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ALLIANCE CONTRACTS COMPLEXITY AND FIRM'S PERFORMANCE. A QUANTITATIVE INVESTIGATION IN LARGE AND MEDIUM FIRMS

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Abstract

This study examines the relationship between firms' alliance contracts complexity and the performance the firms extract from their portfolio of strategic alliances. Based on a statistical analysis of 46 large and medium size companies in Romania we found a positive, medium intensity and statistically significant correlation between these constructions. However, we found that this relationship is significant only for the innovation related performances and productivity related ones (such as profits, market share etc.). It means, we observed that the companies using more complex alliance contracts have no more strategic alliances that achieve their initial goals, but they do increase their innovations and productivity related performances. When we controlled for the firm's size and relational capital we found that the firm's size does not moderates the relationship between contracts' complexity and firm's performance. On the other hand, we found that relational attributes such as trust, mutual understanding etc., do influence the relationship, in the sense that it is weakened, until the point is not anymore significant. We suspect that that the use of alliance contracts and relational attributes rather than substitute, may in fact complement each other. Large and medium size companies in Romania (but can be the case also for companies operating in other emerging markets similar to Romania) obtaining better innovations and productivity related performances from their collaborative strategies use both: complex contracts and relational attributes. However, the alliance contracts complexity individual, and per se, explains very little why some companies obtain better productivity related and innovative performances. Hence, the alliance contracts are not so important as believed for firm's performance.

Keywords: strategic alliances, alliance contracts, firm's performance

1. Introduction

Strategic alliances represent a new modern way to access resources and competences that reside in other firms (Kale et al., 2002). In a broader sense, these alliances represent the common activity of two or more firms with the purpose of achieving common goals or to attain competitive advantage (Hitt et al., 2007). There is a general consensus in the alliance literature that there are three types of strategic alliances: the joint ventures companies, the minority equity

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alliances and the non-equity alliances. This paper investigates an important topic within this stream of research: *Do the large and medium size companies (in emerging markets such as Romania) using more complex alliance contracts obtain better performances from their alliances?*

The complexity of alliance contracts is an important topic since there is evidence that there are direct implications for the firms resulting from how they use and design their alliance contracts. For instance, Krishnan et al., (2015) found that contractual governance works best only in some circumstances. More specifically, the contractual governance is effectively only when there is a moderate level of behavioral uncertainty and a moderate to high level of environmental uncertainty, while this type of governance is detrimental to alliance performance when both types of uncertainty are low or high. Parkhe (1993) also found that the extent of contractual clauses in an alliance will be negatively related to the length of shadow of the future.

There are many studies within the alliance literature examining various facets of alliance contracts. Many of them are elaborated at the dyadic level unit of analysis (Parkhe, 1993; Reuer and Arino, 2007; de Jong and Klein Woolthuis, 2009). However, there is no evidence (or there is a very thin segment of the alliance literature devoted to this topic) examining the alliance contracts at the firm level. This is the gap where our paper tries to bring new evidence. In this paper, we adopt the idea of alliance contractual detail (de Jong and Klein Woolthuis, 2009) and we emphasize it to the portfolio level (all the alliances one firm participates in). In this sense, we tried to see if the companies using more complex alliance contracts obtain better performances from their alliances in comparison with companies using lower contractual detail.

Also, up to now, at least at our awareness, there is no evidence regarding the alliance contracts taking into account the size of the firm or the regional context those firms operate. In this line of thinking, our paper brings evidence from large and medium size firms, operating in emerging markets, particularly in Eastern Europe.

In what it follows, we begin discussing the general aspects regarding alliance contracts complexity and firm's performance. Next, we discuss the methodology use for this study. Then, we analyze de data and test the hypotheses. We end discussing paper's limits and the managerial implications for the companies (particularly those operating in markets like Romania).

2. Literature review

2.1 Firm's alliance contracts

One firm's alliance contracts represent the legally binding agreements through which the parent firm tries to regulate the future collaborative activities between the firm and its alliance partners. Through these written agreements the firm tries to get more control over the evolution of those relationships by planning, organizing and regulating the future activities and resources devoted to firm's relationships and alliances (de Jong and Klein Woolthuis, 2009; Mellewigt et al., 2012).

According to recent research the traditional role of contracts in strategic alliances need to be extended. It means, contracts' traditional role to protect the parent firm from the opportunistic

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behavior of partners is not the only area of interest to be covered by an alliance contract. More precisely, one alliance contract should be view such as a multidimensional construction serving also for planning and coordination purposes (de Jong and Klein Woolthuis, 2009, Mellewigt et al., 2012, Parkhe, 1993). Reuer and Arino (2007) suggest the firms through elaborating alliance contracts can plan new relationships, they can establish common goals with new partners, or even specify the division of labor and responsibilities for each partner member in one alliance. de Jong and Klein Woolthuis (2009) go even further. The scholars underline that the contracts should be view from a managerial perspective, beneath their legal side. According to them, firm's lawyers are not the more indicated part to elaborate alliance contracts since their view of firm's future relationships is often static (they elaborate contracts only at the beginning of the relationship) and they tend to consider only protection clauses.

Recent evidence suggests that one firm may use alliance contracts for the following purposes (Mellewigt et al., 2012): (1) for the protection of the firm from the opportunistic behavior of its partners, (2) for coordination of future activities between the parent firm and its partners, (3) for adaptation in the case of unforeseen events. Depending some factors (developed following) some companies may elaborate more complex contracts for some clauses, and less complex for other clauses. For instance, according to Hitt et al., (2007) if the firm wants to innovate will need to design less complex alliance contracts. By contrast, if the firm desires better productivity related performances it should consider designing more complex alliance contractcs.

