

# The Substance to Firm Performance in Co-Opetition Relationship. The Role of Trust and Paradoxical Tension

\*Iftikhar Ali<sup>1</sup>, Meenakshi<sup>2</sup>, Dr. Samia Jamshed<sup>3</sup>, Dr. Muhammad Waqas<sup>4</sup>

<sup>1</sup>PhD Scholar, Faculty of Business and Management Sciences, Superior University Lahore, Pakistan,

\*Email: [iftikharali73116@gmail.com](mailto:iftikharali73116@gmail.com)

<sup>2</sup>PhD Scholar, Maharshi Dayanand University, Rohtak, India, Email: [meenakshi.rs.imsar@mdurohtak.ac.in](mailto:meenakshi.rs.imsar@mdurohtak.ac.in)

<sup>3</sup>Associate Professor, Faculty of Business and Management Sciences Superior University Lahore, Pakistan,  
Email: [Samia.jamshed@superior.edu.pk](mailto:Samia.jamshed@superior.edu.pk),

<sup>4</sup> Faculty of Business and Management Sciences, Superior University Lahore, Pakistan, [waqas\\_epouch@yahoo.com](mailto:waqas_epouch@yahoo.com)

## Abstract

This is broadly acknowledged that firms increasingly involve in co-opetition (i.e. competition and cooperation simultaneously) and achieve the identical advantages and benefits from such relationship. However, there is very few and inadequate knowledge presents when and how intensity of co-opetition leads to the firm performance in long run. The work based on theoretical foundation endorsed the paradoxical tension and trust are very important constructs to increase firm performance in inter-firm relationship. This paper addresses the aforementioned gap by investigating the opposite but beneficial role of paradoxical tension and trust in co-opetition relationship. This paper investigated that trust perform as a prevailing method through which intensity of co-opetition increases performance of firm, while paradoxical tension negatively influences on intensity of co-opetition and firm performance relationship. This study test the hypotheses on a sample of 220 export firms of Pakistan that engaged in co-opetition relationship. Finally, the findings of this paper provide the empirical evidence that paradoxical tension and trust play different but very important role for attaining superior long run performance.

**Keyword:** Co-opetition, paradoxical tension, trust, firm performance.

## 1. Introduction

Today's world of globalization is more frequently increasing competitive pressure in the international market. Therefore, small firms in the emerging economy adopted a co-opetition strategy and enhance their co-opetition capabilities through co-opetition relationships to gain positioning in international markets and increase their performance. Co-opetition itself is the mutualization of resources that enables an organization to save costs (Czernek & Czakon, 2016; Le Roy & Czakon, 2016). Globalization also demands competitiveness and interdependence. Therefore, it is very difficult to examine the co-opetitive relationship in

international business and the performance of small firms. There are very few studies that examined the relationship between co-opetition and the performance of firms at the international level (Bahar, Nenonen, & Starr Jr, 2022; Czakon, Srivastava, Le Roy, & Gnyawali, 2020). Thus, it is urgent to investigate and further research related to the international market and co-opetition relationship in the emerging economy to enhance their performance, because this is significantly affecting the export activities of SMEs in developing countries (M Bengtsson, Wilson, Kock, Nisuls, & Söderqvist, 2010; Forsman, 2010; Holmlund & Kock, 1998). However, as

