

Strategic performance through inter-firm networks

Strategic alignment and moderating role of environmental dynamism

Zahid Yousaf and Abdul Majid

Department of Management Sciences, Hazara University, Mansehra, Pakistan

Abstract

Purpose – The purpose of this paper is to examine and develop a strategic performance model for small and medium enterprises linking with inter-firm networks, strategic alignment and environmental dynamism.

Design/methodology/approach – Drawing on the live experiences of 757 respondents, including managing directors/owners and CEOs of different SMEs, the authors proposed a theoretical model representing how firms could attain strategic performance through inter-firm networks with a mediating role of strategic alignment.

Findings – The current study demonstrated that SMEs with strong inter-firm networks have the ability to align business activities with strategies and get earlier strategic performance. Strategic performance looks skeptical to ever gain acceptance until strategic alignment is adopted by small and medium enterprises. The findings of this study indicated that environmental dynamism strengthens the relationship between strategic alignment and strategic performance.

Originality/value – This research extended the understanding about the inter-firm networks, strategic alignment and environmental dynamism surrounding strategic performance. This study identified and empirically tested how the inter-firm networks impact on strategic performance through the mediating effect of strategic alignment.

Keywords Pakistan, SMEs, Strategic alignment, Environmental dynamism, Inter-firm networks, Strategic performance

Paper type Research paper

1. Introduction

Inter-firm networks have appeared as an attractive indicator of strategic performance in SMEs for the reason that through networks they hold better resources along with numerous opportunities. As compared to individual firms, networks facilitate firms to work more enthusiastically under unfavorable circumstances, and they become relatively more capable of resource identification and successful integration (Rampersad *et al.*, 2010). Strategic performance frequently requires multiple tasks to be carried out simultaneously, consecutively, or reciprocally, which could be achievable through inter-firm networks (Kim *et al.*, 2008). Inter-firm networks are the powerful tool to bring prosperity in SMEs and make them able to design and bring advanced products into the market for attaining strategic performance (Dyer and Hatch, 2006). There is a reasonable amount of literature available on the domains of networks and enterprise performance (e.g. Papke-Shields and Malhotra, 2001; Lumpkin and Dess, 2001; Madison *et al.*, 2014); however, the analysis of these concepts in the context of developing countries is still an



Conflict of interest: Authors declared no conflict of interest.

The authors thank the Editor Professor Allam Ahmed and reviewers for valuable suggestions and insights that helped to improve this paper.

unexplored field that requires an in-depth investigation (Raza and Majid, 2015). Predictors of strategic business performance, especially strategic alignment and dynamism of the environment of the developing countries, is another ignored area in entrepreneurship literature. This paper especially makes a concerted effort to address these issues.

Entrepreneurship researchers like Gemser *et al.* (1996) specifically emphasized the advantages of inter-firm networks to look into the performance strategically. However, to build a strong relationship between inter-firm networks and strategic performance, the role of strategic alignment cannot be ignored as suggested by Joshi *et al.* (2003). Therefore, this study also considered the mediating role of strategic alignment to further strengthen the theoretical model of strategic performance of SMEs in the context of developing countries.

The environment of the developing countries is relatively more dynamic and complex and discussed by number of researchers in their studies (Lumpkin and Dess, 2001). Without considering the dynamism of the environment, the reliability of the newly developed model will remain questionable. Therefore, this study also investigated the moderating role of environmental dynamism in the relationship of strategic alignment and strategic performance.

The objective of this research is to address the above mentioned issues and add valuable contributions to the existing body of knowledge in three ways. First, we extended our understanding about inter-firm networks, strategic alignment environmental dynamism and strategic business performance. Second, we conceptually identified and empirically tested how inter-firm networks affect strategic performance through the mediating effect of strategic alignment. Third, we investigated whether the relationship between strategic alignment and strategic performance fluctuates across the different levels of environmental dynamism. The study proceeds as follows: we described a theoretical foundation and hypothesis development in the next section. After literature review, we presented the research model along with the measurement and analysis of variables. Finally, we discussed our conclusion, implications, limitations and future directions.

2. Literature review and hypotheses

2.1 Strategic performance and inter-firm networks

Strategic performance refers to the successful achievement of an organization's strategic objectives (Zou and Cavusgil, 2002). It covers both organizational performance as well as organizational effectiveness (Chakravarthy, 1986). Strategic performance represents the competitiveness of an enterprise and covers the most influential position among competitors in attaining a foothold in the industry, raising the awareness of the firm and responses to those competitive challenges which were created by competitors (Chung, 2011). Chung *et al.* (2015) reported that strategic performance enhances the learning process and helps an enterprise create unique and competitive capability in operational areas. Strategic performance guides the competitive positions of business, and covers details regarding the overall performance of the enterprise: performance relative to competitors and performance relative to other businesses of the same kind in the industry (Madison *et al.*, 2014). We used strategic performance here as a major outcome of strategic alignment through inter-firm networks.

Inter-firm network refers to a firm's association with other organizations like customers, competitors, suppliers, government agencies, research organizations or other institutions, for improving the different skills and knowledge required for strategic performance (Ren *et al.*, 2013). Inter-firm networks refer to the relationships

among various individuals/firms (Zaheer *et al.*, 2000); these are the set of nodes/relations that connect these individuals/firms (Martinez and Aldrich, 2011). Lans *et al.* (2015) defined networks as “collaborations:” whereas, Ritter and Gemunden (2003) defined it as a relationship built for mutual benefits. Most compelling inter-firm network activities include coordination and relational skill (Walter *et al.*, 2006), cooperation (Heide and John, 1990; Varadarajan and Cunningham, 1995) and trust (Aulakh *et al.*, 1996). Such activities enable an enterprise to align its goals and strategies for achieving the targets of strategic performance (Henderson and Venkatraman, 1993).

Inter-firm networks can reduce the economic risks and increase the pool of diverse resources successfully (Rampersad *et al.*, 2010). Joshi *et al.* (2003) acknowledged that strategic alignment is associated with the process of planning business strategies for attaining higher strategic performance, and also emphasized for competitiveness. Research of previous scholars has proved that inter-firm networks can craft many advantages for a firm’s performance, like control of technological uncertainties, shared R&D risks and costs, access to specialized capabilities and knowledge from external sources (Rampersad *et al.*, 2010).