In this line of thinking, firm's managers should monitor the evolution of firm's collaborative projects over time and devote enough energy for reviewing parent firm's alliance contracts. It means, keeping an eye on all the firm's strategic alliances (the portfolio) and devote resources to keep the design of firm's alliance contracts complex enough. In order to do that, we develop in the next pages the main reasons/criteria which may influence the elaboration or redesigning of simple or complex alliance contracts.

2.2 Determinants of simple alliance contracts vs complex alliance contracts

According to Mellewigt et al., (2012) the contractual complexity of an alliance contract refers to the number, elaboration mode and the degree of constraint of its clauses. In this sense, one firm may design alliance contracts with few clauses and not so much detail for each clause (a very simple contract) or by contrast, it can use alliance contracts with many clauses and very much detail for each clause (a very complex alliance contract).

Recent research suggests that if the firm have the strategic intention to innovate the managers may considerate keeping the alliance contracts very simple. By contrast, if they want to improve the productivity they should considerate designing more complex alliance contracts (Hitt et al., 2007). Das and Teng (2001) suggest that collaborative relationships are fraught with two types of risk: performance risk and relational risk. According to them, the relational risk is the risk of an unsatisfactory relationship with the partner/-s and the performance risk denotes a risk about that the alliance does not accomplish its objectives despite its satisfactory relationship. de Jong and Klein Woolthuis (2009) suggest the coordination and adaptation clauses do not have in vizor the

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opportunistic behavior of firm's partners. Our point of view is that if the managers anticipate a higher probability of performance risk they should monitor to introduce more complex contracts for this type of clauses, as suggested by authors above mentioned. By contrast, if the managers anticipate more probability of relational risk they should redesign more complex contracts for protection clauses.

Other key point is that if the parent firm is more long term oriented and approaches its partners from a longer-term perspective (to building a common future), many times without any fixed term put in place for the relationships ending, this orientation will result in opener, less strict and few contractual details. By contrast, if the parent firm is more short time oriented, nevertheless this will result in stricter, closed, and very detailed alliance contracts (Parkhe, 1993; Reuer and Ariño, 2007).

Also, the managers should considerate the future alliance complexity. It means, if the firm will engage with its partners in a strategic partnership without any form of equity sharing, the managers may keep in mind that there is no need for complex alliance contracts. By contrast, if the future relationship is akin to a joint venture type the contractual complexity should probably increase (Reuer and Arino, 2007). In the same line of thinking, the contractual complexity depends the resources involved in the future relationship. If there are few and less significant resources, there is no need for complex alliance contracts. By the same token. The future parent firm's alliance contracts depend the type of resources involved. According to Das and Teng (2000) there are two types of resources involved in one strategic alliance. First, there are knowledge-based resources which consist mostly of intangible resources. For this type of resources the parent firm has little or no control. On the other hand, there are property-based resources (licenses, patents, copy wrights etc.) for which the parent firm has strong control. In this line of thinking, our assumption is if the firm involves in the alliance knowledge-based resources the managers should considerate designing or redesigning more complex alliance contracts.

As we can see, there are pros and cons for designing or redesigning complex alliance contracts depending each situation independently. The point is – as suggested by Holmberg and Cummings (2009) or Hoffmann (2005) – all the firm's alliances should be aligned with the vison, mission and firm's corporate strategy. In this sense, alliance contractual complexity is a top management topic because will strongly promote or hamper the future performances the parent firm will obtain due to its portfolio of strategic alliances.

Now, after that we have theoretically developed the main criteria the managers should considerate at the point they need to design or redesign firm's alliance contracts, remains to see in the following pages if our assumptions are "validated" by empirical data. It means, the companies which use more complex contracts obtain better or worse performances from their portfolio of strategic alliances.

2.3 Firm's performance

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Probably, the relationship between several factors determinants of superior performance and firm's performance is the most researched topic within the strategic alliances literature. It seems to us, that the most used method is that of dividing the measures for assessing the performance in two categories. In the first category, there are *objective indicators* such as profitability, sales growth, market share, ROI etc. In the second group, there are used *subjective measurements* such as relational harmony, managers satisfaction with the alliance, satisfaction with the achievement of objectives etc. This method was successful used by scholars such as Bener and Glaister (2010); Kauser and Shaw (2004); Meier et al., (2015), Moeller (2010). Depending how this method was implemented there are some variations. For instance, Bener and Glaister (2010) evaluated the companies regarding these dimensions depending actual performance, as compared to initial expectations at the time the alliance was set. Others, such as Sarkar et al. (2001) evaluated the same dimensions but differentiating the project performance versus the strategic performance. A variation of this method was used by Stolwijk et al., (2015). They called these constructs innovative performance and market performance.

Other method often used in the alliance literature to evaluate the alliance performance is that described by Hatfield et al., (1998) called *partner's goal achievement*. According to them, partner goal achievement has recently emerged as a more precise method of managerial assessment of alliance performance than is partner satisfaction with the alliance, because – the authors point out – the partners satisfaction with the alliance is a vague concept. Other scholars also used this method to measure the alliance performance but taking into consideration also the accumulation of knowledge and new opportunities (Zollo et al., 2002).

Broadly, all these studies have measured the performance at the dyadic level as the unit of analysis. It means, they have considered the performance the firm obtained due to one individual alliance. A helpful review and a very well-done synthesis is provided by Christoffersen and collaborators (2014).

Recently, due to recent developments which extended the view of a single alliance to the entire portfolio, emerged new methods for assessing the alliance performance. For instance, Hoffmann (2005) distinguished the methods for assessing performance in three categories: performance measures for individual alliances, performance measures for alliance portfolio at business level and performance measures for alliance portfolio at corporate level.