there are very critical situation and dominated cooperation behavior with rival competitors that highlights some very important problems, such as protection of knowledge and behavior of arbitrage (A.-S. Fernandez, F. Le Roy, & D. R. Gnyawali, 2014a; Raza-Ullah, Bengtsson, & Gnyawali, 2018; Raza-Ullah, Bengtsson, & Kock, 2014), concentrated and beneficial cooperation with rival firms is risky and tension-filled (Bouncken, Fredrich, Ritala, & Kraus, 2017; Fernandez et al., 2014a). Firms are typically cautious to share required expertise in the face of such concerns (Bahar et al., 2022; Park & Ungson, 2001), which can lead to compromise. Furthermore, the previous studies have emphasized the positive significant role of trust among the various firms to add the potential value of co-opetition (Czakoń & Czernek, 2016; Zacharia, Plasch, Mohan, & Gerschberger, 2019). The trust described as “the significant positive and confident feedback and results from the behavior of rival” (Lewicki, McAllister, & Bies, 1998). Trust also a very important aspect that treats all the problems, conflicts and risky situations faced by the firms with the behavior of their associates firms (Krishnan, Martin, & Noorderhaven, 2006; Latusek & Vlaar, 2018). However, the partner firms sharing their assets, resources, knowledge and capabilities during the cooperation, trust play a very important and significant role (S.-L. Guo, Lumineau, & Lewicki, 2017) that make sure the cooperating firm will not exploit a firm’s creditability (Bahar et al., 2022; Crick & Crick, 2020). Based on these findings, we propose that trust is a key intermediary that explains how co-opetition intensity improves firm performance. Moreover, these co-opetition relationships have more access to resources such as mutual goals, expertise, and knowledge sharing (Luo, 2004; M. Wilhelm & Sydow, 2018) which leads to increased performance of small firms. Therefore, because of low resources and old technology these SMEs’ collaborate as well as co-operate within a cluster to compete

for the international market and supply their products and services to the international market. However, when these SMEs work within clusters or consortiums they face paradoxical tensions and their managers did not know how to resolve these paradoxical tensions during co-opetition. Organizational demands require employees to create a balance between conflicting roles and achieving complex goals that create tensions like frustration, imbalance in work & personal life, and other severe medical issues. These tensions are at an individual level and in daily situations. (Denis, Langley, & Rouleau, 2007; Jarzabkowski & Lê, 2017; Putnam, Fairhurst, & Banghart, 2016), researchers have studied individual-level problem-solving practices (Bednarek, Paroutis, & Sillince, 2017; Gylfe, Franck, & Vaara, 2019; Sheep, Fairhurst, & Khazanchi, 2017). Therefore, SMEs did not produce products and services up to international standards. Thus, there is a lack of research on how to manage these paradoxical tensions in a co-opetitive environment and enhance the SMEs performance. Therefore, it felt time to investigate the constructs trust and paradoxical tensions related to export-oriented SMEs in Pakistan that leads to enhance firm performance. Consequently, this study suggests that the constructs trust and paradoxical tension play a different role to enhance firm performance. Therefore, the mediating role of trust has a beneficial significant impact on the relationship between intensity of co-opetition and performance of firm and the moderating construct paradoxical tensions negatively influence on the relationship of intensity of co-opetition and firm performance. The hypotheses tested in this paper based on the sample of 220 exports oriented firms of Pakistan that engaged in co-opetition relationship. Furthermore, the structural equation modeling (PLS-SEM) techniques are used for analysis of data. The finding of this study shows that co-opetition intensity is significant positive relationship with

firm performance and trust is positively mediates this relationship. Whereas, paradoxical tension is weaken the effect of co-opetition intensity on firm performance. However, previous study endorsed that closer attention required to these different aspects of paradoxical tension and trust (Maria Bengtsson & Raza-Ullah, 2017; Jakobsen, 2020) and experimental study verified that kind of paradoxical tension roles is limited. Thus, this paper contributes to the existing literature on paradoxical tensions and trust by verified negative role of paradoxical tensions and indirect effect of co-opetition intensity on firm performance through trust and how much important these construct to increase performance of firm. Furthermore, the contribution of this paper in the co-opetition literature with the findings that shows paradoxical tensions and trust are very important constructs to improving and attaining long run performance of firm.