2.2 Mediating role of strategic alignment

Strategic alignment is a complex notion and difficult to understand (Chan *et al.*, 2006). It refers to the alignment between the goals and objectives of an enterprise, and an organization’s strategies, in turn support strategic directions (Henderson and Venkatraman, 1993). The dominant perspective that focuses on alignment between business and combinations of strategic alignment dimensions suggested by previous researchers are: strategy alignment (e.g. Chan *et al.*, 2006), planning alignment (Hirschheim and Sabherwal, 2001), and the alignment of infrastructure or processes (Henderson and Venkatraman, 1993). Strategic alignment may lead to greater value to customers through certain products’ features, e.g. lowering in cost, high quality and in-time delivery, which turn into higher market share and sales (Papke-Shields and Malhotra, 2001). It provides an entrance ticket to the enterprise where a firm’s overall business, technology and product could guide product development processes (Henderson and Venkatraman, 1993). Business strategy alignment with business processes needs time, effort and an experienced management team (Joshi *et al.*, 2003). Besides this, appropriate resource allocation may be helpful in cost reduction and improved strategic performance.

In this research we have hypothesized that strategic alignment acts as a mediator between inter-firm networks and strategic performance: therefore, in the following sub-sections we will discuss the role of strategic alignment between the four dimensions of inter-firm networks and strategic performance.

2.2.1 Coordination. Coordination refers to all those activities that connect an enterprise with other organizations in the network for supportive interactions that gives guidance regarding the resources, potentials and strategies of competitors (Kale *et al.*, 2002). Coordination activities lower the transaction costs, and enhance exchange performance (Gemser *et al.*, 1996). Furthermore, it supports firms within the network through the sharing of profitable activities (Walter *et al.*, 2006), encourages cooperation between the various skill providers and establishes consistent learning paths (Franke *et al.*, 2010). Therefore, entrepreneurial researchers consistently suggest that enterprises must develop their coordination strategies effectively right after the analysis of future plans and the business environment (Gemser *et al.*, 1996). The development of strategies for improving coordination could minimize the many problems and risks they face (Franke *et al.*, 2010).

Coordination among enterprises in a network resolves numerous conflicts and leads to strategic alignment (Papke-Shields and Malhotra, 2001); this alignment in strategies and organizational objectives guide strategic performance (Zou and Cavusgil, 2002). Consequently, high levels of coordination result in a pressing need to get things done currently as well as in the future (Franke *et al.*, 2010). Coordination provides opportunities for an enterprise to re-think its target and encourages strategic alignment which ends with strategic performance (Ng *et al.*, 2016). We proposed that coordination improves strategic alignment and leads an enterprise to cope with superior performance. This discussion leads to the following hypothesis:

- H1.* Strategic alignment positively mediates the relationship between coordination of inter-firm network and strategic performance.

2.2.2 Cooperation. Cooperation means the complementary coordinated activities taken by an enterprise for the achievement of mutual benefits (Combs and Ketchen, 1999). Cooperation refers to an enterprise's integrations with member firms of the network and the strong synergistic bond among these firms (Robicheaux and Coleman, 1994). An inter-firm network enables cooperation through which enterprises can attain important resources that they cannot achieve alone (Ren *et al.*, 2013), and inter-firm network may be described as a system of cooperation. Karayanni (2015) acknowledged two types of cooperation: tactical and strategic. Tactical cooperation focuses on small issues, e.g. joint-advertisements or cross-selling actions, whereas strategic cooperation refers to mega projects like: new product development, joint research, etc. Dyer and Hatch (2006) claimed that cooperation may foster competitiveness among enterprises and make them strategically aligned for pulling-off strategic performance. Cooperative inter-firm relations allow enterprises to take edge of different assets seized by other firms for improving strategic alignment (Papke-Shields and Malhotra, 2001) and this strategic alignment manages environmental uncertainties and improves a firm's strategic performance (Combs and Ketchen, 1999). Cooperative inter-firm relationships push forward an enterprise to achieve strategic alignment with limited resources for similar or even greater performance through joint actions with rival firms within the network (Parkhe, 1993b). In sum, higher level of cooperation of firms in a network enables an enterprise to match perfectly its business strategies with objectives and enable it to achieve the required outcomes. Therefore, we formulate the following hypothesis:

- H2.* Strategic alignment positively mediates the relationship between cooperation of inter-firm network and strategic performance.

2.2.3 Trust. Inter-firm trust means expectations of a firm that another firm will not exploit its weaknesses when there is an opportunity (Mayer *et al.*, 1995). Such expectations are confirmed when firms/parties carry out their promises reliably, act honestly and fairly in their mutual dealing and show goodwill during unexpected contingencies (Dyer and Chu, 2003). Trust refers to the set of expectations between firms regarding their behavior where each firm tries to accomplish its supposed obligations in the light of perceived expectations (Madhok, 1995). Trust refers to the anticipations that an individual expect from other making good faith to be treated honestly, and these expectations of the behavior among individuals could be extended to the exchanges between firms because inter-firm networks are also managed by these

individuals in every organization (Hosmer, 1995). Trust is positively associated with strategic alignment (Chan *et al.*, 2006), and enhances a firm's performance (Gibbs, 2003). This positive association of trust, strategic alignment and performance has also been empirically suggested in the inter-firm context (see the work of Hirschheim and Sabherwal, 2001; Madhok, 1995; Parkhe, 1993a). Thus, well-built trust of inter-firm networks strengthens the basis for strategic fits which turn into market-performance and its efficiency implication (Parkhe, 1993b). Trust gives guidance about the resources and gives in-depth sights of leading firms in the network, which builds a solid foundation for strategic alignment (Gibbs, 2003; Papke-Shields and Malhotra, 2001), which fosters the strategic performance of enterprises (Chan *et al.*, 2006). The argument for the research in hand is that trust among firms enables an enterprise to enjoy the outcomes of strategic alignment for achieving strategic performance. This proposition could be well cleared through the following hypothesis:

H3. Strategic alignment positively mediates the relationship between trust of inter-firm network and strategic performance.

