

The Effect of Competitive Threat over Response Behaviour of Top Management Team

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Abstract. The subject of this paper is to scrutinize the effects of competitive threat on reaction attitude of top management team. Competitive threat from a given rival would probably block the focal firm and affect the behavior of taking hostile attitude. Other conductive options of the focal firm against the rival might be forbearance and efforts to get rid of the competition. This research has tried to denominate perceived threat of competition. Because the managers, shareholders and industry stakeholders assess competitors by the effects of four factors: rival's attack volume, capturing attention, relative scale, and similarity. This study also attempts to find the influence of competitive threat on strategic decisions and implementations. The research results indicate that competitive threat not only directly affects the volume of attacks to rival but also ends up with indirect effects such as value innovation.

Keywords: Competition, value innovation, threat perception, response behavior, strategy

1. Introduction

Competition between firms and rival analysis will probably be always important. Interfirm rivalry is best explained by two theories one of which looking industry environment first and the other giving precedence to resources. These types of viewpoints have their own examination procedure to scrutinize the interfirm rivalry. While Porter's five forces framework [17] represents elder, Chen's model [18] was in the latter. Chen's framework based on firm dyads had used market moves as interpreter for effects of competition [21]. Other researches take the position of manager of a single firm and consider all other rivals whether checking industry/ group dependence, size, customer conflict [7,9,26] or perceptions [24] and firm strategy concerns [4]. The identity of the principle rival of the focal

firm and the degree of competitive pressure were answered directly or indirectly [14]. These researches were alike by methods but different in literature building ways. The research stream using dyadic method had pointed out three main predictors from a wide range of variables [14, 21]. Awareness, motivation and capability predictors could explain more strategic actions than the perceptual data approach to competitive tension [21, 24]. This tension born from competitive threat would mediate for either attacking to or forbearing from the rival by differentiating.

2. Rivalry and strategic forbearance choices

Innovation is a matter for differentiation. Cyert and March pointed out the innovation as a matter in firm theory building [25]. It seems still

the case. Two challenges in innovation implementation process are improving and deciding to present the new product to customers [23]. Blue ocean strategy which deserves mostly to be labeled as strategic innovation proposes redefining market forces in light of value creation. Despite the originality the practice how to create is very few. Without analytic frameworks for creating blue oceans and the effective risk management it is found to be risky to follow as a strategy. If the technological change is rapid and environment is volatile it is the time for looking into innovation depots. While reconciling competition with innovation on the other hand firms focus to get rid of competition by the way of value innovation. To cope with this concern one should examine the construct of competitive threat between a focal firm and main rival as in the model of this study. Awareness motivation and capability perspective leads to examine if relative scale, rivals attack volume and capability to contest affect the focal firms respond rate [21]. The respond behavior is a function of perceived competitive tension.

3. Competitive threat affecting forbearance

The mediator role of competitive threat on the interfirm rivalry would be considered as shown in the proposed Figure 1. First the three predictor of competitive threat would be checked. Salience and similarity were used to form up capability to contest.

3.1. Reasons of competitive threat

3.1.1. Relative scale

Size had been considered as a conditional variable affecting the strategy of firm [1]. Traditional strategy thought have taken size to be one of main subjects of competition analysis. The relatively large size is seen as ensign and salience of market power [1, 13]. Competitive research showed that bigger firms acted different competitive attitudes relative to smaller firms in the industry [8]. When the bigger firms are attacked they apprehend to protect their reputation more. It can be predicted that the competitive threat perception of stakeholders is positively related to size and sphere of influence of the firm [20, 21]. Than related hypothesis would be:

- *Hypothesis 1.* Compared to focal firm the size of the rival affects perceived competitive threat.

3.1.2. Rival's attack volume

The interaction and interdependence of the firms in the market are the most distinct variables affecting economy and competitive attack range [11]. If the firms had competed in many markets they are direct competitors [11, 21]. So they feel free to act against each other. Among other things they attack, defend or retreat for market share and success. Managers and shareholders consider any moves of the other firm aiming at market enlargement and entry as intransigent.