## **2. Literature Review**

### **2.1 Co-opetition**

The co-opetition describes as an enhancement in the productivity of the business through the relationship were firms cooperation alongwith competition (Castañer & Oliveira, 2020; Chang, Hsu, & Lan, 2019; Fong, Hong, & Wong, 2021; Tekin Bilbil, 2019). Moreover, a simultaneous cooperation and competition between rival firms at the same time is known as co-opetition. The term co-opetition also described in the study of (Maria, 2014) that, a paradoxical relationship between firms that cooperate and compete in different connections concurrently. The inter-firm connections have been increasing through collaborative opportunities between the rival firms in recent years (Harbison & Pekar, 1998; Raza-Ullah, 2019; Segrestin, 2005). In spite of intensity of co-opetition provided limitation (Park & Ungson, 2001; Raza-Ullah et al., 2014), the cooperative behavior has a significant addition in critical competitive sharing situation which indicated that such collaborations carry

very identical and beneficial advantages to ventures. The study of (Meena, Dhir, & Sushil, 2022), demonstrated that an ideal collaboration comes from strong competitors, because these kind of rivals face same kind of challenges such as sharing and protection of knowledge, capabilities and resources in the same market with same customers (Gnyawali, Madhavan, He, & Bengtsson, 2016), in results their joint effort increases the performance. For example, the two different competitors TAS and Astrium in the same market have collaboration and share their key skills, resources and capabilities that create dual system of telecommunication to gain a long run performance.

### **2.2 Trust in co-opetition relationship**

Trust is mainly an individual positive or negative experience perceived from others, but it can be jointly view at the firm level face by the employees at different situation from one firm to another firm (Kostis & Näsholm, 2020; McEvily & Zaheer, 2006). There are different theoretical perspectives and discipline examined the concept of trust. Therefore, during the co-opetition relationship the thoughtful and two fold behavior of trust has demonstrated beneficial results and significant expectations. Trust is based on the perception and degree of trust with individual person or collective views at organization level such as the honesty, compensation and perception capacity of the associated entities. (S.-L. Guo et al., 2017; Raza-Ullah & Kostis, 2020). As a result, coming up with a uniform definition of trust has proven difficult (McKnight & Chervany, 2001; Raza-Ullah, 2019). However, most people believe that trust is describe as a perception and behavior of the other people always expected in a positive way with strong confidence (Lewicki et al., 1998), and further this definition also used in this paper. Furthermore, trust affects performance by restraining evaluation, which entails giving people the advantage of uncertainty or distrust, when there is any

expected disagreement or disbeliefs (McEvily, Perrone, & Zaheer, 2003). Accordingly, the study of (Annika Tidström, 2014) also examined that trust is the key element that decrease the tensions and paradoxical problems in co-opetition relationship. Consequently, the previous studies has demonstrated that trust is the important construct which handle uncertainty and disbelief (Shrum, Chompalov, & Genuth, 2001), that further generate superior long run relationship and increased higher level firm performance.