2.2.4 Relational skill. Inter-firm network provides information, resources, identification of values and opportunities through creating and sustaining their relational skill (Ritter and Gemunden, 2003). Relational skill refers to the ability of an enterprise in terms of cooperation, communication skill, conflict management, justice and empathy (e.g. Marshall *et al.*, 2003). It provides extensive knowledge of the business environment and major constraints. It is imperative for strategic performance because enterprises' relationships are very useful under certain circumstances (Podolny and Baron, 1997). Enterprises' management has to adapt and perceive numerous social situations through relational skills. Furthermore they should be able to react to an extensive range of information and social stimuli from outside and inside the organization (Walter *et al.*, 2006). The strong relational skill permits an enterprise to strategically align its resources with business strategies (Papke-Shields and Malhotra, 2001). Researchers have proved that strategic alignment is the outcome of relational skill and leads an enterprise to cope with superior performance earlier and successfully (Chan *et al.*, 2006). Ring and Van de Ven (1992) reported that relational skill of the enterprise enables them to achieve early success through mutual inter-firm exchanges for common interests. Therefore, we argued in the light of available literature that enterprises must be equipped with target-specific weapons in terms of relational skill for achieving strategic performance and strategic alignment. The strategic alignment enthusiastically needs relational skills and results in strategic performance along with future directions (Joshi *et al.*, 2003). This discussion leads to the following hypothesis:

H4. Strategic alignment positively mediates the relationship between relational skill of inter-firm network and strategic performance.

2.3 Moderating role of environmental dynamism

Environmental dynamism refers to the constant change of flux in market and hence open number of opportunities and other market niches. In a dynamic environment, enterprises strive optimistically to satisfy changing customer demands, securing competitiveness and strategic performance (Lumpkin and Dess, 2001). Work of previous scholars proved the moderating impact of environmental

dynamism on the relation between service innovation and performance (e.g. Jansen *et al.*, 2006). Regardless of these studies, limited empirical studies have been conducted on the moderating roles of environmental dynamism on the relationship between strategic alignment and strategic performance. This upcoming topic is worth considering as strategic performance although other antecedents could be predictable by environmental factors (Baron and Tang, 2011). Literature recognized that dynamic environments create driving forces and provide a platform to enterprises for building up a strong image in the industry for improving performance (Lumpkin and Dess, 2001). Environmental dynamism guides rapid changes in customers' tastes/preferences and enterprises could respond by strategic alignment that fits the situation and new needs of the market (Hirschheim and Sabherwal, 2001).

A unique characteristic of strategic performance is the focus on a firm's competitiveness in a dynamic environment (Morrow *et al.*, 2004). An enterprise must find strategic alignment between requirements of a dynamic environment and its internal operating systems for succeeding strategic performance (Ensley *et al.*, 2006). The combination of rapid changes in market, technological changes and customer's taste in a dynamic environment not only drives an enterprise to invest in their research and development capabilities but also confirms superior performance which turns to a foothold in the industry (Chung, 2011). Consequently, dynamic environment could reward the needs for enterprises to offer winning products which are proficient of impacting the firms' strategic performance as compared to less dynamic environments (Baron and Tang, 2011). We proposed that environmental dynamism strengthens the relationship between strategic alignment and strategic performance, thus leading to following hypothesis:

H5. Environmental dynamism positively moderates the relationship between strategic alignment and strategic performance.

Figure 1 shows the conceptual framework of a strategic performance model, that strategic alignment mediates the relationship between inter-firm networks (coordination, cooperation, relational skill and trust) and strategic performance. Furthermore, environmental dynamism moderates the relationship between strategic alignment and strategic performance.

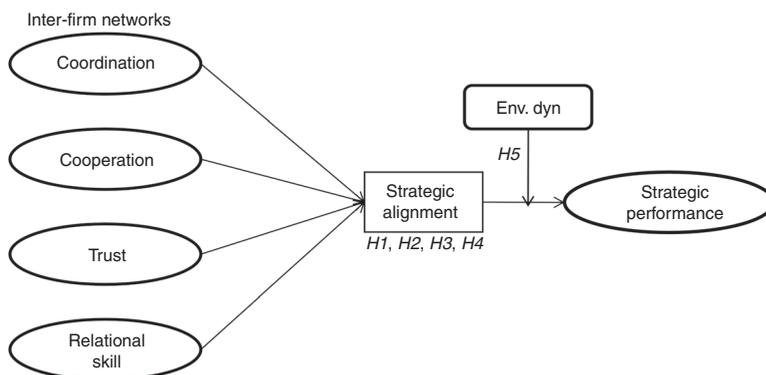


Figure 1. Conceptual framework of strategic performance

3. Methodology

3.1 Data collection and sample

The data were collected from CEOs/managing directors of small and medium enterprises involved in manufacturing as per the following four criteria. First, SME must be registered with Small and Medium Enterprises Development Authority of Pakistan, Chamber of Commerce, or listed in the online business dictionary. Second, the number of employees must be more than 30. Third, the firm must have a proper office set up (postal address, e-mail address, contact details, etc.). Fourth, the firm should have been operating since the last five years. Finally we prepared a list of 3,280 SMEs which met our selection criteria.

Prior discussions with research experts and in-depth literature review have been conducted to develop questionnaire. The questionnaire consists of two sections: A and B. Section A represented five questions related to demography, i.e. respondent designation, business age, respondent education, form of business (sole proprietor, partnership, etc.) and number of employees. Section B consists of questions about the perceived strategic performance, strategic alignment, inter-firm network and environmental dynamism. This questionnaire was pretested on 50 CEOs of different manufacturing concerns who marked valuable suggestions. These 50 responses were excluded from the final sample used in this research. In total 3,280 questionnaires were sent to CEO/MDs via e-mail (1,310) and posts (1,970). A covering letter was attached along with the questionnaire explaining the objectives and implications of the research in hand. We received back 813 responses, out of which 757 were useable (439 from e-mail and 318 from post). The response rate was 23 percent with sampling error of ± 5 percent and a confidence level was 95 percent. According to Malhotra and Grover (1998), this response rate is good for assessing a questionnaire-based survey.

