


Article

Cohesion Forces Determinants in Cluster Development: A Study Case for Romania

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Abstract: This paper investigates to what extent bilateral relationships between business partners can positively impact multiple business alliances, such as clusters based on community of practice (CoP). Given empirical facts developed in the clustering process of Romanian companies, this paper investigates the way clusters may contribute to the alleviation of the dark side phenomenon and what ingredients, such as trust building, cluster management dedication, social interaction, pre-existing bilateral business relations, and others, may contribute to this role. Based on questionnaires and interviews, we found the significant importance of these ingredients as cohesion determinants in cluster development. The most influent factors of CF were an immediate and short-term business interest (0.62), pre-existing personal relationships (without business interest) with one or more members of the cluster (0.57), pre-existing business relationships with one or more members of the cluster (0.58), and participation in joint funding (0.48). We collected the information using the questionnaire administered online as a measuring instrument whose role was to collect and systematize data. The collected data were processed, and we obtained tables of frequency and correlation, graphs associated with them, and a regression model designed in SmartPLS software (SmartPLS GmbH, Oststeinbek, Germany). The variables that form the main constructs were introduced in SmartPls Software, where we designed a model and evaluated the Composite Reliability, Cronbach's alpha, AVE, R-square, and Bootstrapping of the model.

Keywords: cluster; cohesion forces; trust; personal relationships; community of practice



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1. Introduction

Business relations have always been dominated by competitive forces, but in certain contexts, this confrontation has been replaced with cooperation and cohesion. Even in contractual situations or in other pre-contractual circumstances, the dark side phenomenon has been present. Communities of practice and clusters are concepts with little research constructs related to the dark side phenomenon and dark side alleviation through better interpersonal relations, trust, mediation, and transfer of knowledge. Both communities of practice and clusters have in common a structured and long-term social and business interconnection based on meaning and relationship, and they are economic realities that may be considered models of cooperation in a competitive environment.

Communities of practice (CoP) are, as per the scholar who coined the term, groups of individuals who share certain practices, who jointly negotiate the meaning of activities, and describe values. Through this perspective, structured activities, irrespective of their purpose, can be seen as negotiations of meaning as jointed enterprises [1]. A robust body

of theoretical literature approaching learning as a social activity emerged to describe the importance of such communities. The joint enterprise of a CoP is shaped in relation to internal processes, such as individual experimentation [2], and can be influenced by interactions with external actors [3]. Many scholars consider CoPs as human repeated interactions, where norms shaping individual behavior are collectively constructed, and new narratives can be produced for a significant change [4]. The value of cooperation is increasingly envisaged by technological progress, where CoPs developed models of open-source solutions.

The meaning-creation aspects of CoPs have been described to be efficient in the co-production of knowledge and cooperative behavior for sustainable goals. CoPs may be considered places of business knowledge formation, not only based on relevant information and skills, but also on competent participation in business alliances, such as clusters. There is a body of literature considering successful clusters engaged in smart specialization processes, such as CoPs. Most of the performing companies, clusters, and networks engaged in smart specialization processes are, to a great extent, CoPs. Only this collective approach, common to co-working and interdisciplinary research, enables the capacity to get a dominant position for the business model and for a regional value chain.

Despite the advantages of belonging to a cluster, in the literature, the attention was drawn to the dark side of the social capital observed, especially in regional clusters. Although social capital is characterized by the existence of common values and the norms of behavior of the participants in a closed group, it can be correlated not only with a business group, but also with mafias or other less destructive forms of opportunistic behavior [5]. Another aspect of cooperation within a cluster with transnational participation is that over time, there has been a tendency for members to focus on internal interactions, resulting in the emergence of enclaves in the economic space of the region [6].