In this paper, we evaluate the performance the firms have obtained due to their portfolio of strategic alliances at the firm/corporate level. However, we divided the performance in three categories. First, we adopted the method suggested by Hatfield et al., (1998) partner goal achievement and we emphasized it at the portfolio level. So, we considered the degree/ratio the parent firm has achieved its initial alliance goals for the entire portfolio of strategic alliances, not only for one individual alliance. Second, we considered firm's increasing innovative and productive related performance at the firm level, as suggested by Hoffmann (2005).

In this line of thinking, given the assumptions underlying the design of alliance contracts (regarding their complexity) and firm performance we hypothesize the following:

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H_1: Firms using more complex contracts will have more strategic alliances that accomplish their initial goals (will have better ratios of portfolio of successful strategic alliances)

H_2: Firms using more complex contracts will obtain better productive related performances from their strategic alliances (portfolio of strategic alliances)

H_3: Firms using less complex contracts will obtain better innovative performances from their strategic alliances (portfolio of strategic alliances)

3. Research Methodology

This study is based on a statistical analysis of data provided by 46 large and medium size companies operating in Romania. All the data was collected through a questionnaire sent to firms by e-mail into a larger project conducted in the field of strategic alliances and partnerships. There are in our sample better and medium performers companies in Romanian market such as some global players NTT Data, Gopet, Saint-Gobain, Genpact, Office Depot etc. or local important companies such as Transilvania Bank, Agricola International, Elsaco Electronics etc. to name just few. We started to collect the data in 25 0ctober 2017 and we got the last questionnaire filled somewhere around 25 March 2018.

3.1 Research Design

Explanatory variables

In this study we try to understand the relationship between firm's alliance contracts complexity and the performance obtained by the parent firm due to its strategic alliances. In this line of thinking, the independent variable is "Firm's Alliance Contracts Complexity". This variable is operationalized as a numerical variable through summing five items trying to describe and capture parent firm's alliance contracts complexity. (One can *see* the Appendix). The items were measured using a Likert scale from 1 to 5, with 1 denoting less complex contracts and 5 meaning more complex alliance contracts. For each item, we gave one point, for our objective trying to capture a global view of that company's alliance contracts complexity. For instance, if one company marked 4 on the initial Likert scale for one specific item, we gave that company 4 points. Since the scale contains 5 items the global score of Firm's Alliance Contracts Complexity can range between 5 to 25. The same approach was adopted for the dependent variables trying to measure the innovative and productive performance of alliance portfolios.

The dependent variable in our study is the performance. As noted above, we measured the performance in three models. In Model 1, we refer to the parent firm ratio of performing portfolio of strategic alliances (the number of strategic alliances which have accomplished their initial goals). This measure was operationalized thorugh an ordinal scale with the following significance: 0-20%, 21-40%, 41-60%, 61-80%, or 81-100% strategic alliances that accomplished their initial goals. This measure was adapted from Heimericks et al., (2009). We called this variable "Partner Goal-achievement Performance" (PG-aP). In Model 2 and 3 we

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measured the productive related and innovative performance the parent firm obtained due to its portfolio of strategic alliances. The variables "Portfolio Productive Performance" (PPP) and "Portfolio Innovative Performance" (PIP) were operationalized thorugh a numerical scale, summing the initial responses provided on the initial Likert type scale. As noted above, we gave the initial scores on the Likert scale one point for each response. For the PPP the score can range from minimum 6 to maximum 30 and from PIP the scores can range from 4 to 20.

Control variables

In addition to investigate the hypothesis of interest, we controlled for two variables: Company size (a nominal variable measured depending of two criteria: large versus middle size company) and the Relational Mechanism (measured on a Likert scale as one can see in the Appendix). Through doing so we tried to see if we control for these variables how the relationship evolves.

4. Analysis of data and discussion

In our sample, there are 29 large companies (more than 250 employees) and 17 medium size companies (between 50 and 250 employees). We considered two firms with less than 50 employees (39 and 31 employees respectively) and they were classified such as middle size companies. From all participating companies, 23 (50%) are local subsidiaries of multinational companies in Romania and 23 (50%) are Romanian companies. Regarding the respondents which participated in our study 30 managers are C-Class managers/Executives (e.g. President, CEO, COO, Chief Strategy Officer etc.), 10 respondents identified themselves as middle managers (e.g. Sales director, HR manager etc.) and we have the answers of 5 first-line managers (e.g. team manager, talent acquisition manager etc.). In our study, also participated one marketing specialist, from which we have not information regarding if she/he is, or not, a managerial position in the parent firm.

As we can see in the Table 1 the empirical data do not present a normal distribution. First, we can see that there is a negative asymmetry with the tendency toward high scores (Skewness= -,884; Std. Error of Skewness= ,350). According to Opariuc-Dan (2011) if the coefficient Skewness/Kurtosis is positioned outside the interval contained between ± two standard deviations of Skewness/Kurtosis Error, the empirical distribution can be considered abnormal distributed. In our case, the coefficient Skewness (-0,88) is higher than -0,70. We can observe also the coefficient Kurtosis= -,089; Std. Error of Kurtosis= ,688. In this case, the empirical distribution can be considered normal. These facts can be easily observed in the Figure 1.