3.2 Scale measurement

Strategic performance was measured using a four-item scale, adapted from Chung (2011). The items include: gaining a foothold in the industry, increasing awareness of the firm and brand, responding to challenges created by competitors, and finally the firm's financial performance. Inter-firm network was measured through scales, i.e. coordination, cooperation, relational skill and trust. A six-item scale to measure coordination and a four-item scale to measure relational skill were adapted from the work of Walter *et al.* (2006). Cooperation was measured through a four-item scale adapted from the work of Heide and John (1990), and Varadarajan and Cunningham (1995). Trust was gauged through a three-item scale adapted from the work of Aulakh *et al.* (1996). Strategic alignment was measured through a four-item scale adapted from the study of Papke-Shields and Malhotra (2001). Environmental dynamism was measured through a five-items scale adapted from the work of Jansen *et al.* (2006). This scale shows continuous and significant changes in the market as well as in customers' demands or new products. We gauged strategic performance by management's perception of how the enterprise performed in achieving strategic objectives/goals. A five-point Likert scale was used to measure strategic performance ranging from: 1-not achieved at all to 5-completely achieved. All items of the other scales used in the study were also measured using five-point Likert scales ranging from 1-strongly disagree to 5-strongly agree. To access the measurement model we examined factor loadings, composite reliability (CR), convergent validity and discriminant validity (see Table I). The results of factor loadings were above the threshold value of 0.70. The results of CR also proved that factors have different loadings that are greater than 0.60. Convergent validity was proved as the value

Measures/factors	CR	α	AVE	Loadings	Source
<i>Inter-firm Networks</i>					
Coordination	0.89	0.88	0.78		Walter <i>et al.</i> (2006)
COOR1				0.83	
COOR2				0.81	
COOR3				0.78	
COOR4				0.79	
COOR5				0.88	
COOR6				0.91	
Cooperation					Heide and John (1990) and Varadarajan and Cunningham (1995)
COOP1	0.78	0.82	0.69	0.79	
COOP2				0.81	
COOP3				0.76	
COOP4				0.86	
Relational skills					Walter <i>et al.</i> (2006)
RSkill1	0.84	0.81	0.78	0.86	
RSkill2				0.81	
RSkill3				0.91	
RSkill4				0.85	
Trust					Aulakh <i>et al.</i> (1996)
T1	0.91	0.70	0.70	0.88	
T2				0.79	
T3				0.76	
Strategic alignment					Papke-Shields and Malhotra (2001)
SA1	0.87	0.77	0.77	0.81	
SA2				0.77	
SA3				0.91	
SA4				0.89	
Environmental dynamism					Jansen <i>et al.</i> (2006)
ED1	0.92	0.68	0.68	0.78	
ED2				0.81	
ED3				0.92	
ED4				0.89	
ED5				0.87	
Strategic performance					Chung (2011)
SP1	0.87	0.83	0.83	0.78	
SP2				0.82	
SP3				0.83	
SP4				0.86	

Table I.
Results of
measurement model

of average variance extracted (AVE) was greater than 0.50, indicating that factors are able to explain the variance of its indicators. Finally discriminant validity was also confirmed by taking the squared correlation between the factors. All factors of the model show that the model is fit: GFI = 0.947, AGFI = 0.901, CFI = 0.931, NFI = 0.942, IFI = 0.981.

4. Analysis

Table II presents the descriptive statistic and the correlation matrix of variables used in this research. Strategic performance has a significant positive association with independent, mediating and moderating variables ($p < 0.01$). The correlation coefficients within the dimensions of inter-firm networks, strategic alignment and environmental

Table II.
Mean, standard
deviation and
correlation results

Variables	Mean	SD	Coordination	Cooperation	Trust	Relational skill	Strategic alignment	Environmental dynamism	Strategic performance
Coordination	3.83	0.41	1						
Cooperation	3.82	0.41	0.573**	1					
Trust	3.52	0.41	0.634**	0.622**	1				
Relational skill	3.52	0.40	0.453**	0.533**	0.729**	1			
Strategic alignment	3.59	0.72	0.164**	0.156**	0.164**	0.150**	1		
Environmental dynamism	3.80	0.42	0.856**	0.851**	0.869**	0.845**	0.237**	1	
Strategic performance	3.77	0.78	0.134**	0.118**	0.112**	0.118**	0.518**	0.143**	1

Note: **Correlation is significant at the 0.01 level (two-tailed)

dynamisms were all consistent with those in the previous research studies. Therefore, the results of the correlations support our theory. Variance inflation factors were used to test multi-collinearity and scores were below the cut-off value of 10.0 in the model.

Table III shows the results of four hypotheses, i.e. *H1*, *H2*, *H3* and *H4*. *H1* proposes that strategic alignment positively mediates the relationship between inter-firm network in terms of coordination and strategic performance. Based on Baron and Kenny's (1986) approach four criteria should be complied with for testing mediation analysis: first, independent variable and dependent variable must have significant relation; second, independent variable and mediator must have significant relation; third, mediating and dependent variable must have significant relation; lastly, the relation of independent variable and dependent variable should be non-significant or must have major reduction when the mediator is controlled to signify the level of mediation.

H1 proposes that strategic alignment mediates the relationship between coordination and strategic performance. Table III shows the regression results for testing strategic alignment as mediator. For each condition, we developed a regression model presented in the second column of Table III and each step was mentioned in column 3. The first step shows that coordination was positively related to strategic performance ($\beta = 0.246$, $p < 0.001$) hence satisfying the first criterion. Step 2 shows that coordination was positively related to strategic alignment ($\beta = 0.289$, $p < 0.001$), proving the second criterion. Step 3 shows that strategic alignment was positively related to strategic performance ($\beta = 0.541$, $p < 0.001$) and thus third criterion was supported. Lastly, in step 4, after strategic alignment was controlled for, the effect of coordination on strategic performance was non-significant and dropped from 0.246 ($p < 0.001$) to 0.050 ($p > 0.10$). Therefore, *H1* is supported by the results and it is suggested that strategic alignment fully mediates the relationship between the coordination and strategic performance.