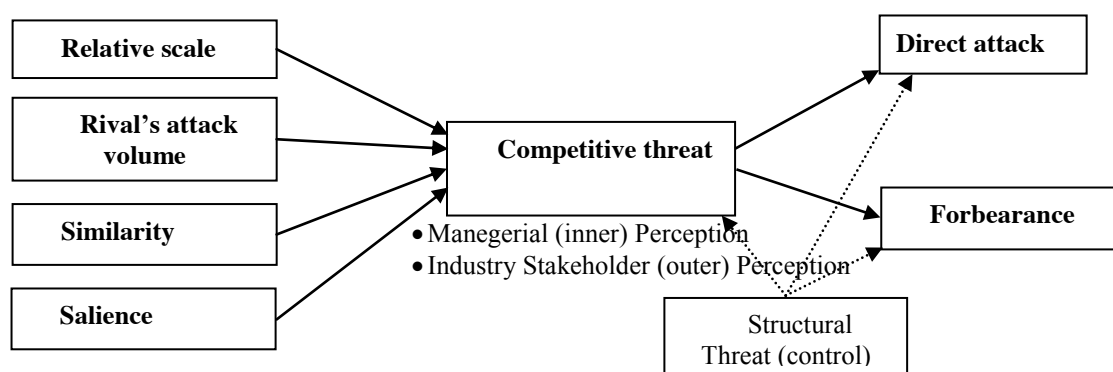


Fig. 1: Reasons and results of Competitive threat

Motivation perspective of manager and shareholders consider the main rival's moves towards the focal firm's market as the primer resources of tension forcing to defend the turf [19]. In support of the idea the research founded that firms competing in more than one market tend to retreat less [8]. There are different attack properties like duration and violence but the movement quantity is the subject for this research to count for the level of attacks. Rival attack level would increase the tension perceived by managers and stakeholders naturally. Than related hypothesis would be:

- *Hypothesis 2.* The bigger the attack quantity to market of focal firm the more perception of competitive threat.

3.1.3. *Capability to contest*

A critical variable of perceived threat is the forcing level of the rival move in the shared market. The capability to contest of the rival depends on two conditions. First similarity of the resources and the second is salience of the role of the rival over valuable resources. The rival will be considered to be dangerous for the focal firm if the resources are more or less have the same image. The challenge would be more dangerous when the rival has the power to control the scarce resources. In other words the firms having similar strategy and structure exert more pressure on each other having similar resource profile and capabilities [3]. Industry stakeholders are likely to assess the rival with similar resource profile with the focal firm as a direct rival. In addition, the capability to contest of a rival is related with the control power and salience over the scarce resources in the industry they operate in [10]. Two firms depending on similar vital resources and compete for the other's vital resource then they are directly rivals and there is a strong perceived tension between their managers and stakeholders [18]. Related hypothesis are:

- *Hypothesis 3.* The similarity of the focal and the rival firms' resources increase the competitive threat
- *Hypothesis 4.* The salience of the rival firm's resources increases the competitive threat

3.2. *Reasons of competitive threat*

Researchers found that firms tend to be assailed either by market entry barriers or multimarket competition to evident rivals [13]. Also the researchers found that the perceptions of managers and stakeholders are alike in competition as-

essments and these perceptions are successful predictors of competitive actions in a certain industry [19]. So the behaviors of the managers in the end turn out to be consistent actions. If both managers and industry stakeholders decide on focal firm experiencing high competitive threat then focal firm would probably try to lessen the threat and gain the relative supremacy by attacking the rival [19]. Thus perceived threat would be able to cause continuous competition and affect long term industry balance [17]. In the balance some firms might find ways to differentiate and cost reduction either by forbearance or making good use of others innovations.