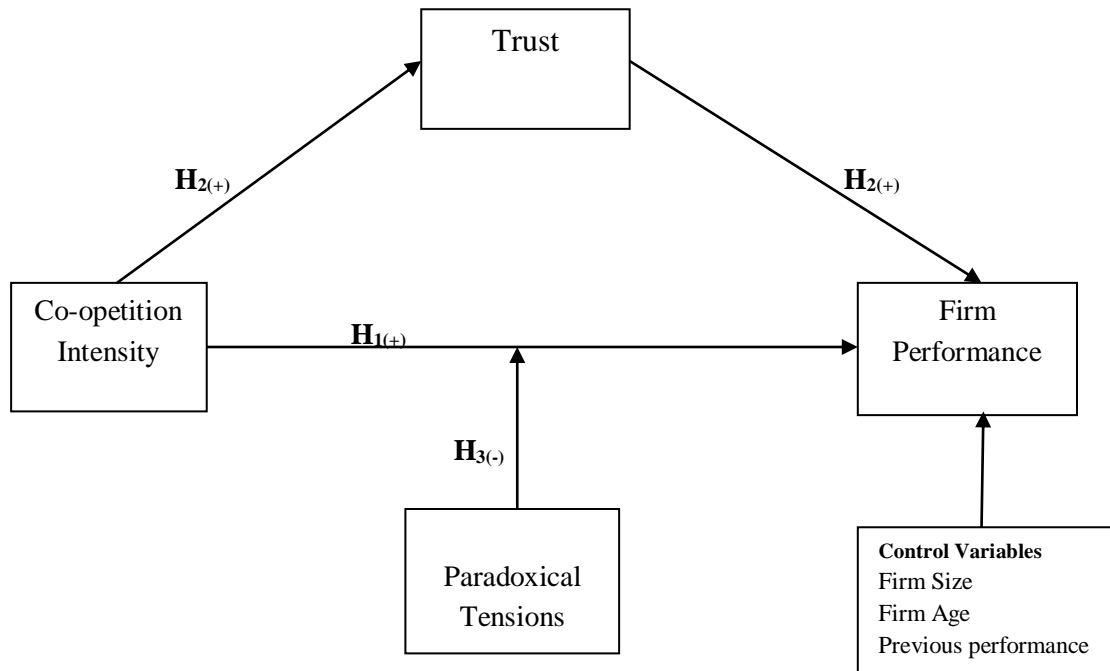
### **2.3 Paradoxical tension associated with co-opetition**

The paradoxical tensions concept is the most uncertain and frequently the broadest among concepts, and scholars significantly use it often for all paradoxical dynamics (Efrat, Souchon, Wald, Hughes, & Cai, 2022; Putnam et al., 2016). That is why sometimes both in co-opetition and paradox literature, the terms tension and paradox are used interchangeably without defining a clear difference (Jarvenpaa & Wernick, 2011; M. M. Wilhelm, 2011). We suggest that in contrast, co-opetition that occurs through inter-firm competitive and cooperative relations is the fundamental paradox. Tension tries to define in a few previous studies as an experienced state or feeling (Maria Bengtsson & Raza-Ullah, 2016; Lewis & Cho, 2011) paradoxical tensions are rare in studies of micro-

level individual approaches (Schad, Lewis, Raisch, & Smith, 2016). This study considers the tension is a personal feelings or situation of managers that contain different aspects of paradoxical tensions such as emotions, state of mind and their relationship in co-opetition. Thus, this study treats tension as a cognitive-emotional construct, although paradoxical tension is critical because manager actions are different there way of thinking and taking actions are different, this diverse personality skill creates relationship worse.

### **2.4 Theoretical Framework**

The theoretical context of co-opetition (i.e. cooperation and competition) theory resulted from different theoretical fields and integrated specifically (Maria Bengtsson, Raza-Ullah, & Vanyushyn, 2016). The resource-based view is very important theoretical root that used in co-opetition research (Barney, 1991, 2001; Peteraf, 1993). Moreover, the utilization of skills, assets, resources and capabilities and cooperating with rival firms becomes a very paradoxical situation that otherwise very challenging to get the desired results (Bonel & Rocco, 2009; Choi, Garcia, & Friedrich, 2010; Gnyawali & Park, 2011; Morris, Kocak, & Ozer, 2007). Thus, the resource base view is the main theory that re-organizes and produces cooperating and competitive advantages. Therefore, resource base view (RBV) theory used in this paper.



**Figure 1.** Hypotheses Model

## 2.5 Hypotheses Development

This study developed hypothesized model shown above in figure 1. This model indicated that the relationship between intensity of co-opetition and performance of firm mediate through trust and paradoxical tension influence as a moderator on this relationship.