There is a significant literature related to the dark side effects of business-to-business relationships. Research on the dark side examines negative outcomes of B2B relationships, the nature and processes associated with relationship conflicts, the significance of psychological contracts within B2B relationships, or cohesion and trust building aspects, but little attention was given so far to clusters' contribution to positive outcomes of B2B relationships since clusters are seen as efficient ecosystems of "competition" where companies find ways to cooperate despite their competitive behavior, exercising trust in a multilateral business alliance for a longer period. There are also peripheral clusters, which face all the problems that arise during the clustering process and concern aspects related to the distrust of potential partners, underdevelopment of applied science, institutional defects, lack of large anchor companies, lack of networks, and lack of professional work force (middle skill managers) [7].

In this respect, one main purpose of this paper is to investigate to what extent cohesion forces have a positive impact on cluster development that will have positive consequences on firms' development. We also analyzed if bilateral relationships between business partners may impact dark side effects in multiple business alliances, such as clusters based on community of practice. The pre-existing bilateral relationships between partners are impacting clusters as disruptive innovation-driven business models. Human resource innovation represents one of the circular economy pillars, and here comes the importance of CoP stimulating creativity, critical thinking, problem solving based on virtual simulations, and learning by doing implementations [8].

In our view, management research would benefit from studies that examine how third parties, such as clusters and cluster managers, play a conciliatory role between the companies, thus weakening the impact of dark activities and their consequences for organizations. Our research will try to explain under which conditions special cluster relations might operate as ex ante facilitating factors.

2. Problem Statement

In business literature, we find some studies that define the term dark side as relationship disorders [9], relational misconduct [10,11], or as harmful intentions [12]. The dark effect of business relationships can be mitigated if companies are able to adapt and learn efficiently. In the opposite sense, there are early conflicts [13] or imprecise contractual agreements [14].

Some authors define the dark side of business-to-business relationships that occurs between organizational partners as a subtle process that undermines trusting and optimistic partnerships and from which both entities benefit. Personal relationships can be a problem because they allow for opportunism, and immediate benefits can be a trade-off between short-term and long-term gains.

The success of business relationships is further influenced by the reduction in the negative impact of the dark side in the relationship compared to investing in the development of positive relationships. Thus, many researchers have focused more on examining the negative elements of business relationships [15,16].

If in a business relationship the partners perceive the dark side of it, then there is distrust between them. Distrust in the business relationship appears as an effect of negative interactions, lack of information, inflexibility, and poor communication that makes it difficult to predict the behavior of partners.

According to Fang, Chang, and Peng [17], the dark side of a business relationship also occurs when there are tensions between partners that can weaken previously strong relationships. Tension in business relationships induces non-cooperative behavior and can cause severe conflict, thus wasting business opportunities. The dark side impact is manifested by reducing or even avoiding the obligations of the partners or by reducing the openness to other partnerships, those involved being less willing to invest in the respective business alliance. According to Abosag et al. [18], the combined effects of the dark side of business relationships “can deteriorate and lead to the termination of previously strong collaborative relationships”.

Kasabov [7] explores the type of network of entities that are part of a cluster, and he measures this by number of ties, type of relations, and variety of exchanges. He found relevant the extent to which cluster members are using personal networks and organizational channels. He also discovered that some cluster organizations did not explore the possibilities of developing relationships that could lead to something.

Baker [19] explores how seemingly positive relationships based on common values, trust, and commitment can have negative effects for the companies involved. Apparently, companies that are satisfied with their business partners cannot be affected by the dark side of the relationship between them, but if they focus only on certain issues, such as financial rewards, business relationships can deteriorate over time.

Opportunism and conflict in a wide range of forms vary from more evident ones, such as cheating, stealing, or lying, to less visible or detectable ones, such as facts misinterpretation or alteration. Thus, opportunism is a multi-faceted dark side manifestation, and therefore intensively studied. In a study of conflict, Huang et al. [20] provide evidence about how conflict prompts ailing relationship quality by weakening commitment satisfaction and trust. In our examination of past research, we found no study that directly examines the extent to which specific unethical practices bring about negative consequences for the clusters. Opportunism through the lens of cluster management is a less studied phenomenon.