H2 is accepted and proved by results in Table III. Step 1 shows that cooperation was positively related to strategic performance ($\beta = 0.217$, $p < 0.001$), thus complying with the first criterion. Step 2 shows that, cooperation and strategic alignment have a positive association ($\beta = 0.275$, $p < 0.001$), thus meeting the second criterion. Step 3 proves that strategic alignment was positively related to strategic performance ($\beta = 0.541$, $p < 0.001$), thus supporting the third criterion third criterion was supported. Lastly, in step 4, after strategic alignment was controlled for, the effect of cooperation on strategic performance was non-significant and has been diminished from 0.217 ($p < 0.001$) to 0.070 ($p > 0.10$). Consequently, *H2* is proved by results. Strategic alignment has full mediation between the relationship of cooperation and strategic performance.

Hypothesis	Details	Step	R	R ²	F	β	t	Sig.	Remarks
<i>H1</i>	Coordination→Strategic performance	1	0.134	0.018	13.743	0.246	11.060	0.000	Full mediation <i>H1</i> accepted
	Coordination→Strategic alignment	2	0.164	0.026	20.965	0.289	10.188	0.000	
	Strategic alignment→Strategic performance	3	0.518	0.268	276.558	0.541	16.630	0.000	
	Coordination + Strategic alignment→Strategic performance	4	0.520	0.271	139.810	0.050	1.584	0.114	
<i>H2</i>	Cooperation→Strategic performance	1	0.118	0.014	10.598	0.217	11.465	0.001	Full mediation <i>H2</i> accepted
	Cooperation→Strategic alignment	2	0.156	0.024	18.782	0.275	10.396	0.000	
	Strategic alignment→Strategic performance	3	0.518	0.268	276.558	0.541	16.630	0.000	
	Cooperation + Strategic alignment→Strategic performance	4	0.519	0.269	139.084	0.070	1.203	0.229	
<i>H3</i>	Trust→Strategic performance	1	0.112	0.012	9.557	0.207	11.582	0.002	Full mediation <i>H3</i> accepted
	Trust→Strategic alignment	2	0.164	0.027	20.886	0.290	10.145	0.000	
	Strategic alignment→Strategic performance	3	0.518	0.268	276.558	0.541	16.630	0.000	
	Trust + Strategic alignment→Strategic performance	4	0.518	0.269	138.618	0.036	0.874	0.382	
<i>H4</i>	Relational skill→Strategic performance	1	0.119	0.015	11.630	0.229	13.340	0.000	Full mediation <i>H4</i> accepted
	Relational skill→Strategic alignment	2	0.150	0.023	17.492	0.268	11.414	0.000	
	Strategic alignment→Strategic performance	3	0.518	0.268	276.558	0.541	16.630	0.000	
	Relational skill + Strategic alignment→Strategic performance	4	0.529	0.280	141.381	0.045	1.297	0.199	
						0.563	20.246	0.000	

Table III.
Hierarchical regression
for testing strategic
alignment as
mediator

H3 proposes that strategic alignment mediates the relationship between trust and strategic performance. In Table III results of step 1 show that trust was positively related to strategic performance ($\beta=0.207, p < 0.001$), thus satisfying the first criterion. Step 2 shows that trust was positively related to strategic alignment ($\beta = 0.290, p < 0.001$), thus proving the second criterion. Step 3 showing that strategic alignment was positively related to strategic performance ($\beta = 0.541, p < 0.001$), thus supporting the third criterion. Lastly, in step 4, after strategic alignment was controlled for, the effect of trust on strategic performance was non-significant and dropped from 0.207 ($p < 0.001$), to 0.036 ($p > 0.10$). Therefore, *H3* is supported by the results and it is suggested that strategic alignment fully mediates the relationship between trust and strategic performance.

H4 is proved by results in Table III. Step 1 shows that relational skill was positively related to strategic performance ($\beta=0.229, p < 0.001$), thus complying with the first criterion. Step 2 shows that relational skill and strategic alignment have a positive association ($\beta = 0.268, p < 0.001$), thus meeting the second criterion. Step 3 shows that strategic alignment is positively related to strategic performance ($\beta = 0.541, p < 0.001$), thus supporting the third criterion. Lastly, in step 4, after strategic alignment was controlled for, the effect of relational skill on strategic performance was non-significant and has been diminished from 0.229 ($p < 0.001$) to 0.045 ($p > 0.10$). Consequently, *H4* is proved: strategic alignment has full mediation between the relationship of relational skill and strategic performance.

4.1 Moderating effect of environmental dynamism

H5 proposed that environmental dynamism moderates the relationship between strategic alignment and strategic performance. We conducted a hierarchical multiple regression analysis to check the moderation impact of environmental dynamism. In the first step (model 1), variables, i.e. strategic alignment and environmental dynamism, were included. These variables accounted for a significant amount of variance in strategic performance, $R^2 = 0.518, p < 0.001$ (see Table IV). To avoid potentially problematic high multi-collinearity with the interaction term, the variables were centered and an interaction term is used between strategic alignment and environmental dynamism (Aiken *et al.*, 1991). Next, in “Model 2” the interaction term between strategic alignment and environmental dynamism was added to the regression model, which accounted for a significant proportion of the variance in strategic performance ($\beta = 0.007, p < 0.01$); hence, *H5* is accepted.