### 2.5.1 Co-opetition and firm performance

Co-opetition is a two-foiled concept (Bouncken & Kraus, 2013) that indicates both positive as well as negative performance (Annika Tidström, 2014). Whereas the previous studies suggested that, most of the researchers considered and studied the private performance of the focal firm and individual benefits. Few studies focused on joint alliance performance (Maria Bengtsson & Raza-Ullah, 2016). Furthermore, according to study of (Gnyawali & Park, 2011) that examined a joint venture example of Samsung Electronics and Sony Corporation. These firms

were strong competitors in different geographical context with a variety of products in Asia, United States and European countries. Whereas, in the manufacturing of LCD TV panels, both the firm shares their skills, resources and capabilities in a co-opetition relationship to bench mark industry standards (Gnyawali & Park, 2011). As a result, these firms become the leaders in the market to gain a competitive advantage and place in the top position in the industry. Therefore, the relationship between firm performance and co-opetition activities has been studied empirically and conceptually as an individual approach. The association between co-opetition management and business performance was suggested to be favorable and direct in this study. However, the relationship's co-opetition intensity resulted in significant performance gains for both partners. Thus, this study proposed there is a significant positive relationship between co-opetition intensity and performance of firm.

**H<sub>1</sub>.** Co-opetition (cooperation and competition) intensity positively associated with firm performance

The earlier proposed hypothesis indicates that a significant positive relationship anticipated between intensity of co-opetition and performance of firm. The previous studies further identified a more detailed explanation regarding the co-opetitive advantages in co-opetition relationship that provides a long-term firm performance (Bahar et al., 2022; Maria Bengtsson, Raza-Ullah, & Srivastava, 2020), because some of these relationships also fail (Maria Bengtsson et al., 2020; Padula & Dagnino, 2007; Park & Ungson, 2001). Furthermore, the importance of paradoxical tension and trust in complex co-opetition intensity and firm performance relationship also demonstrated based on the relevant literature (J. Guo, Chen, & Tsai, 2017). Therefore, the formation of hypotheses signifying how trust mediate the relationship of co-opetition intensity and firm performance and moderating influence of paradoxical tension between co-opetition intensity and firm performance relationship.

### 2.5.2 Mediation role of trust

Scholars claim that predicting a partner's future behaviour is difficult, especially in cases when enterprises are competitors and strongly depending on one another (McEvily & Zaheer, 2006; Raza-Ullah & Kostis, 2020). Clearly, co-opetition is a difficult condition to handle. Cooperation between competitors, as previously said, is tense and involves various tensions and risk regarding immediate chance of competitive advantage and unprotected knowledge. Moreover, firms in co-opetition relationship take advantage and must utilize various skills, capabilities and resources to attain a maximum firm performance (McEvily et al., 2003; Nikolova, Möllering, & Reihlen, 2015; Schilke & Cook, 2013). Therefore, trust is the key component that linked a strong relationship between intensity of co-opetition and make sure to increase performance of firm. As this study suggests, trust is significant construct between

co-opetition intensity and company performance relationship in various domains. The study of Claro, Hagelaar, and Omta (2003) further examined that trust is an important element for improving the firm performance, because trust affects the behavior of both partners regarding their joint planning and problem solving. Furthermore, trust makes sure that rival firms performed according to expectation and did not take advantage of each other weakness and flaws (Lane, Salk, & Lyles, 2001). Consequently, it has an impact on firm performance. However, without knowledge sharing, the purpose of co-opetition involvement becomes moot, since enterprises will be unable to meet their targeted performance targets, especially in export-oriented businesses. In addition, trust has a significant role in business to sharing and protection of important information that decrease ambiguity. Indeed, empirical studies have discovered that trust in alliances has a positive relationship with information sharing and learning (Worimegbe, Abosedo, & Eze, 2022), both are very important and challenging to achieve target objective regarding firm performance. As a result, the intensity of co-opetition and firm performance relationship becomes more important and significant through the trust. Thus, the purposed hypothesis is as following:-

**H<sub>2</sub>.** Trust intervening the relationship between co-opetition (cooperation and competition) intensity and firm performance.

