

The Efficiency Model of an Alliance Creation Process

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Abstract

This paper aims to further exploitation of the vulnerabilities of inter-organisational relations. The objectives of this thesis are: (1) building a new model of inter-organisational alliance, (2) establishing the inefficiency elements in an alliance process, (3) investigating the reason why the creation process of a new alliance is slow so many times, (4) discovering in which way factors as: team experience, management relationship and organisation, nature of organisation, time flexibility influence the alliance success and finally.

A further research could even consider to go beyond analysis of these vulnerabilities, but find a solution to valorise them along the creating process of such an alliance and turn them into positive aspects.

Keywords: *inter-organisational relations, strategy, alliance, inefficiency elements, entrepreneurial behaviour.*

JEL classification: D23, L1, D7.

Introduction

The rate of alliance creation expands dramatically in recent years (Lorange and Roos 1991, Das and Teng 2003). There are several fundamental operators behind the progress towards this “alliance intense” business climate (Das and Teng 2000, Ireland et al. 2002) that conduct in the end to success. They are: globalization, technological advances and consumer exposure. Definitely a particular organisation cannot be world-class in every perspective. And this is the reason why many of them make use of alliances to achieve certain objectives. In many circumstances, a company’s experience to produce value depends considerably on another company with complementing support (Hamel 1990). On this ground, cooperation and alliances were sometimes the only chances.

Companies build alliances for various purposes. Among the reasons for collaboration are those of generating complementary assets controlled by various institutions (Nohria and Garcia-Pont, 1991), of covering expenses, of sharing risk

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(Hagedoorn, 1993) and resources (Hamel et al. 1989, Eisenhardt and Schoonhoven 1996). The strategic objectives of the collaborative networks in the regional and national context are established for medium and long time horizons and can target economic growth, competitiveness and the potential organizational discovering, developing innovative potential and assuring a steady development of the involved organizations (Rojas, A., Nastase, M., Valimareanu (Mircioi), I., 2014). Even if some definitions make use of the term “strategic”, the existing literature does not strictly differentiate “alliances” from “strategic alliances”. From my point of view, even if a successful alliance should firstly be a strategic one, definitely, there are definitions of the term “strategic” in the management literature that differentiate “strategic alliance” from a common one. A strong strategy is based on resources, skills and abilities. All of them combined assure a competitive advantage over opponents.

1. Research methodology

The current part of the research paper investigates the methodological ways that were used during the research. Fellows and Liu (2008) present research methodology as the procedures and methods that, after being observed, make possible the identification of the research question, research hypothesis and possible results. All the theories used in the previous chapter are nothing more than reflectors of reality in this chapter. I have integrated an extensive literature review that represents the theoretical approach of the research. The theoretical context of the study denotes the relevance of the research questions. The present research indicates the specific factors of success inside inter-organisational alliances (e.g. team, clear goals, trust, communication, organizational context). These mean they are results from other circumstances or attributes of the companies involved in the inter-organisational cooperation process.

The research methodology consists of a questionnaire, sample size, data collection and response rate. Afterwards, the measurements will be defined and lastly, the results of the research will be presented in regards to the creation of a model that, on the long term, reduces the difficulties which appear in the lifecycle of an alliance and better explains the complex and dynamic dimension of this process.

2. Questions and objectives

Setting research tasks is the most important aspect of the research opening stage. In this part the purpose of the study, research objectives, and questions are thoroughly settled. In order to define the research tasks, I have used the abundance of literature review that exists, thus, determining what has been studied previously and which issues have remained unanswered. In order to set the research hypothesis, several concepts of literature such as inter-organisational relations, strategy, model, alliance, inefficiency elements, entrepreneurial behaviour have

been examined during the primary stage of the investigation. During the research period, a variety of sources have been consulted from journal articles to internet websites, conference papers, books, etc. The huge objective of reviewing this literature has been the identification of limits of previous researches and framing future directions for the current one. Concluding the findings of the literature, this paper has set up two objectives. The first one is represented by the investigation of factors that converge to failure in inter-organisational relationships. The second one is the creation of a model that, on the long term, reduces the difficulties which appear in the lifecycle of an alliance and better explains the complex and dynamic dimension of this process.

