organizational commitment is mediated by absorptive capacity

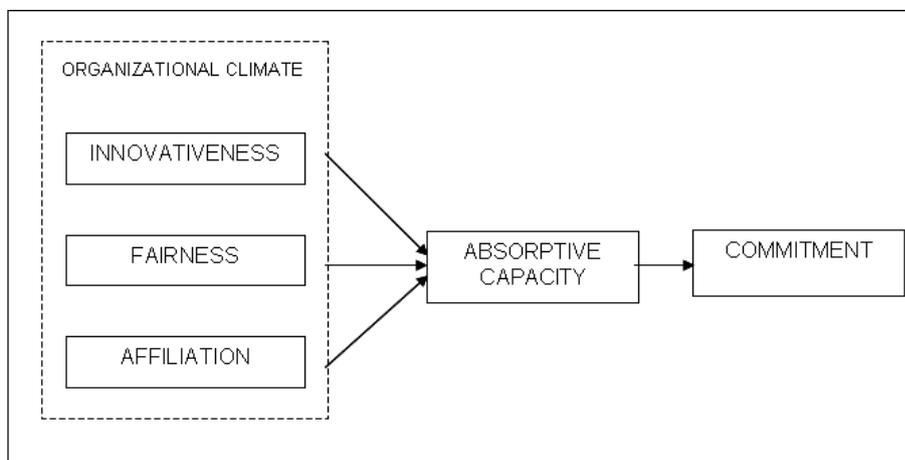


Figure 48 - Research model: the mediated effect

3 METHODS

We collected 185 questionnaires belonging to individuals working for Italian firms. The questionnaire was given to the respondents in printed format. Participants were asked to seal completed questionnaires in envelopes and place them in drop boxes that only the firm's responsible has access to. In this way confidentiality was completely guaranteed. Together with the fact that the survey was endorsed by a well-known corporate executive of one firm (which is a procedure that have been shown to elicit relatively high response rates, according to Greer, et al. (2000) and Westphal & Stern (2006)), we got back 143 questionnaires, with an overall response rate of 77%. No questionnaires have been excluded from our analysis.

We constructed the questionnaire drawing from items that had been validated in literature; for each variable, validity and reliability were suitably assessed through the use of the appropriate techniques, assessing composite reliability, content validity and discriminant validity. Unless otherwise indicated, all measures were based on five-point Likert scales ranging from "strongly disagree" (1) to "strongly agree" (5).

Data for this study have been collected over one month (December 2008), thus a very short period of time, which is a well-reviewed driver of individual commitment to surveys, since the operators view this short-term task as a personal challenge and are motivated to improve their performance (Nicholls et al., 2004).

3.1 Measurement Model

To validate our measurement model, one of reliability and two types of validity were assessed: composite reliability, content validity, and discriminant validity. Each variable has a high level of content validity, since we developed measuring instruments drawing exclusively on the existing literature and on validated items. Composite reliability is assessed through Cronbach's alpha, and discriminant validity through the factor analysis method developed according to the varimax rotation technique (Cattell, 1978).

Innovativeness. We used a three items scale to measure innovativeness, according to Bock et al. (2005), who adapted precedent scales (Koys & Decotiis, 1991; Kim & Lee, 1995). The Cronbach's coefficient alpha (Table 3.1) for the scale was .709, indicating acceptable interitem reliability. The factor analysis on the three items of this variable supported the unidimensional nature of the innovativeness instrument.

Fairness. A 3-item scale developed by Bock et al. (2005) was used to measure the fairness of organizational climate. Fairness was operationalized at the individual level of analysis, according to several recent researches (Bock et al., 2005; Brammer et al., 2007). The interitem reliability of the scale was high (.833) (Table 3.1); and the factor analysis on the three items supported the unidimensional nature of the fairness instrument.

Affiliation. To assess affiliation we used a four-item scale by Bock et al. (2005). Affiliation was operationalized at the individual level of analysis, according to Bock et al. The Cronbach's coefficient alpha for the scale was .856, signifying acceptable interitem reliability (Table 3.1). The factor analysis on the four items of this variable supported the unidimensional nature of the affiliation instrument.

Absorptive Capacity. We used a 10-item scale developed by Pavlou and El Sawy (2006) to assess absorptive capacity. The interitem reliability of the scale was high (.959) (Table 3.1); and factor analysis on the 10 items supported the unidimensional nature of the absorptive capacity instrument.