### 2.5.3 Moderating role of paradoxical tension

The intensity of experienced tension must be determined since two stages of tension (i.e. more level of tension and less level of tension) might have detrimental consequences for the relationship's expected results (A.-S. Fernandez, F. Le Roy, & D. R. J. I. M. M. Gnyawali, 2014b). As high tension raises the levels of anxiety and discomfort, actors are likely to

respond with counterproductive defenses by leaning toward their more favored or comfortable zone (Andriopoulos & Lewis, 2009; Vince & Broussine, 1996). For example, firms need to both trust each other to closely work together but at the same time, rising of tensions or keeping some distance from each other is also critical for obtaining a win-win result (S.-L. Guo, Lumineau, & Lewicki, 2015; Lee & Lee, 2018; Lewicki et al., 1998). Consequently, co-opetition research has demonstrated that it is extremely difficult for actors to undertake two contradictory logics (i.e. trust and paradoxical tension) of interactions at the same time (Maria Bengtsson & Johansson, 2014). High tension causes cognitive and emotional overloads that have a propensity to severely damaged manager's dynamic and attentive search for trust between rivals, innovative and superior long run performance outcomes. For example, studies have found that experiencing paradoxical tension negatively influences innovation-related firm performance outcomes in small firms (Ingram, Lewis, Barton, & Gartner, 2016). Thus, proposed hypothesis as following:-

**H<sub>3</sub>.** Paradoxical tensions moderate the relationship between co-opetition (cooperation and competition) intensity and firm performance.

### 3. Research Methodology

This study indentified the export oriented firms of surgical and leather industries with the help of classification code that are used by the Sialkot chamber of commerce and industry (SCCI). Furthermore, using this classification code the author restrained data regarding all the registered companies. For example number of employees, firm financial statement, contact detail as well as organization name etc. The selection of these industries based on the previous studies (Raza-Ullah, 2019; Worimegbe et al., 2022) which found numerous co-opetition examples in these industries. Furthermore, there

are total 9673 export oriented firms that included at least 20 employees as the size of population. This study selected 800 firms randomly from this population and approached only those firms that were engaged in c-opetition relationship through email and phone. There are 237 firms out of reached due to their uninterested behavior to participated in survey. Furthermore, 143 firms dropped from our sample because they were not involved in co-opetition directly or indirectly. Thus, our final sample is 420 firms that were distributed to the respondents. In addition, this study involved various practitioner and academic in pre-testing phase to clean the questionnaire items and facilitated to correct them. The senior managers and experience employees of these selected firms were the main respondents of this study survey. The survey was administrated in Nov-2021 to Jan-2022 and received 273 responses. Thus, our final usable sample was 220 firms, after correction of deficient feedback and missing values i.e. 53 which further suggest a response rate 27.5%.

### 3.1 Measures

The variables obtained from the prior literature are used in this paper. The five point Liker scale are used in this study for all the construct items i.e. 1 (not at all) to 5 (very high extent). The reliability and validity of these variables are shown in below table 1. Moreover, the data obtained from secondary data base i.e. Sialkot chamber of commerce and industry for all the control variables.

#### 3.1.1 Co-opetition

Co-opetition intensity' is our independent variable. The activity school of thought is the main concern of this study (Maria Bengtsson et al., 2016), which views co-opetition as a dyadic relationship in which firms fiercely collaborate in certain activities while concurrently competing in others. Co-opetition therefore describes the degree of a pair of businesses' simultaneous collaboration and competition.

This study operationalize intensity of co-competition as a two different sign one is intensity of competition and the other is intensity of cooperation and vice versa (Maria Bengtsson et al., 2016).

### 3.1.2 Performance

The dependent variable 'firm performance' relates to how satisfied people are with the co-competitive relationship's and performance outcomes. This measure have four items, two items have common characteristic with the study of (Lavie et al., 2012) that measure the competition and cooperation performance (Raza Ullah 2019) (Lavie, Haunschild, & Khanna, 2012; Steinicke, Wallenburg, & Schmoltzi, 2012) (Lavie et al., 2012). (Lavie et al., 2012)

### 3.1.3 Trust

The mediating variable 'trust,' similar to Raza-Ullah and Kostis (2020), comprises elements that represent different aspects of the collaborator i.e. knowledge sharing behavior, overcome the problem together in hard time, trustable and must be honest.