There are research questions:

Q1: What are the most important factors in creating strategic alliances?

Q2: What are the inefficiency factors in building strategic alliances?

Q3: Why the creating process of a new alliance is slow?

Q4: What is the role of entrepreneurial behaviour in managing relationships' weaknesses and inter-firm alliance?

Q5: What are the most common mistakes partners do in the creating process of a new alliance?

Taking into consideration the earlier reasons, this thesis suggests the next hypotheses:

H1: Communication and clear goals are the most important factors in an alliance process;

H2: There is a positive relationship between team experience and flexibility and the rate of success of an alliance;

H3: The synergy between management characteristics and organisational abilities has a positive and higher impact on alliance success;

H4: There is a negative correlation between the nature of an organisation and the rate of success of an alliance;

H5: Time flexibility is negatively related to alliance success;

By nature of organization I mean difference in size of companies and right to play. In other words, the nature of an organization is characterized by the specific size of the company, the degree of business internationalization or important resources (know-how).

In order to find the inefficiency factors in an alliance creation, I have defined 3 independent variables: Management with 3 variables, Nature of organisation with 2 variables, Time flexibility with 2 variables. The variables of each category have been created using a 7 point Likert scale, which starts with 1 meaning strong disagreement and ends with 7 meaning strong agreement as answer options.

3. Results

The importance level of each relevant factor is illustrated below in an alliance model pyramid built after Carroll's Pyramid (Carroll, 1991). Here, you can

see the results of my research regarding the top efficiency elements in alliance creation. Field defines the mean value as an average score and central tendency of the variables (Field, 2013). In my research, the mean values for the importance level of efficiency elements in alliance creation have been measured in SPSS to find the average percentage of each category, for all respondents. The frequency analysis has been used to see the distribution of the scores (Field, 2013). The output of the frequency table is available in table 2. Figure 14 provides similar results with Figure 13. The importance level of each essential factor in an alliance process and their percentage values show that the most important category is clear goals, followed by other four: communication, trust, passion and enthusiasm, reciprocity and equity. Thereby, I have answered the first research question, Q1: What are the most important factors in creating strategic alliances?

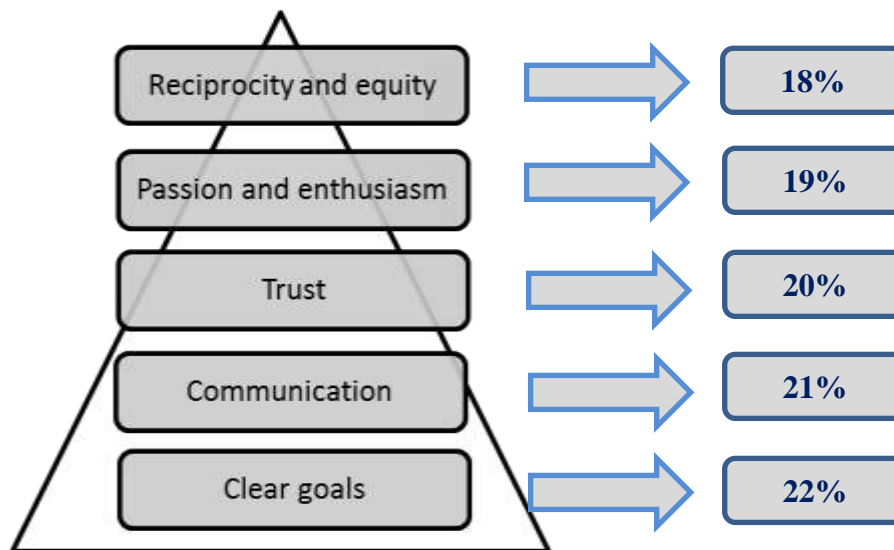


Figure 1 Research results and pyramid of efficiency elements in alliance creation model

Source: Realized by the author based on data processed in the research field

As already mentioned, the mean values in the frequency table (Table 2) show the average scores of the answers and other measurement. The median explains the middle value between the minimum and the maximum values of the observations. Mode is another measurement of central tendency. It defines the value which occurs most frequently in the data set (Dillon, et al., 1994).