Oliveira and Johanson [21] point out that trust can contribute to the dark side of business relationships beyond a certain level and can lead to blind faith and the misallocation of resources. In this sense, there is no longer any suspicion within the network that leads to a certain vulnerability for members of a cluster. The author considers it an effective strategy for an organization as long as there is no opportunistic behavior on the part of the other members.

Another area of research interest is related to unethical practices, which are activities considered morally wrong or improper, such as preferential treatment toward specific

partners or knowingly disseminating faulty conclusions [22], a partner unilaterally deciding to withdraw from the alliance [23], or an organization consistently exploiting its counterpart [24]. A few studies also note the role of specific managers who display cynicism in their interactions with counterparts [25], breach promises [26], and act in ethically questionable ways against organizational guidelines [27].

Prior research has made progress with unethical practices being applied to companies and organizations, but again, not related to conceptual dimensions of clusters. We found very limited research on potential dark side practices by cluster organization or cluster managers.

Personal ties and expectations are shown to play a moderating role in the relationship between dark side manifestations and the consequences of such manifestations [28,29]. Social ties support information processing and contribute to reducing ambiguity, particularly during the turbulent periods of businesses that are characteristic of conflict between partners. Individual organizational citizenship behaviors [26] operate as buffers against the negative impact of a supplier's unethical practices on a buyer's satisfaction. However, we found a rather general scarcity of research on personal ties related to cluster development.

The factors that can play a role in dark side alleviation were also studied, such as specific antecedents, such as informal ex ante moderators. These include trust, common rules [30], network dynamics [31], social ties among partners [32,33], and social contracts [34]. Even if cluster alliances are considered a fundamental strategy to attain competitive advantages, factors that can play a role in dark side alleviation such as trust and pre-existing social ties were not investigated. The failure or unplanned dissolution of a cluster alliance often follows conflict, a behavior that is perceived to be opportunistic, or a dysfunctional governance structure. The typical case of failure, not in the case of clusters, occurs when an alliance ceases activity without fulfilling the objectives that were agreed upon between parties [23]. Conflict and opportunism are also found to damage the relationship in joint ventures.

We may conclude there is a gap of research concerning dark side manifestations in clusters, and especially research related to non-business relations, friendship, trust, and communities of practice. Clusters as formal and informal systems of values have the capacity to generate communities of practice that may alleviate dark side effects. Business alliance research focused on clusters and communities of practice could help to develop theories about the strategies of cluster engagement to alleviate dark side phenomena.

3. Materials and Methods

3.1. Preliminary Phase of the Research

The problem of research lies in understanding the way pre-existing B2B bilateral relationships (pB2Brelation) or other types of non-business relations (NBr friendship) are in favor of strong cluster alliances. The research issue is understanding how pre-existing B2B bilateral business relationships (pB2Brelation) or other types of non-commercial relationships (NBr friendship) are in favor of strong cluster alliances.

The aim of the research is the analysis of the cohesion forces of the cluster structures in Romania and their impact on business. Through this study we have proposed to identify the extent to which these structures allow the elimination of short-term distrust in business and provide a more ethical and open business behavior framework, effectively contributing to the improvement of the entrepreneurial environment.

Starting from the goal, we elaborated the objectives that led to the identification of the information necessary for marketing analysis. By formulating the objectives, it was aimed at the operational level to obtain the necessary information to substantiate the decisions of the management factors of the member clusters in the Wallachia Hub consortium, in the South Muntenian region.

Based on the literature review, we focused on still-unexplored complex interactions between clusters and dark side phenomena, especially in the area of personal relationships, trust development, and their importance in business alliances and communities of practice.