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Table 1. Descriptive statistics Firm's Alliance Contracts Complexity

Firm's Alliance Contracts Complexity

N	Valid	46
	Missing	0
Mean		21,67
Median		23,00
Mode		25
Std. Deviation		3,590
Variance		12,891
Skewness		-,884
Std. Error of Skewness		,350
Kurtosis		-,089
Std. Error of Kurtosis		,688
Minimum		12
Maximum		25

(Source: own editig working in SPSS)

Our assumptions are supported also by the normality tests. In the Table 2 we can see that both tests are significant (*Sig.* < ,01). In this case, we can reject the null hypothesis which says that the empirical distribution differs significantly from the normal distribution. Given all three methods used to analyze the normal distribution we can conclude that the empirical data for the variable "Firm's Alliance Contracts Complexity" do not follow a normal distribution. In this case, we cannot apply parametric tests or to calculate parametric coefficients (e.g. *r* Bravais-Pearson) [Opariuc-Dan, 2011]. The same is true for the dependent variables. As we can see in the Table 2 both tests are significant for all three dependent variables. Given these facts, in the next pages, we use two non-parametric correlation coefficients (Spearman and Kendall) to analyze the relationship between our variables of interest.

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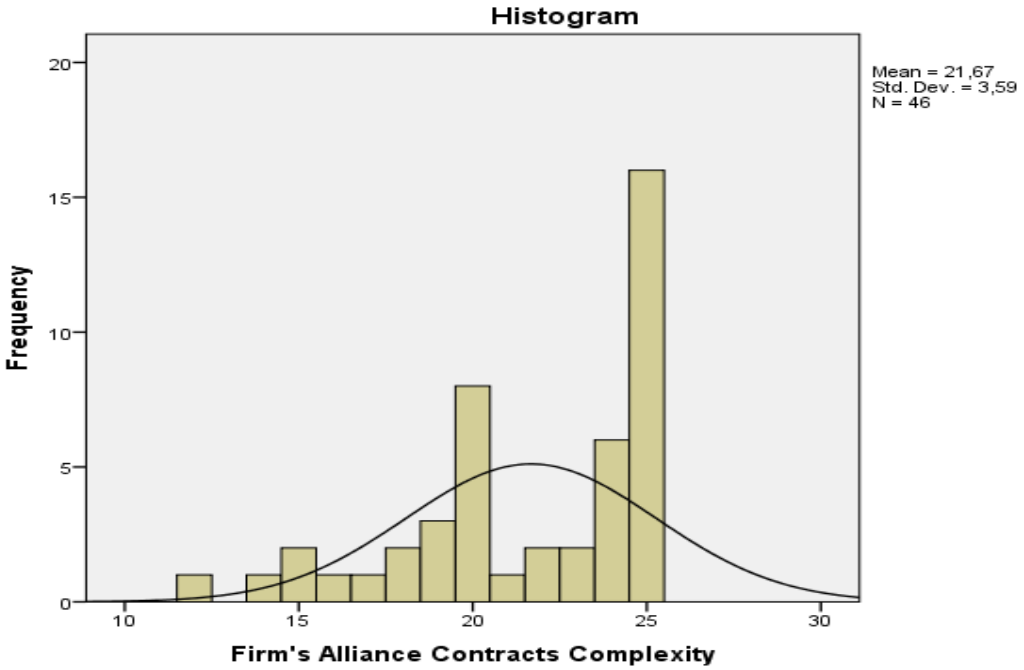

Figure 1. Distribution analysis for the variable Firm's Alliance Contracts Complexity

Table 2. Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Firm's Alliance Contracts Complexity	,220	46	,000	,851	46	,000
Portfolio Goals-achievement Performance (PGP)	,321	44	,000	,815	44	,000
Portfolio Productive Performance (PPP)	,222	46	,000	,881	46	,000
Portfolio Innovative Performance (PIP)	,186	46	,000	,867	46	,000

a. Lilliefors Significance Correction

(Source: own editig working in SPSS)

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In the Table 3 we can observe the results of our correlation analysis. For the first model for assessing the performance (the number of parent's firm strategic alliances that have achieved their initial goals) we can see that we have obtained τ= ,180 and ρ= ,201; p> ,05. For both coefficients we cannot reject the null hypothesis and we conclude that between the variables "Firm's Alliance Contracts Complexity" and "Firm's Portfolio Goal-achievement Performance" there is no correlation. In this sense, we can see that in the Romanian context, the large and medium best performers companies using more complex alliance contracts have no more strategic alliances that achieve their initial objectives, in comparison with those companies collaborating on the base of less contractual detail. These facts can be observed in the scatterplot graph attached (Figure 2). One can see that there is no sense of data grouping and the data are really spread around the mean. Therefore, the empirical data **do not support the hypothesis 1**. The large and medium companies using more complex alliance contracts to regulate their activities with their partners have no more collaborative strategies that achieve their goals. There is no correlation between these variables.

For the Model 2, we have obtained τ= ,354 and ρ= ,471; p< ,01. In this case, we can reject the null hypothesis and accept that between the variables there exist a positive, medium intensity and statistically significant correlation. The results tell us that in Romania, the large and medium companies using more complex alliance contracts obtain better performances related to productivity (e.g. better turnarounds, better profits, more satisfied customers, better market share etc.) from their strategic alliances and partnerships. On the other hand, the large and medium companies in the Romanian market with alliance contracts containing less contractual detail obtain lower productivity related performances (e.g. less satisfied customers, lower profits) from their strategic alliances. We can obtain the effect size of these correlations rising to square the correlation coefficient (Opariuc-Dan, 2011). In our case, for example, we have for the Kendall coefficient a proportion of 12% ($0{,}354^2$=0,12) of the variance in the productive related performance which can be explained by the contractual complexity. Is a quite weak effect. Only 12% of the lack of productivity related performances can be explained by the complexity of alliance contracts. We can easily see these facts in the figure attached. We observe a homoscedastic relationship suggesting that the relationship more or less tend to be the same for the entire amplitude of distribution. However, we can suspect a strong correlation at high scores and a weak correlation or the absence of any relationship at lower or medium scores. Given these facts, for the Model 2, the empirical **data support the hypothesis 2**; the large and medium companies using more complex alliance contracts obtain better productivity related performances. There is a positive correlation between the Firm's Alliance Contractual Complexity and Portfolio Productive Performances.