In addition, the standard deviation reflects the amount of variations of a set of values. Roughly, this measurement represents the difference between the factor's values and its mean value. For instance, "clear goals" factor has the greatest difference between its minimum and maximum values and its mean value, in the presented data set. Thus, the value of the standard deviation increases automatically. According to Field, the small standard deviations show that the

respondents are similar and the data point is close to the mean value, on the other hand, large standard deviations indicate that the respondents are not giving similar answers and the point of data is not close to the mean (Field, 2013).

Table 1 Frequencies of the efficiency elements in alliance creation model

		Statistics				
		Trust	Reciprocity and equity	Communication	Passion and enthusiasm	Clear goals
N	Valid	21	21	21	21	21
	Missing	0	0	0	0	0
Mean		12.38	11.38	12.90	11.95	13.38
Median		12.00	12.00	13.00	12.00	13.00
Mode		14	10 ^a	13	10	13 ^a
Std. Deviation		2.924	2.012	2.234	3.090	4.318
Minimum		8	9	10	7	7
Maximum		19	16	18	18	21

a. Multiple modes exist. The smallest value is shown

Source: Realized by the author based on data processed in the research field

H1: Communication and clear goals are the most important factors in an alliance process;

The results presented above demonstrate that communication and clear goals are the most important factors in an alliance process, so, hypothesis 1 is supported by the results of the analysis and it is accepted.

Reliability Check

Before testing the relationship between efficiency elements in alliance creation model and other determinants, I want to be sure about the reliability of the measurement. Thus, I have used the 7 point Likert scale in the questionnaire. Field reports that a measurement should reflect an equal meaning for each respondent as clearly as possible. Therefore, I have tested the reliability of my scale with one of the measurements of the reliability analysis, Cronbach's Alpha (Field, 2005). Please, see the reliability check with the results for Cronbach's Alpha in table 3.

Table 2 Reliability Statistics of Success alliance and inefficiency determinants

	Reliability Statistics	
	Cronbach's Alpha	N of Items
Success alliance factors (SAF)	.915	20
Management	.823	3
Nature of organization	.796	2
Time flexibility	.808	2

Source: Realized by the author based on data processed in the research field

In order to check the consistency of variables, degree of reliability and validity of variables, or the degree of commonality of items, how low it is their “uniqueness“ and also how great is the connection between them – Cronbach’s Alpha has been calculated. (Cortina, J. M. 1993). In other words, the coefficient is calculated to see if the variables are correctly measured, if they adequately reflect what has been intended to be measured and nothing else. The validity of the Cronbach’s Alpha coefficients represents the strength of the correlation between a predictor and its criterion. A value of 0.90 is considered “excellent”, around 0.80, “very good” and around 0.70, “adequate” (Kline, 2005). The results of the processed data obtained in this investigation are presented in Table 3.

As seen in table 3, the values of Cronbach’s Alpha in each category is higher than 0.7, hence we can claim that Success alliance factors, Management, Nature of organization, Time flexibility are reliable. In other words, the 7 point Likert scale presents a clear meaning of each category to my respondents. Hence, it makes possible for me to measure exactly what I wanted to measure with specified variables (Field, 2005).

Factor Analysis

After the reliability check, I have proceeded to the factor analysis in order to test the three categories of inefficiency factors in the questionnaire. The factor analysis relies on the composite measures of the following: Management with 3 variables, Nature of organization with 2 variables, Time flexibility with 2 variables. Thus, the variable classes have been created by composite measures of variable combinations. Since these associations of variables have not been clearly classified in the questionnaire, it is essential to know the measurability of the variables in order to test the last hypothesis (Field, 2005).