The main research issues envisaged are:

- The identification of the motivation of companies' adherence to cluster structures and the extent to which trust and the pre-existing personal relationships (with or without interest in business) contribute to cluster development.
- The identification of the main effects produced at the company level, as a result of their belonging to cluster structures.
- Identifying the opinion of the cluster members regarding the importance of the positive personal relationships existing between the members of the clusters and regarding the existence of positive and negative elements of the group dynamics, as an engine of these structures.
- Determining the level of importance attributed to the exchange of information and knowledge generated by the activities carried out within the clusters, on companies.
- Identifying the most common types of manifestations existing within the relationships within the clusters.
- Identifying the perception of the cluster members regarding the dynamics within the cluster relations compared to those in the bilateral business relations.
- Identifying critical success factors of profitable and trusting relationships between cluster members.
- Determining the opinion of the cluster members regarding the importance attributed to the settlement of conflicts in business within and outside the cluster partners, and the identification of "dark" aspects of relationships within clusters and the way to solve the "dark" aspects at the cluster level.

The main assumptions of the research are:

A1: Human interactions and personal ties have a positive influence on firm and cluster development.

A2: There is a strong correlation between pre-existing business relations or other types on non-business relations and dark side alleviation.

A3: Developing CoP (communities of trust) within the clusters reduces dark side manifestations.

A4: There is a significant correlation between cluster experiences and adaptation attitudes and dark side alleviation.

A5: Cluster managers play a crucial role in mediating conflicts and harmonizing interests within this business alliance through communities of practice.

Based on these assumptions we state our main hypothesis: cohesion forces have a positive influence on firm and cluster development.

3.2. The Design and Research Phase

The information was collected based on the questionnaire. The researched community is made up of companies operating in the South-Muntenian region of Romania, as members of the clusters of the Wallachia Hub Consortium. The Wallachia Hub Consortium consists of four clusters coordinated by the USH Pro Business Entrepreneurial Center [35]:

1. Danube Engineering Hub, Ploiesti (engineering consultancy, GIS solutions, IT&C, urbanism);
2. Bio Concept Prahova Valley, Ploiesti (organic products);
3. Danube Furniture Cluster, Onești (furniture industry);
4. CERMAND, Targoviste, Renewable Energy Center (green energy).

The consortium is one of the six existing at the national level and covers the South-Muntenia Development Region (has regional coverage) according to the cluster consortia [36].

The observation unit (which is the subject of the investigation) was represented by the firms. The survey unit (from which the information was collected) was also represented by companies through their representatives in clusters. The questionnaire was administered to the members of the cluster structures of the Wallachia Hub Consortium.

The information was collected using the questionnaire administered online, as a measuring instrument whose role is to collect and systematize data. The questionnaire contains 21 predetermined questions, presented to all subjects in the same order and with the same wording. The questions used in the questionnaire were: closed (dichotomous, trichotomic, and with multiple choices), open, and mixed. Following the completion of the questionnaire by the members of the Wallachia Hub Consortium, as respondents, the data were prepared for their analysis and interpretation.

At this stage, the research variables were conceptually and operationally defined, and the scales were chosen to measure the variables, to identify the method of collecting information, to choose the tool of data collection, and to establish the modality of systematization of information. The variables analyzed are presented in Table 1. The variables were grouped in three categories: Cohesion forces (CF), Firm development (FD), and Cluster development (CD), as our aim was to study if and how cohesion forces will have a positive influence on firm development and cluster development.

Table 1. Variables analyzed.

Variable Code	Variable Description
Cohesion Forces (CF)	
1 clusterage	company age in the cluster
3 business	motivation for accession
11 develop	development factors
14 business	relationship development factors
19 market	company age on the market
20 studies	20_manager level of study
21 age	21_manager age
Firm Development (FD)	
6 membership	the effects of cluster membership
9 knowledge	the importance of information
10 trust	the importance of relationships for the company
Cluster Development (CD)	
4 friendship	the importance of pre-existing relationships without interest in business
5 preB2Brelationship	the importance of pre-existing relationships in business
7 importance	the importance of personal relationships
8 dynamics	appreciation of the cluster dynamics

4. Results

The research was carried out on a sample of 50 member companies in one of the clusters of the Wallachia Hub Consortium: Danube Engineering Hub, Ploiesti (consulting engineering, GIS applications, urban planning, IT&C); Bio Concept Prahova Valley, Ploiesti (ecological agriculture); Danube Furniture Cluster (furniture industry); CERMAND, Targoviste, Center for the Black Sea and the Danube (new energy sources).