For the Model 3, which measures the innovation related performances (PIP) we have obtained τ= ,307 and ρ= ,397; p< ,01. For this model, we can reject the null hypothesis and we accept that between the variables "Firm's Alliance Contracts Complexity" and "Portfolio Innovative Performance" there is a medium intense correlation, positive and statistically significant. The

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lack of innovative performance of the companies in our sample can be explained only in proportion of 9% ($0,307^2$=0,09) by the contractual complexity (for the Kendall coefficient), and in percent of 15% ($0,397^2$=0,15) for the Spearman model. The graphic analysis tells us that there is a heteroscedastic relationship between variables. It means, the data do not tend to be the same for the entire amplitude of distribution. We again, can suspect a stronger correlation at higher scores and a weak correlation at medium and lower scores. Nevertheless, treating globally the coefficient it is statistically significant. Hence, the empirical data **do not support the hypothesis 3**. There is a positive relationship between our variables, not negative, as we have been suspected. The large and medium companies which use more complex alliance contracts obtain better, not lower innovation related performances (e.g. new or enhanced products/services due to their collaborative strategies). Instead, the companies using simple alliance contracts, we can easily observe, obtain also lower innovations from their partnerships and alliances.

Table 3. Correlations between Firm's Alliance Contracts Complexity and Firm's Performance

			Firm's Alliance Contracts Complexity	Portfolio Goals-achievement Performance (PG-aP) MODEL 1	Portfolio Productive Performance (PPP) MODEL 2	Portfolio Innovative Performance (PIP) MODEL3
Kendall's tau_b	Firm's Alliance Contracts Complexity	Correlation Coefficient	1,000	,180	**,354****	**,307****
		Sig. (1-tailed)	.	,077	,001	,004
		N	46	44	46	46
Spearman's rho	Firm's Alliance Contracts Complexity	Correlation Coefficient	1,000	,210	**,471****	**,397****
		Sig. (1-tailed)	.	,085	,000	,003
		N	46	44	46	46

**. Correlation is significant at the 0.01 level (1-tailed).

(Source: own editig working in SPSS)

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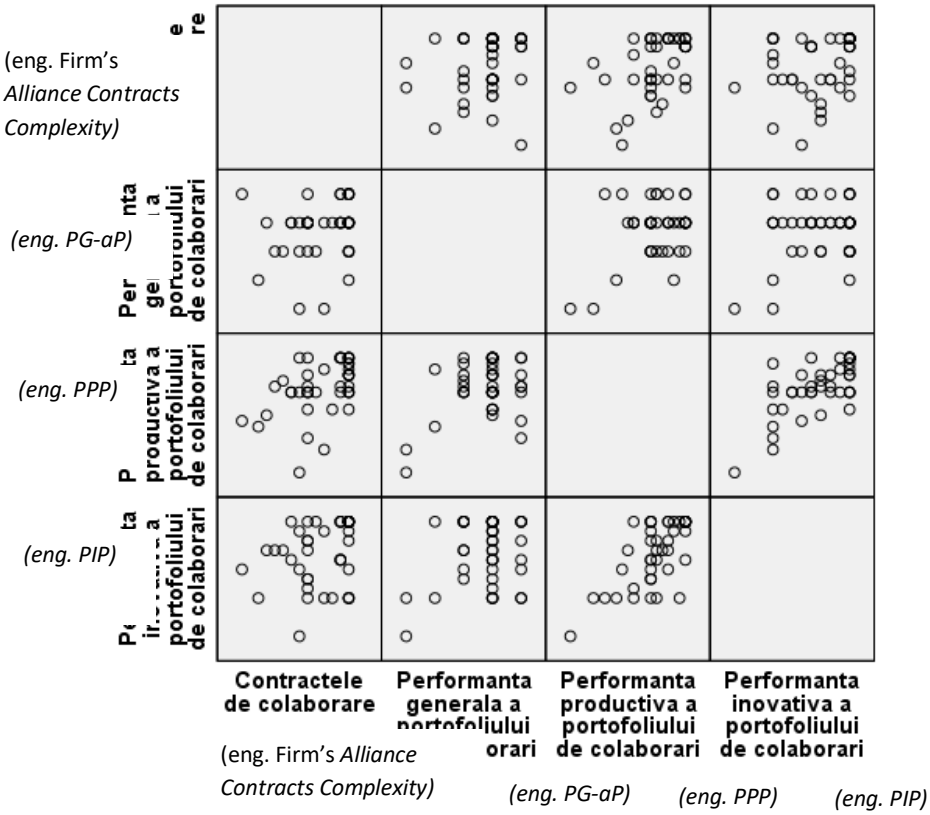

Figure 2. Correlations between Firm's Alliance Contracts Complexity and Firm's Performance (Source: own editig working in SPSS)

3.Moderation analysis

Until now, we have seen that between our variables in Model 1 does not exist a correlation and in the Model 2 and 3 there exists a positive and statistically significant relationship. Nevertheless, the performance of firms obtained from their strategic alliances can be explained by many more factors than single alliance contracts complexity. For instance, Lehene and Borza (2017) found in a qualitative investigation in the North-West Region Romania that larger companies use more complex alliance contracts to regulate their collaborative activities in comparison with medium or small firms. Next, we are interested to see if a third variable "Firm size" moderates the relationship between our variables. More specifically, we are interested to see in the case the companies have the same size, how does it look the relationship proposed. Since our data are not normally distributed we need to use the Kendall partial correlation coefficient. We can calculate the Kendall partial coefficient with the following formula (Opariuc-Dan, 2011):