Before communicating the outputs of the factor analysis, I have firstly checked the assumptions of the factor analysis: sampling adequacy, sphericity, and multicollinearity. The KMO is used to measure the sampling adequacy of variables and it is adequate when the value is as close to 1 as possible (Field, 2005). Next, a Sphericity test is applied to examine the correlation among variables, which are following the same construct, according to the significant ($p < 0.05$) result of Barlett’s test. If the result is significant, then it is reasonable to state that the variables are correlated and the factor analysis has a good judgement. Lastly, I have examined the multicollinearity dilemma between the variables of each category, as according to Field, there should not be an absolute linear correlation between variables. Therefore, for the moderate risk of high correlation between variables, the R matrix should be greater than 0.00001 for every group of variables (Field, 2013).

Management

According to the assumptions results, the KMO measure is 0.637, which is adequate when above 0.5. Also, the results of Barlett's test are significant ($p < 0.05$). Thus, I can report that there is no problem with adequacy, correlation and multicollinearity between variables under the Management value category. Additionally, as seen in the total Variance table illustrated below, there are two factors greater than 1 (1.416, 1.113). Moreover, these two factors explain Management value 85% of variance (Field, 2013). Please, see tables 4 and 5.

Table 3 Factor Analysis, Management_1

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.637
Bartlett's Test of Sphericity	Approx. Chi-Square	64.320
	df	3
	Sig.	.002

Source: Realized by the author based on data processed in the research field

Table 4 Factor Analysis, Management_2

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.461	48.712	48.712	1.461	48.712	48.712
2	1.113	37.110	85.822	1.113	37.110	85.822
3	.425	14.178	100.000			

Extraction Method: Principal Component Analysis.

Source: Realized by the author based on data processed in the research field

Nature of organisation

The assumptions of the Nature of organisation show that the result of KMO measure is $0.501 > 0.5$. Secondly, Barlett's test shows significant ($p < 0.05$) result. Thus, I can report that the variables under the Nature of organisation category have no problems with adequacy, correlation and multicollinearity between them. The following total Variance table shows that there is just one factor that explains the Nature of organization 58.18 % of the variance (Field, 2013). Please, see tables 6 and 7.

Table 5 Factor Analysis, Nature of organization_1

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.501
Bartlett's Test of Sphericity	Approx. Chi-Square	.475
	df	1
	Sig.	.001

Source: Realized by the author based on data processed in the research field

Table 6 Factor Analysis, Nature of organization_2

Component	Total Variance Explained		
	Total	Initial Eigenvalues % of Variance	Cumulative %
1	1.164	58.182	58.182
2	.836	41.818	100.000

Extraction Method: Principal Component Analysis.

Source: Realized by the author based on data processed in the research field

Time flexibility

The results of time flexibility show that the KMO measure is equal to 0.5, which is not inadequate, because the value is not under 0.5. Secondly, Bartlett's test gives significant results ($p < 0.05$). Therefore, I report that the variables under the Time flexibility category have no problem with adequacy, correlation and multicollinearity. In the table 9, you can see that there is just one factor that can explain the Time flexibility 65.29 % of the variance (Field, 2013). Please, see table 8 and 9.

Table 7 Factor Analysis, Time flexibility _1

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	1.719
	df	1
	Sig.	.004

Source: Realized by the author based on data processed in the research field

Table 8 Factor Analysis, Time flexibility _2

Component	Total Variance Explained		
	Total	Initial Eigenvalues % of Variance	Cumulative %
1	1.306	65.294	65.294
2	.694	34.706	100.000

Extraction Method: Principal Component Analysis.

Source: Realized by the author based on data processed in the research field

Correlation between management characteristics and alliance success factors

H3: The synergy between management characteristics and organisational abilities has a positive and higher impact on alliance success.

Table 9 Bivariate Correlation between Success alliance factors and management characteristics

			TOTAL	Management characteristics
Spearman's rho	SAF	Correlation Coefficient	1.000	.576**
		Sig. (2-tailed)	.	.002
		N	21	21
	Management characteristics	Correlation Coefficient	.576**	1.000
		Sig. (2-tailed)	.002	.
		N	21	21

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Realized by the author based on data processed in the research field

The results in table 10 present the correlation between success alliance factors and management characteristics. According to the bivariate correlation test, the relationship between these two aspects is a positive one ($r= 0.576$), which means the variables SAF and *management characteristics* are moving in the same direction (Field, 2013, p. 270). According to the significant results ($p= 0.002 < 0.05$) (Parasuraman, et al., 2004), I can report that *management characteristics* influence the success rate of an alliance. So, lack of management implication, support and involvement cause inefficiency in the creation process of an alliance. This aspect has been highlighted by numerous interviewees as creating difficulties. Insufficient assistance and involvement of top management are a negative influence and they contribute to the list of inefficiency factors of the creation process. In other words, I can sustain that the hypothesis3 is proved, because the results show that SAF and *management characteristics* are moving in the same direction (Field, 2013).