Strong competitive threat perception might lever the attack volume of the focal firm to the markets of the rival firm. But to investigate the effects of competitive threat on competitive moves it is required to control the effects of structural tension and market dynamics first. So hypothesis would be about:

- *Hypothesis 5.* When the objective structural tension is controlled for, the bigger the perceived threat to focal firm the more competitive attacks to market of the rival.

Managers have two choices besides being indifferent: attack and forbearance [12]. Forbearance is an indirect but long lasting choice of response as certain as direct attack and using other's innovations. Not rising to notice for strong market leader firms but filling the niches is good enough to count as strategy. But in longer term a forbearer firm should consider leverage of balanced cost leadership and differentiating together. For example value innovation is a better one in other words Blue Ocean strategy [27]. Firm decisions, especially value innovation decisions and implementations have a long time interval (more than two years) of latency [6]. Though thanks to rigidity of firms the innovative advantage of competitive threat depends the size of innovation depots which are consisted of the new industrial projects waiting a crisis to launch. The rigidity of the firms helps them to survive in crisis time if they have innovation buffers. Thus researchers should consider the risk absorption capacity of managers and take innovation decisions and implementations separately into consideration. The implemented innovation quantities of the firms depend on the decisions taken two years before. As a strategy value innovation able to cost reduction and differentiation at the same time is hard to manage. It requires talent to create new and uncontested markets. The related hypothesis are:

- *Hypothesis 6.* The more perceived competitive threat, the more strategic innovation decisions,
- *Hypothesis 7.* The more perceived competitive threat, the more strategic innovation implementations,

4. Method

4.1. Sample and data collection

4.1.1. Sample

Airways passenger transportation industry considered to be the most proper sample for this type of research [11, 13]. The researches of competitive actions have been made before on the airways industry because of the collective business relations are rare, reputation as a competitive industry, rivals are known firms and boundaries are distinct. Though the strategic group borders are vague because of the industry is still in growth stage Turkish domestic airways industry is chosen as the area of research. As every industry has a unique competition set up the generalization of the results will be limited.

Target sample is the main group of ten (10) domestic firms which have operated in Turkey between the years 2005 and 2010. The primary inner respondents of the firms are top management team and shareholders while outer respondents are industry stakeholders consisted of stock market, insurance, airways specialists and bigger than average income of travel agencies' managers.

4.1.2. Data collection

Research has two stages of primary and secondary data collection. First stage namely primary data collected by a survey applied to the entire main group. Firm members with no decision involvement, relatively small (without International Air Transportation Agency Document) travel agencies and small ranked officers were excluded. Target main group assumed to be homogenous. Airways passenger transportation with large media network, well identified market borders, and developed competitiveness with the deregulation act in 2003 represents the best area of research. Choosing the 2005-2010 time series is useful to see the improvement after the deregulation and the 2008 economic crisis effects. Market consisted of 156 domestic lines derived from the secondary data from Civil Aviation Directorate and media archives.

Survey stage to estimate the perceptions of managers lasted between November 2010 and April 2011. For inner valuation 126 airway manager and shareholder; for 55 outside stakeholders (39 travel agency managers, 5 insurance company expert, 2 stock exchange analyst, 1 flight control supervisor, 1 airport director, 7 non domestic airway firm managers) total 181 potential respondent has got the survey forms. The respondent lists were obtained from the official sites of the firm and public relation offices of the firms.

The response rate for inner valuation was 45% (n=56 and 1 is void, for ten airways firms) and outer valuation was 62% (n=34). For each airway firm the response numbers for inner respondents varies 1 to 29 respondents. And outer respondents per firm vary between 1 and 7. Respondents and non-respondents did not vary by a bias of firm size, industry, and firm experience.