The collected data were processed, and we obtained tables of frequency and correlation, graphs associated with them. The regression model was designed by SmartPLS software.

The main results are as follows: more than half of the analyzed companies (51%) are founding members of the clusters of the WH Consortium, 24.5% are firms that joined after the formation of the clusters, 10.2% have management positions within the clusters, and 14.3% are cluster managers.

The majority of the residents (56%) joined the cluster, determined by the identification of company development facilities within this structure; 18% indicated the pre-existing friendship links of the cluster accession; 22% indicated the pre-existing business links of the accession to the cluster; and a very small percentage (4%) joined the cluster for other reasons such as, trust in this type of alliance.

Applying the semantic differential, it follows that the pre-existing personal relationships (without interest in business) with one or more members of the cluster enjoy appre-

ciation from the respondents, registering a score of 4.20, so between the step “a lot” and “a lot”. The result indicates the great importance of these pre-existing relationships in the development of clusters.

Applying the semantic differential, it follows that pre-existing personal relationships in business with one or more members of the cluster enjoy appreciation from respondents, registering a score of 4.26, so between the step “much” and “a lot”. The result indicates the great importance of these pre-existing relationships in the development of clusters. Comparing the average score of questions 4 and 5, it follows that both categories of pre-existing relationships are important for the cluster and its development, with the business ones being even more important than those of friendship.

The main effects produced at the company level, as a result of belonging to the cluster results, are:

- a better cooperation with companies in the region (58%);
- increased number of customers at the national level (10%);
- increased number of customers internationally (2%);
- signing of partnerships with companies in the cluster (18%);
- signing of partnerships with companies outside the cluster (2%);
- financial investment from attracted funds (national or international) (2%);
- other 8%.

Applying Likert’s scale, we found that the overall appreciation is positive, the positive personal relationships with one or more members of the cluster being a motor of its own, the score obtained being 1.44. By applying Likert’s scale, we found that the overall appreciation is positive, the cluster developing a group dynamic with positive and negative elements regardless of the pre-existing relationship between its members. The score is 0.78. Comparing the scores of questions 7 and 8, we notice a difference in score resulting from the opinion of those who consider that the contribution of positive personal relationships with one or more members of the cluster make the difference between clusters, if the elements are only positive, compared to the situation in which, in addition to them, negative elements develop.

Applying the semantic differential, it follows that the exchange of information and knowledge generated by the activities carried out within the cluster helps the company, enjoying the overall positive appreciation from the respondents. The recorded score is 3.98, so between the “moderate” step and “a lot”. Hence the result that the CLUSTER EMC’s TMs can intensify the efforts of information, communication, and transfer of knowledge between the members of the clusters is necessary for the companies to develop. Another observation is that the trust relationships generated by the activities carried out within the cluster help the company, enjoying the overall positive appreciation from the respondents. The recorded score is 4.3, so between the step “a lot” and “a lot”.

Regarding the success factors of the development of a cluster, in the respondents’ opinion, the EMC’s ability to provide a stimulating climate for the development of relationships between cluster members is in the first place, followed by:

1. pre-existing personal relationships (no business interest) with one or more members of the cluster (40%);
2. pre-existing business relationships with one or more cluster members (14%);
3. the ability of the Cluster Management Entity to provide a stimulating climate for the development of relationships between the members of the cluster (42%);
4. Other: (4%).

Regarding the identification of the most frequent types of manifestations existing within the relationships within the clusters, the results indicate: first—adaptation as a frequent manifestation (88%), followed by opportunism (4%) and disputes that remove and affect the relationships within the cluster (4%). Regarding the identification of the opinion of the cluster members regarding the frequency of the manifestations existing within the cluster relations compared to those in the bilateral business relations, 34% of

the respondents say that they are less frequent, another 34% consider that they are not uncommon, and 32% do not know whether or not they are less frequent.