Factors and research resumes	Hypothesis	Model 1		Model 2	
		β	<i>t</i>	β	<i>t</i>
Strategic alignment		0.513***	15.988***	0.291***	9.814
Environmental dynamism		0.457***	9.058***	0.140***	8.416
Strategic alignment x Environmental dynamism	<i>H5a</i>			0.048**	3.105
<i>Model resumes</i>					
<i>R</i>		0.518***		0.525**	
<i>R</i> ²		0.269		0.275	
ΔR^2		0.269		0.007	
<i>F</i> statistics		138.422		95.414	
Note: Significance level: $p < 0.1$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$					

Table IV. Standardized regression results for testing environmental dynamism as moderator

Examination of this interaction plot revealed an enhancing effect in environmental dynamism, with an increase in the relationship of strategic alignment and strategic performance. Hence, *H5* is proved at strategic alignment, strategic performance was similar for environmental dynamism with low, average, or high. Figure 2 shows that strategic alignment had a stronger positive effect on strategic business performance when the environmental dynamism support was high ($\beta = 0.457, p < 0.001$) rather than low ($\beta = 0.140, p < 0.001$), in line with *H5*.

5. Discussion and theoretical implications

This study sought to recognize how inter-firm networks affect strategic performance and the role that strategic alignment plays in shaping this relation. Three underlying motivations for this research were: first, the upcoming need to resolve inconsistency in the theoretical treatment of the empirical findings on the relationship between inter-firm networks and strategic performance; second, for understanding how strategic alignment enables an enterprise to cope with strategic performance using inter-firm networks; third, timely response to environmental dynamisms for making strategic fit in business objectives and strategies that would result in strategic performance. Drawing on the responses of 757 CEOs and managing directors of different manufacturing SMEs our research yielded three major findings addressing mixed results from previous work.

First, the inter-firm network has a stronger relationship on strategic performance with the mediating role of strategic alignment. It has been observed that inter-firm networks alone cannot ensure strategic performance and hence top management must have keen observations about the strategic fits to match their goals with business strategies. Coordination of inter-firm networks could unfold numerous opportunities. Furthermore if these opportunities are not aligned with the organizational objectives a firm's strategic performance looks skeptical to gain acceptance. Similarly, inter-firm network in term of cooperation could enable an enterprise to get favors while implementing strategic alignments. Such strategic alignment could schematically lead to the attainment of strategic performance earlier. Results also revealed that relational skill of an enterprise adds valuable inputs for exploring the missing links in matching internal resources with available opportunities. These relational skills further enhance the level of trust among firms operating within the network. Our findings proved that

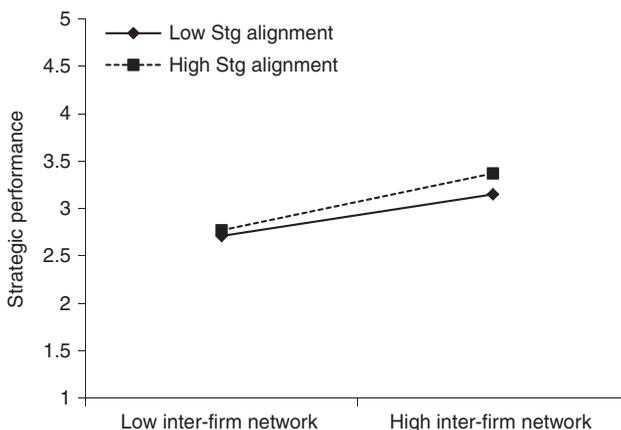


Figure 2. Moderating effect of environmental dynamism in the relationship of strategic alignment and strategic performance

the impact of coordination, cooperation, relational skill and trust has a significant influence on strategic performance through the mediating role of strategic alignment.

Second, our research highlighted the worth of inter-firm networks for strategic performance in the context of developing countries. Although available literature highlights various factors that influence strategic performance positively, the most dominant factors got most of the scholarly consideration were inter-firm networks and environmental dynamism. The literature revealed that most of the evidence on the development of these factors as major determinants of strategic performance comes from the studies of developed countries; and no considerable study has been initiated to check the validity of the relationship between inter-firm networks, environmental dynamism and strategic performance in developing countries. Therefore, this research attempted to address these issues by using the context of small and medium enterprises in the regions not covered under the heading of developed world. The current research will also attempt to propose that inter-firm networks and environmental dynamism could also enhance strategic performance as it does in the context of the developed world. As a result, this study not only contributes to the network literature but also considers a firm's network as an important source for its capability development in the context of a transitioning economy. This finding entails important implications for the strategy and management literature on transition economies as well. Finally, this research proved that the relationship between strategic alignment and strategic flexibility is moderated by environmental dynamism.

This study makes imperative contributions to the theory by showing the mediated link between inter-firm network and strategic performance. At the start research was highly motivated by the uncertainty surrounding the link between inter-firm network and strategic performance. In the light of available literature, different studies offered valid explanations on the relationship of inter-firm networks and strategic performance (e.g. positive or negative); however, there were limited, theoretical investigations which provided integrative explanations of why and when these effects emerge. Our consideration of the mediating effect of strategic alignment in the relationship of inter-firm network and strategic performance, and moderation of environmental dynamism provides more compelling explanations for the mixed conclusions/findings in previous research. This study goes beyond simply taking into account the inter-firm network as part of the context where enterprises operate for attaining superior performance. This research provides empirical findings of the mechanism by which strategic alignment based on inter-firm networks fosters strategic performance. Our study underscores the value of examining the range of management activities, embodied in strategic alignment, when checking the effects of strategic performance. Furthermore, the results indicate differences in the effects across these strategic alignments. Examining the effects on strategic alignment, this study attends to the disruptions as well as motivations that inter-firm networks create in affecting the managerial tasks through coordination, cooperation, relational skills and trust activities.

The above theoretical suggestions notwithstanding, our study has imperative implications for practice. First, our results acknowledges the degree of inter-firm networks, i.e. helpful for inspiring firms to ensure strategic alignment that smoothen the progress of strategic performance. As such, management is advised to highlight temporal constraints to their firms and to coordinate and cooperate earlier so that they have enough time to act accordingly. Such coordination and cooperation create a favorable environment where management has opportunity to acquire relevant knowledge and build trust among partners' firms. Second, findings regarding the

moderation of environmental dynamisms demonstrate, that executives have an energetic role to play in facilitating their activists to handle the strategic alignment issues they face. Agreed high-level critical view of firm's task environment, remote environment and objectives, management is well positioned to offer guidance, i.e. to manage and control dynamic environmental forces under existing restrictions.