4.1.3. Depended variables

* Perceived competitive threat: To assess this ordinal variable the respondents asked to what extend a certain rival could be considered as the primary rival [21]. Respondents are asked to eliminate 5 out of 9 rivals and put an order considered competitive threat. The assessment procedure gives 5 to primary rival 4 to secondary, 3 to third, 2 to fourth, 1 to fifth and 0 to the rest which produce less threat for the focal firm. The points considered as proportional measure and averaged per rival firms. On the way every value reflects a certain rival's competitive threat perceived by the managers and stakeholders of the focal firm. The inner and outer respondents had been separated when the results are gathered. Thus three 10x10 matrix showed inner, outer and all respondents' perceptions. These variables normalized based on "Z scores" before use. Afterwards a hyperbolic transpose was done based on matrix cells. Hyperbolic transpose formula was:

$$Y = \text{maximum} - X + \text{minimum}$$

In other words matrix cells were inverted before the correspondence analysis. Because the perception measures were collected based on firm dyads, there was a concern that whether the average of respondents' perception reflects the total pressure a rival produce for focal firm or not. To check for inner consistency of the construct Shrout and Fleiss' intra-class correlation coefficients (ICCs) were used for each of 10 firms [22]. Average inner group correlation coefficient (ICC1) value was 0.17 showed that each of 9

rival airways were highly consistent for all the respondents [15]. Inner group correlation coefficient (ICC2) value 0.95 showed additionally average assessment of the rival group was stable. Thus supporting the gathering of firm dyads concluded the design of the model was reliable.

* Direct attack to the rival: Only entry to a new marked was used as the attack quantity. For focal firm secondary data between the years 2005 and 2010 derived from 156 air routes' changes counted to form the variable. It was considered enough to assess a firm resident to operate on the route in 2005. The satiation of the routes was not a concern as the maximum of 5 firms makes minimum 20% market share which is quite sufficient to count a firm resident on the route. Attack levels were represented by the operation on a new route or increase in the service on any routes [21]. The data gathered from at least two independent broadcast sources to make sure the change of service on 156 domestic routes which represents the attack degree to rivals. To be resident would be a source of threat one move for every dyad was added to the attacks to all the other firms. All the variables had been treated the same way as told for perceived competitive threat.

* Forbearance decision of top management team: To assess the forbearance decisions of top managers a multiple choice and an open ended supporting question had been asked about defining chosen response actions to rival attacks. Behind others in multiple choices two definitions were about value innovation decisions.

* Forbearance reaction of top management: To assess the forbearance reaction of top managers the quantity of value innovation implemented within the same year of the attack. The secondary data surveillance from at least two independent broadcast sources had been executed for over six years starting from 2005 to May 2011 which represents a kind of response to rivals. Travel agency specialists helped to discriminate value innovations from regular operations. The 10x10 matrix prepared by the formula:

Quantity of value innovation/ Years investigated

Sum of value innovation within the industry
Some data about the innovation news were eliminated and had not been taken into consideration because of the fact that they are advertisements giving the starting to a new application or research and development project efforts. Focus was only on implemented new business ideas.

4.1.4. Data analysis

Multiple regression quadratic assignment procedure had been used to verify dependent variables. This procedure is specially designed for solving autocorrelation problem in dyadic data [2, 29]. The matrix procedure applied to all variables using Ucinet (Software for Social Network Analysis ver.: 6.0.0289). Software, relates a dyadic variable (an actor-by-actor matrix) to a monadic variable (a vector representing an interval-scaled attribute of each actor). For example, if the dyadic variable is who friends with whom are, and the monadic variable is height, the procedure tests whether friendship is patterned by height (e.g., children prefer to be friends with children who are the same height as themselves). Model helps both directly compare matrix data and to overcome the auto correlation problem of this type of systematically related data samples. Multiple regression quadratic assignment procedure is a non-parametric algorithm which measures the relation between the averages of dependent matrix with the independent ones. The algorithm first applies a standard algorithm between the same addresses of the dependent and independent matrixes. Afterwards randomly changes the order of columns and lines before measuring the new relation level. To reach the desired error level this procedure reiterates (e.g. 5000) many times. Thus it allows to be sure about the relation of the matrixes is not a coincidence besides overcoming the autocorrelation problem.