### 3.1.4 Paradoxical Tensions

The degree of cognitive difficulties faced by senior co-opetitive managers in working environment concurrently rival co-opetition stress is measured by paradoxical tension. Actors who are pursuing both cooperative and competitive goals sometimes find themselves strained in opposing directions. The modified and enlarged version of paradoxical tension measurement method is used (Maria Bengtsson et al., 2016).

### 3.1.5 Control Variables

In this study, three control variables used and all the values obtained from a secondary database i.e. Sialkot Chamber of Commerce and Industry (SCCI). The dummy variables are using to measure the firm age (1 used for those firm have less than 20 years and 0 for those firms which have age more than 20 years). Whereas, previous performance was measured base on the financial data average of the previous 2 years profit margin. Finally, the measurement of firm size based on the natural log of the total number of employees.

## 4. Results

The structural equation modeling applied in this paper through partial least square (PLS-SEM) for data analysis purpose. For this analysis of data SmartPLS 3.9.2 used in this study (Hair Jr et al., 2021). PLS-SEM precedes a two-step process for evaluation and interpretation of its estimates. The partial least square (PLS-SEM) has two steps process of data analysis, in first step a measurement model that evaluated the convergent validity, discriminant validity and the internal consistency of the constructs. Moreover, in the second step the path coefficients significant, coefficients of determination ( $R^2$ ) and model predictive relevance ( $Q^2$ ) are determined and assessed the structural model. Furthermore, this study also evaluated the values of Standardized Root Mean Square Residual (SRMSR) in the model fit index.



**Table 4.1 Construct Validity and Reliability**

<b>Construct</b>	<b>Indicators</b>	<b>Factor Loading</b>	<b>Cronbach Alpha (<math>\alpha</math>)</b>	<b>CR</b>	<b>AVE</b>
Co-opetition Intensity	We commit a significant amount of resources and efforts to the collaboration	0.82	0.81	0.79	0.67
	We exchange many ideas on how to improve us Capabilities	0.85			
	We consider each other as major competitors in some markets	0.84			
	We respond rapidly to each other's competitive actions	0.84			
Firm Performance	Produces the expected results and meets its milestones	0.73	0.71	0.82	0.59
	Reduces time to market for launching products, services, or solutions	0.71			
	Generates new customers, products, or projects	0.81			
	Adds to our core competence and/or competitive advantage	0.83			
Trust	Our partner is very honest	0.86	0.77	0.75	0.68
	Our partner keeps its promises	0.81			
	Our partner has always been evenhanded in its negotiations with us	0.85			
	Our partner helps us when we need	0.78			
Paradoxical Tension	Both cooperate in some areas and compete in others	0.75	0.85	0.80	0.58
	In my work, I need to be flexible while also complying with the company's tight rules	0.83			
	In my work, I need to gain new skills while relying on my existing skills	0.77			
	In my work, I need to focus on my own needs while addressing the needs of others	0.72			

Table 4.1 shows the values of all the constructs validity and reliability. As the results of above table 4.1 presents all the values of outer loading are higher than 0.70 that indicating all the constructs confirming high convergent validity. Furthermore, convergent validity of each construct also demonstrated as greater than the desired value i.e. 0.50, based on this the average variance extracted (AVE) values of this study

higher than the critical limit (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017). The values of Cronbach alphas ( $\alpha$ ) composite reliability (CR) on their correspondence constructs are above the required value i.e. 0.70 that shows the internal consistency of all the constructs (Nunnally & Bernstein, 1994).