Affective Commitment. Affective commitment was measured through a 7-item scale developed by Allen and Meyer (1990). Reliability of this scale was high (.922) (Table 3.1); factor analysis on the 7 items proved the unidimensional nature of the affective commitment instrument.

Control variables. In our analysis, we controlled for business unit (BU) size and several demographic characteristics of the respondents, including gender, organizational tenure and average wage (George & Zhou, 2007; Vandenberghe et al., 2008).

Organizational size was assessed by an item measuring the total number of employees in the organization (less than 5 people, 5-10 people, 10-20 people, more than 20 people); gender was measured by a dummy variable, coded 1 if the respondent is a male and coded 2 if the respondent is a female; tenure was assessed by an item measuring respondents seniority (less than 1 year, less than 5 years, more than 5 years), and finally wage was assessed by an item measuring the net average annual salary (less than €10.000; €10.000-20.000; €20.000-30.000; more than €30.000).

Variables	# Item	Mean	α	1	2	3	4	5	6	7	8
1. Affiliation	4	3,96	,856								
2. Innovativeness	3	3,58	,709	,366**							
3. Fairness	3	4,14	,833	,521**	,358**						
4. ACAP	10	3,82	,959	,439**	,472**	,505**					
5. Commitment	7	3,80	,913	,545**	,306**	,440**	,398**				
6. Org. Tenure ²	1	3 ¹	-	-,160	-,143	-,134	-,375**	,140			
7. BU size ²	1	4 ¹	-	-,210*	-,083	-,252**	-,308**	-,202*	,246**		
8. Wage ²	1	2 ¹	-	-,014	-,073	-,115	-,234**	,246**	,569**	,371**	
9. Sex ²	1	2 ¹	-	,115	,235**	,200**	,296**	,011	-,220**	-,160	-,264**

Table 18 - Means, Cronbach's Alphas and Correlations N= 143; For each qualitative variable, mode was calculated. ⁺ $p < .10$ * $p < .05$ ** $p < .01$

3.2 Structural Model

The model was analyzed through the multiple linear regression technique (Cohen & Cohen, 1983; Aiken & West, 1991). The mediating effect of absorptive capacity on the relation between climate and commitment was tested through the step and the bootstrap techniques.

The step technique consists of patterning three different multiple linear regressions that cross the relations among all variables, to identify the indirect effect of X on Y through M. Specifically, the three following regression equations should be estimated: first, regressing the mediator on the independent variable; second, regressing the dependent variable on the independent variable; and third, regressing the dependent variable on both the independent variable and on the mediator. Then the step method calculates the indirect effect of X on Y. In order to assess if the occurring mediating effect is complete or partial we have to evaluate if the size of the direct effect between the independent variable and the dependent variable is reduced after controlling for the mediator variable. When the effect of X on Y tends to zero with the inclusion of M, perfect or complete mediation is said to have occurred (James & Brett, 1984). When the effect of X on Y decreases by a nontrivial amount, but not to zero, partial mediation is said to have occurred (Preacher & Hayes, 2004).

To test the indirect effect in the case of simple mediation, usually the Sobel test is conducted by comparing the strength of the indirect effect of X on Y to the point null hypothesis that it equals zero (Sobel, 1982). Secondly, we tested the null hypothesis through the bootstrapping technique (Preacher and Hayes, 2004).

In the present research we accomplished a test of the indirect effect using the Sobel test and the bootstrapping procedure by executing a macro typed into an SPSS syntax file, as provided by Preacher and Hayes (2007)⁵³.

4 RESULTS

The average age of respondents was 33. The sample included 63 men (43,8%) and 81 women (56,2%). At the time of the survey, most respondents were employees with permanent contracts (46,5%), followed by executives or managers (21,5%) and employees with fixed-term contracts (19,4%). About 45,8% of the respondents works in the service industry, 19,4% is employed in an industrial firm and 11,1% in a commercial firm; 88,2% of the respondents is employed in a privately owned firm, while 8,3% in a public firm. About 42% of the respondents have been working for more than 5 years in their organization, about 40% for less than 1 year (it reflects the low average age of the sample) and 18% for 1-5 years. Majority of the sample (40,3%) is employed in a medium-size firm (5-20 workers), 36,8% in a large firm (more than 20 workers), and the 22,9% in a small firm (less than 5 workers). About 39% of the sample earns between € 10.000 and € 20.000 a year; 27,8% earns between € 20.000 and € 30.000; 18,8% more than € 30.000 and 14,4% of the respondents earns less than € 10.000. The 20% of respondents works in the Information Systems Department, 15% in the HR Department, 11% in the Commercial Office, and about 5% in other departments.