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$$\tau_{xy,z}=\frac{\tau_{xy}-\tau_{xz}\tau_{yz}}{\sqrt{1-\tau_{XZ}^{2}}\sqrt{1-\tau_{yz}^{2}}} \quad (1)$$

First, we observe that we need to calculate two additional Kendall coefficients between the variables "Firm's Alliance Contracts Complexity" and "Firm size" (τ_{xz}), and between PPP and PIP and "Firm size" (τ_{yz}). The result of our correlations can be observed in the Table 4.

Table 4 Correlations between Firm's Size and explanatory variables

			Firm's Alliance Contracts Complexity	Portfolio Productive Performance MODEL 2	Portfolio Innovative Performance MODEL 3	Firm Size
Kendall's tau_b	Firm Size	Correlation Coefficient	,063	-,069	-,085	1,000
		Sig. (1-tailed)	,283	,262	,218	.
		N	46	46	46	46

(Source: own editig working in SPSS)

First, we can see that between the firm's size and alliance contracts complexity there is no significant correlation. Also, we observe that between firm's size and the performance the firms extract from their strategic alliances there is also no correlation. Given these facts, our moderation analysis stops here; it has not any sense to follow investigating the influence of firm's size on the relationships of interest since between our variables there is no correlation. It seems that the firms' size has not an influence/impact in neither variable of interest, and in consequence, it does not influence the relationship between Alliance Contracts Complexity and Firm's Performance.

Various scholars found that there is a direct relationship between the use of relational capital attributes such as trust, mutual understanding, communication (the so called Relational Governance Mechanism) and firm's performance (Kale et al., 2000; Kauser and Shaw, 2004; Lehene and Borza, 2017; Sarkar et al., 2001). Some research shown that between such attributes and the use of alliance contracts there is a direct relationship. It means, greater the use of such attributes, lower the complexity of contracts use to implement such alliances will be (Gulati and Singh, 1998). On the other hand, de Jong and Klein Woolthuis (2009) found that the trust lowers the complexity of alliance contracts but only for coordination and commitment clauses. The authors found that there is no relationship between trust and safeguarding clauses. Or, as the

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CEO of an important local large player (large firm, 685 employees, 65 million € turnaround) told us two years ago:

> "The complexity of the alliance contract shows us how much trust have the partners in each other". (C.W., 42 years old, Managing Director)

In the following pages, we tried to see if the development of attributes such as trust, communication, mutual understanding (a variable conceptualized the Relational Mechanism) between people who actually work in those alliances, moderate the relationship between Firm's Alliance Contracts Complexity and Firm's Performance.

Table 5. Correlations between the Relational Mechanism and explanatory variables

			Relational Mechanism	Firm's Alliance Contracts Complexity	Portfolio Productive Performance MODEL 2	Portfolio Innovative Performance MODEL 3
Kendall's tau_b	Relational Mechanism	Correlation Coefficient	1,000	**,422****	**,508****	**,366****
		Sig. (1-tailed)	.	,000	,000	,000
		N	45	45	45	45

**. Correlation is significant at the 0.01 level (1-tailed).

(Source: own editig working in SPSS)

As we can see in the Table 5 we have obtained significant correlation coefficients at 0,01 level of significance between the relational attributes and the variables of interest. In this case, the Relational Mechanism influences both Firm's Alliance Contracts Complexity and Firm's Performance. Therefore, we can apply the moderation analysis and we can calculate Kendall partial correlation coefficient.

For the Model 2, which measures the productivity related performance, between Firm´s Alliance Contracts Complexity and Portfolio Productive Performance, in the case we control for the Relational Mechanism, we have obtained a partial correlation Kendall coefficient $\tau_{xy,z}$ = ,179.

$$\tau_{xy.z}=\frac{\tau_{xy}-\tau_{xz}\tau_{yz}}{\sqrt{1-\tau_{XZ}^2}\sqrt{1-\tau_{yz}^2}}=\frac{0,354-0,422*0,508}{\sqrt{1-0,178}\sqrt{1-0,258}}=0,179 \qquad (2)$$

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Remains to see if the relationship is significant. For this operation we searched in special tables (Maghsoodloo, 1975) and we compared our result with the value stated in this table for n=46. The partial coefficient's value 0,179 is lower than 0,211 the threshold for social sciences at 0,05 level of significance. In this case, results that controlling for the Relational Mechanism (which as we have seen in Table 5 influences both variables of interest and when we keep this effect constant) the correlation between Firm's Alliance Contracts Complexity and Productive Portfolio Performance is not statistically significant at 0,05 level. This result tells us that only 3% ($0,179^2$) in the variation of performances related to productivity (and not 12% as we thought initially) can be explained by complexity of alliance contracts, when we keep the effect of relational attributes such as trust, communication etc. constant. Therefore, it seems that relational attributes such as trust, mutual understanding etc. do matter and do moderate the relationship between the complexity of alliance contracts and firm's performance. The relationship between Firm's Alliance Contracts Complexity and Portfolio Productive Performance is weaker and insignificant statistically when we keep constant the Relational Mechanism. Since between the control variable and both variables of interest there is a positive and significant correlation (τ= ,422) and (τ= ,508), probably, the formal mechanism and the relational one may in fact complement each other, rather than substitute. Certainly is, that there are many more factors explaining the variation in productive related performances, but our research has not isolated them. Nevertheless, the research plan can be optimized in the future.