To evaluate the results are four square additionally random effect least squares regression analysis and fixed effect regression analysis had been used. The result screens showed no difference with that of the first procedure.

For the second dependent variable Poisson and negative Binom distribution model had been used. Considering Poisson distribution model could not be able to measure variable outputs correctly, to control over dispersion problem negative Binom distribution model had been chosen [6]. Both primary and secondary data were used for the independent variables predicting second dependent variable. For the data Microsoft Excell 7, SPSS (ver: 13.0.0.246) software packages were used. Variables transformed based on Z distributions to normalize the error terms before statistical analysis.

Table 1. Averages, standard errors and correlations

Variables	Aver	s.e.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.Competitive threat combined	1.433	1.399														
2.Competitive threat outer perception	8.660	20.468	0.474**													
3.Attack to rival's market	1.711	3.034	0.469**	0.274*												
4.Relative scale 2005-2010	4.803	12.328	-0.140	-0.113	-0.061											
5.Rival's attack volume	1.711	3.034	0.318**	0.077	0.163	-0.031										
6.Salience	0.015	1.031	0.164	0.150	-0.048	0.660	0.080									
7.Similarity	-5.994	44.509	0.139	0.063	0.065	0.013	0.065	0.059								
8.Structural Threat 2005-2010	-0.004	0.035	-0.105	-0.100	0.124	0.062	0.530**	-0.070	0.021							
9.Routes of the rival not shared	22.589	14.584	-0.101	0.163	-0.046	-0.086	0.127	0.027	0.000	-0.108						
10.Average occupancy rate of rival's f.	2.043	0.662	-0.269**	-0.181	0.039	0.182	0.014	-0.092	-0.182	0.097	-0.027					
11.Attack behavior to primary rival	0.489	2.130	0.495**	0.643**	0.237	0.084	0.170	0.482	0.041	0.050	0.091	-0.125*				
12.Difference in the age of the firms	0.289	0.654	0.439**	0.300*	0.125	-0.080	0.043	0.083	0.058	-0.088	-0.064	0.086	0.375**			
13.Forbearance decision from pr. rival	0.578	1.577	-0.382	-0.612	-0.288	0.291	-0.051	0.423	-0.492	-0.039	-0.283	0.389	-0.170	-0.467		
14.Forbearance reaction to pr. rival	0.554	0.432	0.273**	0.302	0.182	-0.172	-0.080	-0.039	0.214*	-0.358**	-0.014	-0.432	0.073	0.101	0.331	
15. Competitive threat inner perception	1.649	1.948	0.809**	0.326**	0.428**	-0.202	0.241*	-0.037	0.112	-0.069	-0.135	-0.149	0.299*	0.299**	-0.352	0.287**

n = 90, (Attack to rival's market and Structural Threat: n=72). *p< 0.05, **p< 0.01

5. Results

Table 1, shows the averages, standard errors and correlations for all the variables examined. For 10 airways firms 90 (or 10x9) couple observation of perceived competitive threat had been derived. Table 1, showed that inner and outer perceptions of the competitive threat were highly correlated which proved that the model setup was consistent (p<0.01). Just as expected from a mediator variable no relation have been found between predictors and results of it. Two shadow variable of capability to contest namely salience and similarity or relative size had no connections with any of dependent variables.

To check for multiple connectivity problems, variance inflation factors were estimated. As expected assumed model fit and hypothesis test was safe and included no multiple connectivity problems.

Table 2, displays the regression analysis of predictor variables of competitive threat. Resolution is via 4 regression equation. First model adopts competitive threat as a function of age, slack resources which is a strong potential to innovate and objective structural threat. Controlling the same variables second model considers relative scale, rival's attack volume and capability to contest. 2nd model tests all respondents', 3rd model managers' and 4th model stake holders' perceptions of threat. The measurements of these models were standing for first four hypotheses.