Table 3.1 displays descriptive statistics and correlation coefficients. Pearson's coefficients show that each of the three independent variables of our model (innovativeness, fairness and affiliation) and the presumed moderator (absorptive capacity) were significantly correlated with the dependent variable (commitment). We also noticed that the independent variables were connected one another. This evidence let us suspect a potential problem of multicollinearity among independent variables, even if all correlations among the independent variables did not exceed the threshold of 0.90, which is indication of collinearity (Hair et al., 1995). To verify this suspect we used two multicollinearity measures, calculated for each variable: the Tolerance and the Variance Inflation Factor (VIF). The VIFs range from 1.15 to 1.68 (Table 2), thus well below the cut-off value of 10 recommended by Neter et al. (1985), and the close to 1 tolerance values (ranging from 0,594 to 0,870) proved that the independent variables were not correlated one another. Therefore, there were no multicollinearity problems encountered in this study.

Table 2 includes the results of ordinary least squares regression analysis used to test the first three hypotheses. Our findings supported Hypothesis 1, 2 and 3, and proved that together the independent variables and the control variables explained the 49% of the overall variance of the dependent variable. Specifically we found that innovativeness, fairness and affiliation were positively and significantly related to organizational affective commitment (p -value $<0,01$) after controlling for gender, organizational tenure, salary and firm size.

Consistently with the existing literature, salary (p -value $<0,01$) and organizational tenure (p -value $<0,1$) resulted significantly and positively related to commitment, while firm size was demonstrated to be significantly (p -value $<0,01$) and negatively associated to commitment, and gender was not proved to be significantly connected to the dependent variable.

Next, we examined the combined mediating effects of absorptive capacity on the relation between innovativeness, fairness and affiliation on affective organizational commitment (Hypothesis 4, 5, 6) (Table 3). Following Baron and Kenny's (1986) three-step procedure, we first examined the relations between the independent and dependent variables (total effect). As shown in table 3, our measures of innovativeness, fairness and affiliation were significantly related to affective commitment (p -value $<0,01$). Then we proceeded to evaluate the effect of the independents variables on the mediator, and

⁵³ Preacher & Hayes (2007) suggest patterning a regression model relying on un-standardized paths, even it is common in communication research to index relations using standardized paths (i.e., derived using standardized variables).

we demonstrated a positive and significant relation between innovativeness, fairness, affiliation and organizational absorptive capacity (p-value <0,01). Then we evaluated the effect of the mediator on the dependent variable, and we identified a positive and significant relation between absorptive capacity and commitment (p-value <0,01). Each of the three steps showed significant coefficients, thus the steps technique indicated the presence of a mediating effect of absorptive capacity between climate and commitment. Finally, both direct effect (i.e. the effect of X on Y controlling for the mediator,) and indirect effect (i.e. the difference between the total and the direct effects of X on Y,) were calculated, on the assumption that the total effect of X on Y is equal to the sum of the direct and indirect effects.

Independent Variables	Dependent Variable (Organizational Affective Commitment)	Collinearity Statistics	
		Tolerance	VIF
Tenure	,121 ⁺	,648	1,543
BU size	-,197 ^{**}	,808	1,237
Salary	,306 ^{**}	,594	1,684
Gender	-,059	,870	1,150
Innovativeness	,138 ^{**}	,794	1,260
Fairness	,229 ^{**}	,666	1,502
Affiliation	,375 ^{**}	,663	1,509
R ²	,490		
R ² adjusted	,463		
F	18,263 ^{**}		

Table 19 - Multiple linear regression and collinearity statistics¹

As mentioned in the section of methods, then we tested the indirect effect in the case of simple mediation, conducting a Sobel test (Sobel, 1982). Table 3 shows that the Sobel test rejected the null hypothesis with a high significance (p-value <0,01).