These facts can be easily observed in the Figure 3. Contrasting these results with the results in the Figure 2, we see that when we control for relational attributes, the scores are very dispersed from the mean. This fact is logic, since we have obtained a very low and insignificant partial correlation coefficient (0,179). However, we observe that there can be extremes scores. For instance, we see in the Figure 3 that there are two companies with higher scores for the Relational Mechanism and in addition, they are characterized by low PPP performances.

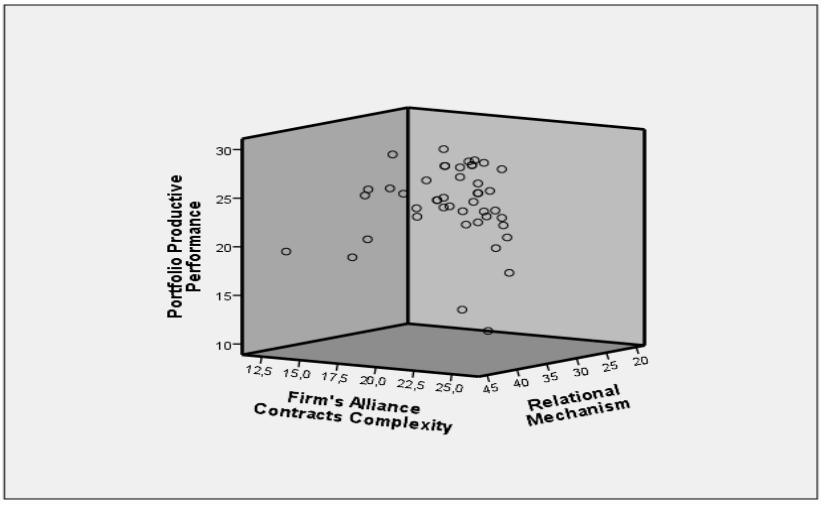

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Figure 3. The relationship between Firm's Alliance Contracts Complexity and PPP, controlling for RM

(Source: own editig working in SPSS)

For the Model 3, which describes the innovation related performances, when we keep constant the effect of relational attributes, we have obtained a partial correlation coefficient $\tau_{xy,z}$ = ,181.

$$\tau_{xy.z}=\frac{\tau_{xy}-\tau_{xz}\tau_{yz}}{\sqrt{1-\tau_{XZ}^2}\sqrt{1-\tau_{yz}^2}}=\frac{0,307-0,422*0,366}{\sqrt{1-0,178}\sqrt{1-0,133}}=0,181 \qquad (3)$$

Comparing our result with the values in the special tables, we see again that in this case our partial coefficient is lower than 0,211. This result tells us that the relational attributes do influence the relationship between Firm's Alliance Contracts Complexity and Firm's Performance in the sense that they weaken it, making it insignificant statistically. Only 3% of the variation in the PIP can be explained by the alliance contracts complexity, when we keep constant the effect exercised by the Relational Mechanism. Since between the relational attributes and both variables of interest we found a direct and statistically significant correlation (τ= ,422) and (τ= ,366) p< ,01 we can say that also in the model that measures the innovative performance, the contracts and the Relational Mechanism can instead complement each other. Companies which obtain better innovation related performances are characterize by higher scores of both formal and relational attributes.

4. Limits and future ideas for research

Our paper has several limits. First, and probably more important is that our findings are not resulted due to a normal distribution. Since our empirical distribution does not respect the normal distribution criteria we cannot generalize our results to the entire population of large and medium firms elsewhere, or in Romania. Since in our study participated best and medium performers companies in Romania the relationships are not verified for lower performers companies. However, our findings can be applied to best performers companies, particularly those operating in emerging markets (countries similar to Romania) such as Eastern Europe, Asia, Africa, Latin America etc. We have seen that best performers companies obtaining better productivity related performances (greater turnarounds, greater profits, better market share etc.) and innovation related performances (new or better products/services etc.) due to their strategic alliances collaborate using more complex contracts and more developed relational attributes.

Second, of equal importance is the context. Romania is a medium developed country. Perhaps, the alliance contracts in western Europe or United States will be much lower. We suspect that in more developed countries the results can differ significantly. For example, in western Europe or US where the economic environment is already well regulated and where there is a well established economic education the use of complex alliance contracts can be much lower. Or, as

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Barnes et al., (2012) reveal, in UK there are lot of collaborations even without a contract put in place to regulate the future activities (a concept called Gentlemen's Agreement). However, in the case the alliances involve high financial resources even the companies in more developed countries do not permit to not elaborate a complex contract to regulate their future collaborative activities. This is a point perhaps should be investigated in the future.

Other limit is that the complexity of alliance contracts was investigated in large and medium size firms. Probably, investigating these dimensions in small or entrepreneurial firms we will see different results. The alliance contracts of these type of firms, we suspect, are less complex.

Third, there are limits resulting from construct measurement. For instance, we measured one firm's alliance contracts complexity such as a global measure composed from five items. Other researchers examining for instance, the complexity for each group of clauses independently, may find other results. For instance, as noted previously, de Jong and Klein Woolthuis (2009) found that trust impact coordination and commitment provisions but does not influences the safeguarding clauses. Certainly, these facets of alliance contracts can be improved in examination in the future. For instance, what factors (external and internal factors) influence the firms to use more safeguarding clauses? What about coordination ones? How does it look the relationship between each component of Relational Governance Mechanism and firm's alliance contracts? Does the trust impact the alliance contracts differently than mutual understanding?