Among the critical success factors of profitable and trusting relationships between the members of the clusters indicated by the respondents, in the first place are more frequent, informal meetings between members for socialization (52%), followed by the establishment of thematic and business areas of long-term interest and the creation of a community of practice with some members (8%), and participation in joint promotion and marketing actions in the country and abroad (8%).

It has also been observed that the majority of the cluster members (70%) give more importance to the settlement of conflicts in business and outside the cluster partners as a result of belonging to the cluster and the acquisition of the business culture, 18% of the respondents do not know if they do this, and 12% consider that they do not give more importance to the settlement of the conflicts due to belonging to the cluster and the acquisition of the business side.

Most of the respondents come from the mobile industry, followed by those from the textile industry, GIS, beekeeping, consulting, education and research, universities, and entrepreneurial centers. The vast majority of companies (34%) have been present in the market for less than 5 years, 30% have been in the market for more than 15 years, 16% have been in the market in the time frame of 11 to 15 years. Half of the respondents have postgraduate education, 42% higher education and only 8% secondary education. Most of the respondents are aged between 36 and 45 years, followed by 30% aged between 46 and 50 years, 28% are over 56 years old, and 6% are young people under 25 years and up to 35 years.

Cohesion forces (CF) were considered a construct reflected on the number of years the company has been a member of the cluster, the motivation for integrating in the cluster, company age in the market, manager level of study, manager age, development factors such as: (a) pre-existing personal relationships (without business interest) with one or more members of the cluster; (b) pre-existing business relationships with one or more members of the cluster; and (c) the ability of the Cluster Management Entity to provide a stimulating climate for the development of relations between cluster members and relationship development factors, such as (a) frequent informal meetings between members for socialization; (b) the role of mediator of the cluster manager; (c) participation in joint funding; (d) establishing thematic and business areas of long-term interest and creating a community of practice with some members; (e) an immediate and short-term business interest; and (f) participation in joint promotion and marketing actions in the country and abroad.

Firm development (FD) was considered a construct reflected on the importance of information, the importance of relationships for the company and the effects of cluster membership, such as (a) better cooperation with companies in the region; (b) increasing the number of customers nationwide; (c) increasing the number of customers internationally; (d) concluding partnerships with companies in the cluster; (e) concluding partnerships with companies outside the cluster; and (f) financial investments from attracted funds (national or international).

Firm development (FD) was considered a construct reflected on (a) the importance of pre-existing relationships without interest in business; (b) the importance of pre-existing relationships in business; (c) the importance of personal relationships; and (d) appreciation of the cluster dynamics.

Based on these three constructs we designed the hypothesis H1: cohesion forces have a positive influence on firm and cluster development.

The variables that form the main constructs were introduced in SmartPls Software, where we designed a model and evaluated the Composite Reliability, Cronbach's alpha, AVE, R-square, and Bootstrapping of the model. Figure 1 estimates the composite reliability of the model. The number in the circle shows how well the other variables explain the variance of the latent variable. The numbers on the arrow are called path coefficients. They

explain how powerful the effect of one variable is on another variable. In our model, the cohesion forces have a very high and positive impact on firm development and a relatively small impact for cluster development.