In addition to the Sobel test, we also verified the null hypothesis of the indirect effect through the bootstrap technique. Even the bootstrap technique significantly (p-value <0,01) rejected the null hypothesis since zero is not inside of the confidence intervals fixed at 95% and 99% (with the exception of the indirect effect of affiliation on commitment, which let us reject the null hypothesis only in the case of confidence interval fixed at 95%) (Table 3).

On the basis of the results of the Baron and Kenny (1986) approach, the Sobel (1982) test, and the bootstrap technique, we concluded that Hypotheses 4, 5 and 6 are supported.

Unstandardized coefficients	X → M → Y		
	INN → ACAP → COMM	AFF → ACAP → COMM	FAIR → ACAP → COMM
B (X→Y)	,92 ^{**}	1,14 ^{**}	1,13 ^{**}
β (X→M)	1,75 ^{**}	1,12 ^{**}	1,58 ^{**}
β (M→Y.C)	,27 ^{**}	,16 ^{**}	,19 ^{**}
β (X→Y.M)	,45	,96 ^{**}	,82 ^{**}
Indirect effect	,47 ^{**}	,18 ^{**}	,30 ^{**}
Standard error	,15	,08	,12
CI 95%	(,18 → ,76)	(,03 → ,33)	(,07 → ,54)

Indirect effect	,48**	,18**	,31**
Standard error	,17	,08	,14
CI 95%	(,18 → ,86)	(,04 → ,37)	(,08 → ,63)
CI 99%	(,11 → ,99)	(-,01 → ,45)	(,02 → ,77)

Table 3 - Step and bootstrap technique

5 CONCLUSIONS

Firstly, we showed absorptive capacity to completely mediate the relation between innovativeness and commitment. As a matter of fact, a climate focused on innovation and on the ongoing identification of new opportunities and ideas to perform the activity can increase a firm's ability to identify, acquire, transform and exploit more efficient ways of accomplishing day to day activities or of ameliorating the process or the firm's products (in one word, knowledge). As a result of this process, employees can perceive organizational knowledge and innovation as deriving from their own efforts, thus increasing identification and commitment towards the organization. Indeed, as we discussed above, an innovativeness-based climate does not always and unequivocally produce higher levels of commitment, since in certain cases (possibly interacting with further variables such as the mismatch between innovations and organizational values, according to Klein & Sorra (1996)) it might also generate a compliant use of innovation or a limited knowledge sharing among individuals, potentially harming employees' level of commitment. Consequently we propose that the process by which innovativeness positively influences commitment is mediated by the effect of a specific variable, absorptive capacity. Accordingly, we demonstrate that the introduction of a mediator reduces the direct effect of innovativeness on commitment to zero: that means that absorptive capacity completely absorbs the effect of climate on commitment to apply it to commitment as well, proving innovativeness to be the specific path and process by which innovativeness influences commitment.

Secondly, absorptive capacity partially mediates the relation between fairness and commitment. Perceptions of equity can enhance identification and voluntary behaviors, potentially leading employees to identify and exploit innovative and more efficient ways to perform their activities; thus, they might perceive organizational routines and procedures as deriving from their extra-efforts, generating higher levels of commitment. This process does not eliminate the underlying significant and direct relation between fairness and commitment: according to Lind and Tyler (1988), fairness leads to positive organizational outcomes, not because such procedures generate fair outcomes, but because individuals appreciate a fair treatment per se, which is perceived as "a visible marker of group membership" and provides the individual with "dignity as a full-status member of the group". Therefore fairness remains an important direct driver of commitment.

Finally, absorptive capacity partially mediates the relation between affiliation and commitment. In particular, interactions among individuals, when frequent and characterized by mutual cooperation and trust, facilitate the creation of a sense of shared identity, and increase the degree and quality of interactions among co-workers. Quality interactions may improve the efficiency of knowledge identification, assimilation and exploitation; meanwhile a sense of shared identity can generate individual efforts to identify external knowledge in order to ameliorate and improve organizational activities and success. This process can enhance the individual commitment and identification with the organization, since the worker perceives the assimilated knowledge as deriving from the common effort of the group he/she is engaged in and committed to (Galunic & Rodan, 1998). The mediating effect of absorptive capacity is partial since affiliation maintains its direct influence on commitment: as we have discussed above, affiliation directly generates individual identifications with the firm and a sense of a shared identity with other employees, thus producing high levels of commitment.