5. Managerial Implications

Despite these important limits we think our paper may have several managerial implications. In this sense, our findings may have practical implications particularly for large and medium size companies operating in emerging markets similar to Romania. Firstly, perhaps the association is not the best one, but with some degree, for the companies in emerging markets, our results tell us that an alliance contract may act in the same way as a strategy works: planning, organizing and controlling the joint activities in order the common objectives be accomplished. The empirical data tell us that a professional design of firm's alliance contracts may act as a source of increasing the level of productive related and innovative performances the firms obtain from their strategic alliances. We have seen international subsidiaries and domestic companies in Romania with more managerial attention devoted to design complex contracts that they obtain better performances (productive related and innovations). By contrast, companies with less complex contracts obtain more modest performances. Our assumption is that the companies in the emerging markets should use more complex contracts but for coordination and adaptation clauses, rather than per total, and keeping the protection clauses at the same level of complexity. This assumption, however, need to be tested in the future.

Another way to look at this is that if the companies in these markets may find that there is too much ret tape, they should consider trust more in their partners on the one hand (broadly increase their Relational Mechanism) and on the other hand, use also emerging forms of strategic alliances such as formal non-legal structures (e.g. alliance committee, common strategy) [Reur

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and Devarakonda, 2016]. In this way, they can keep their contracts very simple and use other alternatives to effectively implement their partnerships.

6. Conclusions

In this paper we have investigated the relationship between the complexity of alliance contracts use to implement strategic alliances and the performances firms obtain. We have seen that large and medium firms in Romania (but can be also the case for large and medium companies in other emerging markets similar to Romania) use, in general, complex contracts to implement their strategic alliances. We have seen also that despite that these firms use complex contracts they are not characterized by more collaborative relationships that achieve their initial goals, in comparison with companies using less complex contracts. However, those firms using more complex alliance contracts do obtain better innovations and productive related performances from their alliances. However, the effect is weak, the alliance contracts complexity explains only 12% of the variation in performance, letting 88% unexplained and due to other factors.

We have also seen that the firm's size (large or medium) does not moderates the relationship between alliance contracts complexity and firm's performance. On the other hand, the relational capital (e.g. trust, friendship) does matter. When we controlled for this variable, the relationships changed to the point that the relationship is not anymore statistically significant. Even if the relationship would have been statistically significant only 3% in performance variance could have been explained by contracts alone, letting 97% due to other factors. Since, there is a medium correlation between the control variable and explanatory variables we suspect that both mechanisms complement each other, rather than substitute.

As a conclusion, the large and medium firms using more complex alliance contracts obtain better productivity related and innovation related performances, but this dimension, per se, has little to do with the performances the companies extract from their strategic alliances (any kind of performance), despite that there is a significant correlation between these variables. There are other key factors affecting the performances the companies may extract from their alliances (the managers may keep an eye on they) rather than firm's alliance contracts. The alliance contracts are not so important as believed.

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APPENDIX: the items used to measure each theoretical construct

Note. The respondent managers were asked to answer to our questions through a Likert scale scoring from 1 to 5. In our model, 1 means "Strongly disagree" and 5 "Strongly agree". For the last three items, measuring the alliance contracts complexity, 1 means "We never use this group of clauses in our collaborations" (denoting low contractual detail) and 5 "We always use this group of clauses in our collaborations" (denoting high contractual detail).

a) **Independent Variable**: Firm's Alliance Contracts Complexity	References
1. Our collaborations are characterized by a comprehensive and clear contract	de Jong and Klein Woolthuis (2009); Mellewigt et al., (2012); Parkhe (1993)
2. Our alliance contracts describe in detail each aspect we considered of interest	
3. Protection clauses (e.g. property rights)	
4. Coordination and commitment clauses (e.g. planning and alliance management clauses)	
5. Contingency adaptation clauses (e.g. conflict management, termination clauses)	
b) **Dependent Variables**: Portfolio Productive Performance (PPP)	References
1. Our turnaround grew because of our collaborations	Bener and Glaister (2010); Kale et al., (2002)
2. Our sales increased because of our collaborations	
3. Our profits increased because of our collaborations	
4. Our company enhanced its competitive position due to our strategic alliances	
5. Due to our collaborations we developed in our markets	
6. Due to our collaborations we have more satisfied customers	
Portfolio Innovative Performance (PIP)	References
1. Through participating in strategic collaborations, we got new abilities and knowledge thanks to which we improved our internal processes and operations	Bener and Glaister (2010); Kale et al., (2000); Kale et al., (2002)
2. Through participating in strategic collaborations, we got new abilities and knowledge thanks to which we introduced new products in the market	
3. Through participating in strategic collaborations, we got	

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new abilities and knowledge thanks to which we improved our products and services	
4. Through participating in strategic collaborations, we began new businesses, or we entered new markets (local or international)	
c) **Control variables**: Relational Mechanism	References
1. Our collaborations are characterized by friendship between people at multiple hierarchical levels	Kale et al., (2000); Moeller (2010); Sarkar et al., (2001)
2. Our collaborations are characterized by trust, mutual understanding and reciprocity between people at multiple hierarchical levels	
3. The communication between us and our partners take place formal and informal	
4. In our collaborations we and our partners are willing to allocate the resources in order the collaboration achieves its objectives	
5. In our collaborations we and our partners strive to fulfill our responsibilities within the alliance	
6. The conflicts in our collaborations are solve in an integrative, open, and win-win manner	
7. The conflicts in our collaborations are solve through negotiation, rather than through an authoritative style	
8. We try to remain flexible and to offer advices when occur problems in our alliances	
9. To stay together at the point that occur difficulties is important in our alliances	