5.1 Limitations and future directions of research

Besides numerous implications this research is confronted with a few limitations that should be acknowledged. The focus in this study was on perceived inter-firm networks rather than actual, which creates differences between perceptions of inter-firm networks and actual inter-firm network activities. However, this study reasoned that inter-firm networks are based on globally recognized perceptions of coordination, cooperation, relational skills and trust activities. Another limitation of this research is that it is conducted on the basis of a single respondent from each firm, which may sometimes cause mistakes.

Further research on this topic is needed to analyze whether the organizational networks affect strategic performance. We also recommend examining environmental dynamism as a mediator between the relationship of network and performance.

References

- Aiken, L.S., West, S.G. and Reno, R.R. (1991), *Multiple Regression: Testing and Interpreting Interactions*, Sage, Thousand Oaks, CA.
- Aulakh, P.S., Kotabe, M. and Sahay, A. (1996), "Trust and performance in cross-border marketing partnerships: a behavioral approach", *Journal of International Business Studies*, Vol. 27 No. 4, pp. 1005-1032.
- Baron, R.A. and Tang, J. (2011), "The role of entrepreneurs in firm-level innovation: joint effects of positive affect, creativity, and environmental dynamism", *Journal of Business Venturing*, Vol. 26 No. 1, pp. 49-60.
- Baron, R.M. and Kenny, D.A. (1986), "The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations", *Journal of Personality and Social Psychology*, Vol. 51 No. 6, pp. 1173-1182.
- Chakravarthy, B.S. (1986), "Measuring strategic performance", *Strategic Management Journal*, Vol. 7 No. 5, pp. 437-458.
- Chan, Y.E., Sabherwal, R. and Thatcher, J.B. (2006), "Antecedents and outcomes of strategic IS alignment: an empirical investigation", *IEEE Transactions on Engineering Management*, Vol. 53 No. 1, pp. 27-47.
- Chung, H.F. (2011), "Market orientation, *guanxi*, and business performance", *Industrial Marketing Management*, Vol. 40 No. 4, pp. 522-533.
- Chung, H.F., Yang, Z. and Huang, P.H. (2015), "How does organizational learning matter in strategic business performance? The contingency role of *guanxi* networking", *Journal of Business Research*, Vol. 68 No. 6, pp. 1216-1224.
- Combs, J.G. and Ketchen, D.J. (1999), "Explaining interfirm cooperation and performance: toward a reconciliation of predictions from the resource-based view and organizational economics", *Strategic Management Journal*, Vol. 20 No. 9, pp. 867-888.
- Dyer, J.H. and Chu, W. (2003), "The role of trustworthiness in reducing transaction costs and improving performance: empirical evidence from the United States, Japan, and Korea", *Organization Science*, Vol. 14 No. 1, pp. 57-68.

- Dyer, J.H. and Hatch, N.W. (2006), "Relation-specific capabilities and barriers to knowledge transfers: creating advantage through network relationships", *Strategic Management Journal*, Vol. 27 No. 8, pp. 701-719.
- Ensley, M.D., Pearce, C.L. and Hmieleski, K.M. (2006), "The moderating effect of environmental dynamism on the relationship between entrepreneur leadership behavior and new venture performance", *Journal of Business Venturing*, Vol. 21 No. 2, pp. 243-263.
- Franke, J., Charoy, F. and El Khoury, P. (2010), "Collaborative coordination of activities with temporal dependencies", in OTM Confederated International Conferences (Eds), *On the Move to Meaningful Internet Systems*, Springer Berlin Heidelberg, pp. 186-203.
- Gemser, G., Leenders, M.A. and Wijnberg, N.J. (1996), "The dynamics of inter-firm networks in the course of the industry life cycle: the role of appropriability", *Technology Analysis & Strategic Management*, Vol. 8 No. 4, pp. 439-454.
- Gibbs, D. (2003), "Trust and networking in inter-firm relations: the case of eco-industrial development", *Local Economy*, Vol. 18 No. 3, pp. 222-236.
- Heide, J.B. and John, G. (1990), "Alliances in industrial purchasing: the determinants of joint action in buyer-supplier relationships", *Journal of Marketing Research*, Vol. 27 No. 1, pp. 24-36.
- Henderson, J.C. and Venkatraman, N. (1993), "Strategic alignment: leveraging information technology for transforming organizations", *IBM Systems Journal*, Vol. 32 No. 1, pp. 4-16.
- Hirschheim, R. and Sabherwal, R. (2001), "Detours in the path toward strategic information systems alignment", *California Management Review*, Vol. 44 No. 1, pp. 87-108.
- Hosmer, L.T. (1995), "Trust: the connecting link between organizational theory and philosophical ethics", *Academy of Management Review*, Vol. 20 No. 2, pp. 379-403.
- Jansen, J.J., Van Den Bosch, F.A. and Volberda, H.W. (2006), "Exploratory innovation, exploitative innovation, and performance: effects of organizational antecedents and environmental moderators", *Management Science*, Vol. 52 No. 11, pp. 1661-1674.
- Joshi, M.P., Kathuria, R. and Porth, S.J. (2003), "Alignment of strategic priorities and performance: an integration of operations and strategic management perspectives", *Journal of Operations Management*, Vol. 21 No. 3, pp. 353-369.
- Kale, P., Dyer, J.H. and Singh, H. (2002), "Alliance capability, stock market response, and long-term alliance success: the role of the alliance function", *Strategic Management Journal*, Vol. 23 No. 8, pp. 747-767.
- Karayanni, D.A. (2015), "A model of interorganizational networking antecedents, consequences and business performance", *Journal of Business-to-Business Marketing*, Vol. 22 No. 4, pp. 293-312.
- Kim, E.Y., Ko, E., Kim, H. and Koh, C.E. (2008), "Comparison of benefits of radio frequency identification: implications for business strategic performance in the US and Korean retailers", *Industrial Marketing Management*, Vol. 37 No. 7, pp. 797-806.
- Lans, T., Blok, V. and Gulikers, J. (2015), "Show me your network and I'll tell you who you are: social competence and social capital of early-stage entrepreneurs", *Entrepreneurship & Regional Development*, Vol. 27 Nos 7-8, pp. 458-473.
- Lumpkin, G.T. and Dess, G.G. (2001), "Linking two dimensions of entrepreneurial orientation to firm performance: the moderating role of environment and industry life cycle", *Journal of Business Venturing*, Vol. 16 No. 5, pp. 429-451.
- Madhok, A. (1995), "Revisiting multinational firms' tolerance for joint ventures: a trust-based approach", *Journal of International Business Studies*, pp. 117-137.