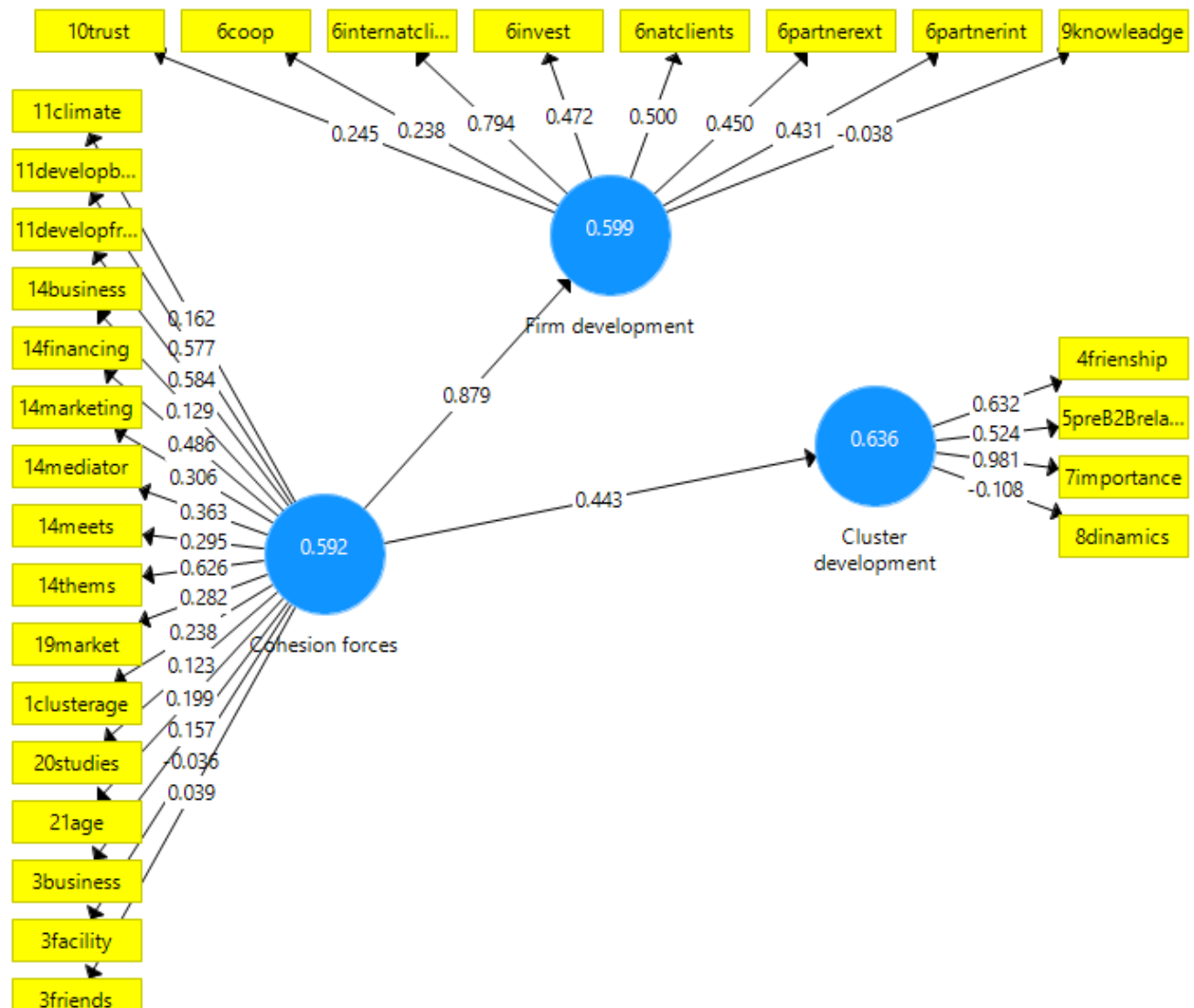


Figure 1. Composite Reliability.

5. Discussion

The composite reliability shows that the items that form the CF variable have a relative influence in our model. The composite reliability values let us assume that the items that characterize the CF, FD, and CD were well-identified. Overall CF has a good value: 0.592—almost 0.6, the acceptable limit. The most influent factors of CF were an immediate and short-term business interest (0.62), pre-existing personal relationships (without business interest) with one or more members of the cluster (0.57), pre-existing business relationships with one or more members of the cluster (0.58), and participation in joint funding (0.48). A negative influence (−0.036) was observed in the case of the identification of company development facilities within this associative structure (access to various sources of financing offered to member companies in clusters, sharing of expenses for participation in events, fairs, exhibitions, etc.)

Overall FD has a high value: 0.599—almost 0.6, the acceptable limit, and is rather influenced by increasing the number of customers internationally (0.79), increasing the number of customers nationwide (0.50), financial investments from attracted funds (0.47),

and concluding partnerships with companies outside the cluster (0.45). Overall CD has a good value: 0.636—greater than 0.6, the acceptable limit, and is rather influenced by the importance of personal relationships (0.98), the importance of pre-existing relationships without interest in business (0.632), and the importance of pre-existing relationships in business (0.524). Cluster dynamics showed a negative influence (−0.108).