Correlation between nature of organisation and alliance success factors

H4: There is a negative correlation between nature of organisation and the success rate of an alliance;

Table 10 Bivariate Correlation between nature of organisation and alliance success factors

			SAF	VAR00001
Spearman's rho	SAF	Correlation Coefficient	1.000	-.201
		Sig. (2-tailed)	.	.009
		N	21	21
	Nature of organisation	Correlation Coefficient	-.201	1.000
		Sig. (2-tailed)	.009	.
		N	21	21

Source: Realized by the author based on data processed in the research field

The output of the correlation test, which is used to highlight the relation between the *nature of organisation and the alliance success factors*, shows that there is a negative correlation ($r= -0.201$), but weak significant relationship

($p=0.09>0.05$) between the *nature of organisation and the alliance success factors*. Therefore, hypothesis3 is supported by the mentioned results (Field, 2013). Thus, large variety in size (employees, turnover and geographical scope) may produce inefficiency. This aspect has been also demonstrated during the interviews. The company with a higher experience and expertise tends to dictate the alliance process. In other words, I believe that hypothesis4 is supported – the *nature of organisation is one of the elements that may cause inefficiency*.

Correlation between time flexibility and alliance success factors

H5: Time flexibility is negatively related to alliance success;

Table 11 Bivariate Correlation between time flexibility and alliance success factors

		SAF	VAR00004
Spearman's rho	SAF	Correlation Coefficient	1.000
		Sig. (2-tailed)	.
		N	21
Time flexibility	Time flexibility	Correlation Coefficient	-.077
		Sig. (2-tailed)	.009
		N	21

Source: Realized by the author based on data processed in the research field

The output of the correlation test, which is used to see the relation between *time flexibility and alliance success factors*, shows that there is a negative correlation ($r=-0.077$), but weak significant relationship ($p=0.09>0.05$). Reconsidering the interviews, a creation process that is too long is a factor of inefficiency. Thus, hypothesis5 is weakly supported by the results (Field, 2013) and I reject it.

Correlation between team experience and success rate of an alliance;

H1: There is a positive relationship between team experience and the success rate of an alliance;

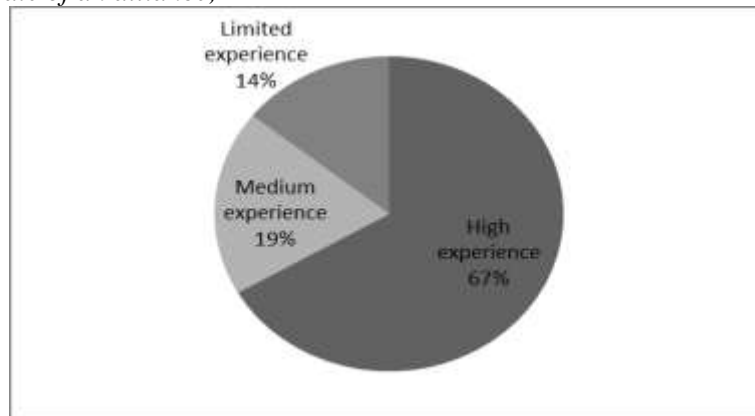


Figure 2 Team experience of the respondents

Source: Realized by the author based on data processed in the research field

After analysing all the responses to the survey's questions regarding team experience, I have concluded that only a small part of the respondents has limited experience. 67% of the respondents have high experience and 19% of them has a medium one. Most of the respondents declared during the interview, that this alliance is not a success. In other terms, hypothesis1 is not supported, because the results show that success of an alliance and team experience in alliances are not moving in the same direction. This could be an exception and not actually a rule.