Table 2. Predictors of perceived competitive threat (Regression analysis)

Variables	Model1	Model2	Model3	Model4
Age of focal firm	-0,069	-0,117	0.148	0.282*
Past performance of focal firm	-0,047	0,075	-0,092	-0,032
Slack resources of focal firm	0,024	-0,009	-0,226*	-0,206*
Age of rival firm	0,151*	0,169*	0,160*	0,178*
Past performance of rival firm	0,338**	0,330**	0,375**	0,324**
Slack resources of rival firm	0,006	0,071	0,034	0,122
Objective structural threat	-0,196*	-0,192*	-0,212*	-0,096
Relative scale		-0,155	-0,178*	-0,164*
Volume of rival's attacks		0,415**	0,336**	0,458**
Salience		0,191*	0,214*	0,072
Similarity		0,002	-0,062	-0,068
n	90	90	56	34
R ² (Adjusted R ²)	0,181(0,122)	0,336(0,252)	0,164(0,094)	0,241(0,176)

*p< 0.05, **p< 0.01

Table 3. The effect of competitive threat over the attack response of top management team

Variables	Model1	Model2	Model3
Age of focal firm	0,022	-0,027	-0,014
Past performance of focal firm	0,294**	0,265**	0,250**
Slack resources of focal firm	0,101	0,109	0,104
Age of rival firm	0,060	-0,051	-0,007
Past performance of rival firm	-0,076*	-0,133*	-0,126*
Slack resources of rival firm	-0,014	0,001	-0,011
Average intensity of the rival routes	0,045	0,064	0,088
Average number of the rival routes	0,078	0,046	0,101
Objective structural threat	0,574**	0,586**	0,583**
Relative scale	-0,013	0,019	-0,003
<i>Perceived competitive threat</i>			
Inner perception	0,329**		
Outer perception		0,432**	
Total perception			0,435**
n	56	34	90
R ² (adjusted R ²)	0,481(0,415)	0,539(0,481)	0,542(0,484)

Hypothesis 1 was about if the size of the rival affects perceived competitive threat. The answer was no. Because the regression coefficient was negative and was slightly out of acceptable limits ($p < 0.10$) for managers and shareholders. Though for other respondents and totally the reliability were acceptable ($p < 0.05$) H1 was rejected. Hypothesis 2 predicted the bigger the attack quantity to market of focal firm the more perception of competitive threat. The results were quite supportive for both inner and outer respondents and of course totally ($p < 0.01$).

Thus H2 was accepted. With Hypothesis 3 was the similarity of the focal and the rival firms' resources and with Hypothesis 4 was the salience of the rival firm's resources increasing the competitive threat. The coefficient for salience was positive for only managers and shareholders. Other coefficients were indeterminate. So the H3 was rejected and because the total perception was positive and supportive ($p < 0.05$) H4 was accepted except for the stakeholders' perceptions. Table 3 shows the Binom regression analysis results for the effect of competitive threat over the attack response of top management team.

The regression analysis to test Hypothesis 5 consisted of three equations. First of the three equations was the basic equation about the inner perception of competitive threat. Second model was about the threat perceptions of outer respondents and the third one was total perceptions of all the respondents.

All three models were checking by perceptions the predictors' role on the decision making process about the attack response to rivals. Shortly models contain all the control variables and inner, outer and combined threat perceptions respectively. According to Hypothesis 5 considering the focal firm when the objective structural tension is controlled for the more perceived competitive threat the more attacks to the markets of the rival. The coefficient for that condition was positive and supportive at the highest ratio ($p < 0.01$). This finding was still at the same strength when the strong effect of objective structural threat was controlled ($p < 0.01$). Table 4 shows the regression results for the focal firm's forbearance behavior.