-
- Madison, K., Runyan, R.C. and Swinney, J.L. (2014), "Strategic posture and performance: revealing differences between family and nonfamily firms", *Journal of Family Business Strategy*, Vol. 5 No. 3, pp. 239-251.
- Malhotra, M.K. and Grover, V. (1998), "An assessment of survey research in POM: from constructs to theory", *Journal of Operations Management*, Vol. 16 No. 4, pp. 407-425.
- Marshall, G.W., Goebel, D.J. and Moncrief, W.C. (2003), "Hiring for success at the buyer-seller interface", *Journal of Business Research*, Vol. 56 No. 4, pp. 247-255.
- Martinez, M.A. and Aldrich, H.E. (2011), "Networking strategies for entrepreneurs: balancing cohesion and diversity", *International Journal of Entrepreneurial Behavior & Research*, Vol. 17 No. 1, pp. 7-38.
- Mayer, R.C., Davis, J.H. and Schoorman, F.D. (1995), "An integrative model of organizational trust", *Academy of Management Review*, Vol. 20 No. 3, pp. 709-734.
- Morrow, J.L., Johnson, R.A. and Busenitz, L.W. (2004), "The effects of cost and asset retrenchment on firm performance: the overlooked role of a firm's competitive environment", *Journal of Management*, Vol. 30 No. 2, pp. 189-208.
- Ng, B.K., Kanagasundram, T., Wong, C.Y. and Chandran, V.G.R. (2016), "Innovation for inclusive development in Southeast Asia: the roles of regional coordination mechanisms", *The Pacific Review*, Vol. 29 No. 2, pp. 573-602.
- Papke-Shields, K.E. and Malhotra, M.K. (2001), "Assessing the impact of the manufacturing executive's role on business performance through strategic alignment", *Journal of Operations Management*, Vol. 19 No. 1, pp. 5-22.
- Parkhe, A. (1993a), "Messy' research, methodological predispositions, and theory development in international joint ventures", *Academy of Management Review*, Vol. 18 No. 2, pp. 227-268.
- Parkhe, A. (1993b), "Strategic alliance structuring: a game theoretic and transaction cost examination of interfirm cooperation", *Academy of Management Journal*, Vol. 36 No. 4, pp. 794-829.
- Podolny, J.M. and Baron, J.N. (1997), "Resources and relationships: social networks and mobility in the workplace", *American Sociological Review*, Vol. 62 No. 5, pp. 673-693.
- Rampersad, G., Quester, P. and Troshani, I. (2010), "Managing innovation networks: exploratory evidence from ICT, biotechnology and nanotechnology networks", *Industrial Marketing Management*, Vol. 39 No. 5, pp. 793-805.
- Raza, J. and Majid, A. (2015), "Perceptions and practices of corporate social responsibility among SMEs in Pakistan", *Quality and Quantity*, doi: 10.1007/s11135-015-0281-2.
- Ren, S., Wang, L., Yang, W. and Wei, F. (2013), "The effect of external network competence and intrafirm networks on a firm's innovation performance: the moderating influence of relational governance", *Innovation*, Vol. 15 No. 1, pp. 17-34.
- Ring, P.S. and Van de Ven, A.H. (1992), "Structuring cooperative relationships between organizations", *Strategic Management Journal*, Vol. 13 No. 7, pp. 483-498.
- Ritter, T. and Gemünden, H.G. (2003), "Network competence: its impact on innovation success and its antecedents", *Journal of Business Research*, Vol. 56 No. 9, pp. 745-755.
- Robicheaux, R.A. and Coleman, J.E. (1994), "The structure of marketing channel relationships", *Journal of the Academy of Marketing Science*, Vol. 22 No. 1, pp. 38-51.
- Varadarajan, P.R. and Cunningham, M.H. (1995), "Strategic alliances: a synthesis of conceptual foundations", *Journal of the Academy of Marketing Science*, Vol. 23 No. 4, pp. 282-296.
- Walter, A., Auer, M. and Ritter, T. (2006), "The impact of network capabilities and entrepreneurial orientation on university spin-off performance", *Journal of Business Venturing*, Vol. 21 No. 4, pp. 541-567.

Zaheer, A., Gulati, R. and Nohria, N. (2000), "Strategic networks", *Strategic Management Journal*, Vol. 21 No. 3, pp. 203-215.

Zou, S. and Cavusgil, S.T. (2002), "The GMS: a broad conceptualization of global marketing strategy and its effect on firm performance", *Journal of Marketing*, Vol. 66 No. 4, pp. 40-56.

Further reading

Ring, P.S. and Van de Ven, A.H. (1994), "Developmental processes of cooperative interorganizational relationships", *Academy of Management Review*, Vol. 19 No. 1, pp. 90-118.

About the authors

Zahid Yousaf is a PhD Scholar in the Department of Management Sciences, Hazara University, Mansehra. He did his MS from the University of Peshawar, Pakistan. He is an author of four publications in different peer reviewed research journals. He is a Lecturer in the Government College of Management Sciences, Mansehra, Pakistan. Zahid Yousaf is the corresponding author and can be contacted at: muhammadzahid.yusuf@gmail.com

Dr Abdul Majid is an Assistant Professor in the Department of Management Sciences, Hazara University, Mansehra. He did his PhD from the University of Peshawar, Pakistan. He did his post-doctoral research from the University of Sheffield, UK. He has written more than 25 papers in different peer reviewed research journals and presented various papers in different international research conferences. He is a Coordinator of PhD and MS Program in the Department of Management Sciences, Hazara University, Pakistan.