Summarizing the above results, a set of factors lead to inefficiency in an alliance creation process. Without claiming that I have identified all these factors, I conclude to the second research question that team experience, management organisation and implication, nature of organisation are some inefficiency factors in an alliance.

Conclusions and recommendations

Worldwide, society experiences unceasing tremendous changes. It is not enough for an organisation to adopt new technologies in order to gain success. Sometimes, collaboration with other agents in the market can bring a competitive advantage that the organisation by itself would not have obtained otherwise. This research theme aims at exploring the vulnerabilities of this collaboration, alliances that may occur between organisations. A further research could even consider to go beyond analysis of these vulnerabilities, but find a solution to valorise them along the creating process of such an alliance and turn them into positive aspects.

We conclude that alliances are: cooperation/collaboration among two (or more) parties for a short- or long-term period of time, in order to gain something and share resources and risks. There are a series of key elements that I consider to be important in an alliance creation process. Some of them prove to be the most important factors in creating strategic alliances. Even if they are exogenous or endogenous, intern or extern, endogamic or exogamic, all the factors are relevant at a certain stage of the alliance life cycle.

References

1. Carroll, A. B., 1991. „The Pyramid of Corporate Social Responsibility: Toward the Moral Management of Organizational Stakeholders. *Business Horizons*, 34(4), pp. 39-48. case research”. *Journal of Business Research*, Vol. 55, pp. 553-560.
2. Cortina, J. M. (1993). “What is coefficient alpha: an examination of theory and applications”. *Journal of Applied Psychology*, 78, 98±104.
3. Das T.K. and Teng B-S. (2003). „Partner analysis and alliance performance”. *Scandinavian Journal of Management*, Vol. 19, pp. 279-308.
4. Dillon, W. R., Madden, T. J. & „Firtle, N. H., 1994”. *Marketing Research in a Marketing Environment*. 3. USA: Richard D. Irwin.

5. Eisenhardt K.M. and Schoonhoven C.B. (1996). „Resource Based View of Strategic Alliance Formation: Strategic and Social Effects in Entrepreneurial Firms”. *Organization Science*, Vol. 7, No. 2, pp. 136-150.
6. Fellows, R. & Liu, A. (2008) *Research methods for construction*, 3rd ed, Chichester, WileyBlackwell.
7. Field, A., 2013. *Discovering Statistics Usig IBM SPSS Statistics*. 4. London: SAGE Publications.
8. Hagedoorn J. 1993. „Understanding the rationale of strategic technology partnering: interorganizational modes of cooperation and sectoral differences”. *Strategic Management Journal* 14(5): 371–385.
9. Hamel G. (1990). *Competitive collaboration; learning, power and dependence in international strategic alliances*. Doctoral Thesis, University of Michigan, UMI.
10. Ireland R.D., Hitt M.A. and Vaidyanath D. (2002). „Alliance Management as a Source of Competitive Advantage”. *Journal of Management*, Vol. 28, No. 3, pp. 413-446.
11. Kline, R.B. (2005), *Principles and Practice of Structural Equation Modeling* (2nd Edition ed.). New York: The Guilford Press.
12. Lorange P. and Roos J. (1991a). *Road blocks to the success of a Strategic Alliance (and How to Go Around Them)*, Handelshoyskolen BI 1991/42.
13. Lorange P. and Roos J. (1991b). „Analytical Steps in the formation of Strategic Alliances”. *Journal of Organizational Change Management*, Vol. 4, No.1, pp. 60-72.
14. Nohria N, Garcia-Pont C., (1991), „Global strategic linkages and industry structure”. *Strategic Management Journal*, Summer Special Issue 12: 105–124.
15. Roja, A., Nastase, M., Valimareanu (Mircioi), I., (2014), „Collaborative Networks and Strategic Axes, Fundamental Pillars of the Development of Technology Entrepreneurial Ecosystems”, *Review of International Comparative Management* Volume 15, Issue 5, December 2014, 579-594.