Also the regression analysis for the Hypothesis 6 had been executed by three equation models. First was for the threat perceptions of inner firm managers and shareholders, second was for outer stakeholder', and third was for combined perceptions. Hypothesis 6 predicts the competitive threat would increase innovation decisions within the focal firm. The coefficient for innovation decisions was positive and supportive for the three groups of respondents ($p < 0.05$). Thus H6 was also accepted with the control of objective structural threat. Table 5 shows the focal firm forbearance actions after the rival attacks. The independent variables were the same as in the table 4. As the strategic innovation decisions, strategic innovation implementations are supported for all three groups of respondents.

Table 4. The effect of competitive threat on forbearance decisions of top management team

Variables	Model1	Model2	Model3
Age of focal firm	0,005	0,078	-0,050
Past performance of focal firm	0,081	0,049	0,033
Slack resources of focal firm	0,199*	0,247**	0,163*
Age of rival firm	0,060	-0,051	-0,007
Past performance of rival firm	0,276**	0,296**	0,168*
Slack resources of rival firm	-0,022	-0,080	-0,071
Average intensity of the rival routes	0,154*	0,182*	0,189*
Average number of the rival routes	0,051	0,090	0,064
Objective structural threat	0,112	0,046	0,099
Relative scale	-0,382**	-0,408**	-0,357**
<i>Perceived competitive threat</i>			
Inner perception		0,199*	
Outer perception			0,214*
Total perception	0,222*		
n	90	56	34
R ² (adjusted R ²)	0,281(0,251)	0,272(0,243)	0,292(0,259)

*p< 0.05, **p< 0.01

Hypothesis 7 predicts that the more perceived competitive threat, the more strategic innovation implementations. Thus H6 was accepted as the coefficients for value innovations were all positive and supportive (p < 0.01) for all three groups under the control of objective structural threat which had its own independent effect (p < 0.05).

6. Discussion and conclusion

A competitive dynamic which was a crucial topic in the middle term discussions of strategic management have not fallen into contempt yet. Following this stream of works this study has enriched the connections built between strategy and competitive analysis [5, 16].

Table 5. The effect of competitive threat on forbearance actions of top management team

Variables	Model1	Model2	Model3	Model4
Age of focal firm		0,117	-0,008	0,051
Past performance of focal firm		-0,002	-0,013	0,039
Slack resources of focal firm		0,281**	0,202*	0,234*
Age of rival firm		-0,079	-0,043	0,021
Past performance of rival firm		0,337**	0,204*	0,313**
Slack resources of rival firm		-0,119	-0,112	-0,058
Objective structural threat		0,131	0,096	0,108
Relative scale		-0,199*	-0,196*	-0,210*
<i>Perceived competitive threat</i>				
Inner perception			0,382**	
Outer perception				0,415**
Total perception	0,657**	0,442**		
n	90	90	56	34
R ² (adjusted R ²)	0,391(0,384)	0,410(0,390)	0,365(0,343)	0,367(0,345)

*p< 0.05, **p< 0.01

To use firm dyads opposes the idea to assume all the rivals are homogeneous. This approach discriminates and puts a hierarchical order to threats generated by rivals subsequently. The results of the study pointed the success of the research design: when objective tension was controlled, focal firm's reactions to rivals changes by perceived threat. In case of the absence of the rival assessments the outer perceptions subsidize the respondents successfully for parallel outputs for study. Inner and outer perceptions have high similarity ratings. Competition seems like a sort of social set up. Especially when inner respondents were thought to be biased by the sensitive firm dynamics the outer respondents would form a reliable and useful tool in future researches. Moreover it might be thought that while inner perceptions reflect the managerial concerns the outer perceptions show the real strategic competitive position of the firm. Albeit similarity, relative scale predictions had no and, salience had limited support for current sample the reverse relation reminded when setting up a competitive threat model one should consider the importance of mutual forbearance [11]. The other reason of the prediction and result difference might be the firms had combined forms of ownership/ partnership relations than common rivals. The competitive threat has not only affected market moves but also has contributions to strategic planning and long term investments. The future research would be helpful to highlight the effect of competitive threat to value innovation decision and implementations.

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