The estimation of the PLS (Partial Least Square) route modeling for our variables CF, FD, and CD is shown in Figure 1, by the numbers of the main arrows. CF have a very strong influence on FD (0.879) and a relatively good influence on CD (0.443).

According to the results, it is possible to make the following preliminary observations:

1. Explanation of the variance of the target endogenous variables: the coefficient of determination, R^2 , is 0.879 for the variable FD. This means that the CF variable explains 78% of the FD variance.
2. Explanation of the variance of the target endogenous variables: the coefficient of determination, R^2 , is 0.443 for the variable CD. This means that the CF variable explains 44% of the CD variance.
3. Dimensions and significance of the inner model path coefficient: the inner model is statistically significant because its standardized path coefficient has relatively good values.

The composite reliability analysis shows that indicators and variables were considered relevant. The path coefficient demonstrates a strong dependence. Thus, hypothesis H1 is accepted.

Combining statistical analysis with empirical observations regarding the dynamics of the group of clusters in this survey, we noticed that communication abilities, especially at the cluster managerial level, informal meetings between members, and processes of communities of practice already mentioned in the literature, largely contributed to the alleviation of the dark side, thus confirming our hypotheses.

Our study proved that pre-existing personal relationships (in business) with one or more members of the cluster, help clusters:

- in management research that could benefit from studies examining how third parties, such as clusters and cluster managers, play a conciliatory role between companies, thus weakening the impact of dark activities and their consequences on organizations;
- determine the extent to which pre-existing (business) personal relationships with one or more members of the group help the groups;

Identify the opinion of cluster members on the existence of positive and negative elements of group dynamics developed by clusters, regardless of the pre-existing relationships between their members;

- identify the success factors of the cluster development;
- identify the socio-economic characteristics of the members of the Val-lahia Hub Consortium cluster, South-Muntenia region.

Our study emphasizes the decisive importance of cohesion forces and CoP on firm development, the most innovative technology support project implementation in CoP and transversal skills transfer. The technology slowly replaces the physicality activities, facilitating the transfers of knowledge and transversal skills for cluster members. CoP incorporate the challenges and opportunities that the artificial intelligence provides to help cluster members to go beyond classic computers to simulate and surpass human intelligence. They offer people opportunities to acquire new skills and provide a collaborative learning environment—one very important role of CoPs. We consider that the value of the results is seminal for other studies aimed at identifying patterns of cohesion and dark side alleviation in competing environments able to cooperate in business alliances such as clusters.

6. Conclusions

Our model explains the dynamics of cluster formation and the role of cohesion factors, adding evidence to explanations to the dark side phenomenon and paving the way for

new research related to the complex interaction between dark side manifestations in cluster formation and development.

However, this evidence is limited as a regional study case and the model has to be further applied.

Regarding the success factors of the development of a cluster, we noticed that communication abilities, especially at the cluster managerial level, informal meetings between members, and processes of communities of practice already mentioned in the literature largely contributed to the alleviation of the dark side, thus confirming our hypotheses.

In addition, clusters and communities of practice, as empirical data analyses suggest, are more dark side problem-solvers of conflicts rather than generators. However, not any cluster may be best positioned to do so. Developing communities of practice, thematic meetings with high content of research and knowledge transfer, establishing thematic areas or common promotional activities are key success factors to reduce dark side impacts on doing business. Alleviation of conflicts is one of the major positive impacts of cluster interactions. Disputes on issues may be challenging at the early stage of clusters, but compromise may be easier to find within communities of practice induced by these types of business alliances. The adaptive range is higher, with trade-offs made in areas of knowledge transfer other than pursuing individualistic business goals in the short term. Managers within a cluster make choices that might mitigate the consequences of dark side manifestations.

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