Managers can utilize these demonstrations to implement and exploit an innovativeness-, fairness- and affiliation-based climate as a key driver of both a firm's absorptive capacity and of employees' commitment towards the organization. In particular, managers can create an innovativeness-focused

climate by assigning challenging tasks, offering workers opportunities to stretch their abilities, take reasonable risks in solving problems, and discover new ways of working to become more effective. As a result, a firm will enhance its ability to attract and assimilate external knowledge. To achieve this, managers should, for example, invest in diversity management, thus recruiting and retaining personnel with diversity of abilities, attitudes and stand points: as a matter of fact, dissent is a very economical mechanism for enhancing creativity and producing innovation, according to Nemeth (1997).

On the other hand, managers could also implement an internal talent scouting program: the HR department should identify the best talents within the organization, and provide them with specific skill development programs, characterized by the assignment of challenging and stressful tasks or by the opportunity to attend skill improvement courses; periodically, the internal talent scout would verify both the personal improvements and the accomplishment of individual skill improvement objectives.

Moreover, managers could invest in creating an affiliation-based climate by promoting organizational mechanisms that enhance coordination capabilities and socialization, thus affecting the establishment of interpersonal relations and leading to congruence of values, needs, and beliefs among individuals within units (Ashforth & Saks, 1996). As a result, the organization would increase the quality of interactions among its members and the individual efforts to identify external knowledge to ameliorate and improve organizational activities and success (the so called "beyond the call of duty behaviors"): thus, organizational absorptive capacity would be improved. To achieve this, managers should, for example, promote cross-functional interfaces that allow the reciprocal learning of unit-specific language, thus facilitating the comprehension of background knowledge and communication with others, or invest in mentoring, that is, a form of training in which a current and often long term employee (mentor) is paired with a new employee to help him/her to adapt to the job by assisting with advice and/or resources: this will guarantee an effective internal knowledge transfer over time.

Finally managers should create a fair climate as equity perceptions which can enhance identification and voluntary behaviors, potentially leading employees to identify and exploit innovative and more efficient ways of perform their activities, thus improving organizational absorptive capacity. Managers should, for example, invest in: procedural fairness, thus creating a more participative decision making process, for example supporting individuals generation of potentially valuable ideas; in distributive fairness, thus according to Hackman & Oldham (1976), managers should clearly define the rewards system, explain the link between performance and reward, be sure to give rewards consistent with performance and give explanations for rewards; and finally in interactional fairness, by investing significantly in information sharing, always providing justifications for behaviors and treating co-workers with respect and dignity.

Several limitations of this study merit discussion. First, data were collected on the basis of an individual level of analysis, and data derive from individual perceptions and cognitions: therefore several organizational dynamics (such as power relations or cultural issues) might have influenced the cognitive process, potentially influencing negatively the correct perception of the organizational context. However these concerns are reduced by the assured confidentiality, as participants were asked to seal completed questionnaires in envelopes and place them in drop boxes that only the firm responsible had access to, and since the majority of the questionnaires were administered on-line, which is a well-reviewed technique assuring complete confidentiality and anonymity (Upcraft & Wortman, 2000). A further issue is the fact that our findings are based on self-completed survey questionnaires and thus provide cross-sectional data in which causality can only be inferred. Indeed, the cross-sectional nature of the research into a series of dynamic concepts (climate, absorptive capacity, commitment) only provides a picture of a specific moment in time, not its behavior over time. Therefore future research should focus on longitudinal analysis, as this approach allows the analysis of evolving constructs (such as the organizational variables investigated in our research) and allows more reliable conclusions about these activities to be drawn (Morales et al., 2007). Moreover, we emphasize the fact that the results of our research must be analyzed with caution in view of the geographical characteristics of this sample (our analysis focused on Italian companies): further studies should be based on a larger sample,

preferably in more than one country. Finally, we chose to investigate the fairness construct as a unique variable comprehensive of procedural, distributive and interactional dimensions. This is consistent with recent literature (Tsui et al., 1997; Podsakoff et al., 2000; Choi, 2006); however, some scholars advocate a distinctiveness of dimensions, since these are thought to have different personality determinants and demonstrate different interaction effects (Mayer et al., 2007). We suggest that future research is needed to shed light on the treatment of the fairness dimension.

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