**Table 4.2 Discriminant Validity (Fornell-Larcker Criterion)**

	CI	FP	T	PT
Co-opetition Intensity	<b>0.813</b>			
Firm Performance	0.437	<b>0.832</b>		
Trust	0.380	0.412	<b>0.780</b>	
Paradoxical Tension	0.025	0.070	0.049	<b>0.720</b>

The bold diagonal values are the square root of AVEs. Non-diagonal values are the correlations among variables.

The above table 4.2 discriminant validity (Fornell-Larcker Criterion) used to determine the all constructs discriminant validity values. According to evaluation and checking criteria of discriminant validity that the particular construct

average variance extract (AVE) square root values should be higher than the correlation values of other constructs. Thus, the tables 4.2 above shows the highlighted square root values of AVEs of each construct are greater than with other constructs correlation values. Thus, these values indicated that is also recognize the discriminant validity.

**Table 4.3 Structural Model**

Path	B	T-Statistics	p-value	Hypotheses
Co-opetition Intensity → Firm Performance	0.356	5.120	0.000	Accepted
Co-opetition Intensity → Trust	0.463	8.234	0.000	
Trust → Firm Performance	0.372	6.432	0.000	Accepted
Co-opetition Intensity → Trust → Firm Performance	0.142	5.831	0.000	
Co-opetition Intensity*Paradoxical Tension → Firm Performance	0.158	5.981	0.000	Accepted
R <sup>2</sup>				0.396
Q <sup>2</sup>				0.256
SRMSR				0.071

\*p<0.001; Q<sup>2</sup>. Model's predictive relevance for the endogenous construct. Q<sup>2</sup> should be > 0. SRMSR-Standardize Root Mean Square Residual. < 0.08 is a good fit.

The above table 4.3 presents the results of structural model. The hypothesis one of this study affirms that co-opetition intensity has a significant positive relationship with firm performance. The results of our study ( $\beta = 0.35$ ;  $p < 0.001$ ) indicated a strong support and show a positive significant affects of co-opetition intensity on firm performance. The hypothesis two i.e. mediation check in three different condition and the procedure set by the (Baron &

Kenny, 1986). The independent variable (co-opetition intensity) should be effect on the mediation variable (trust) in the first condition of this three steps procedure. The results of construct trust ( $\beta = 0.463$ ;  $p < 0.001$ ) fulfill the first condition and indicated that intensity of co-opetition has a significant positive effect on trust. Furthermore, the mediating variable (trust) should be effect on depending variable (firm performance in second condition. The results

also met the requirements of second condition and indicated that trust ( $\beta = 0.372$ ;  $p < 0.001$ ) has a significant positive effect on firm performance. In the third condition, this study examines the mediation role of trust either that has occurred in partial of full mediation form. Therefore, the values of co-opetition intensity coefficient has decrease from 0.35 to 0.14, this indicated that the results of this study support to partial mediation and still it has significant positive effect on firm performance ( $\beta = 0.142$ ;  $p < 0.001$ ). The last hypothesis of this study states that paradoxical tension would perform as a moderator such that it will negatively affects between intensity of co-opetition and performance of firm relationship. The paradoxical tension negatively moderates the association between co-opetition intensity and firm performance ( $\beta = 0.025$ ;  $p < 0.001$ ). Thus, the overall results indicated that a good fit model with the values of  $R^2 = 0.396$ ,  $Q^2 = 0.256$  and  $SRMSR = 0.071$  (Hair et al., 2017).

## 5. Discussion

In today's global business environment, the competition between the competitive organizations has become very challenging, so that firms should creates best strategy to hold the firm performance in long term. However, according to current theoretical framework, this study suggested how and when co-opetition intensity could improve firm performance and trust and paradoxical tension are important constructs for successful relationship (Lewicki et al., 1998; Raza-Ullah & Kostis, 2020). Furthermore, this paper proposed that intensity of co-opetition enhances performance of firm through the key role of mediating construct trust and moderating construct paradoxical tension influence on the situation between intensity of co-opetition and performance of firm for further improvement in this relationship. This study results ascertained from a export oriented firms sample of 220 that involved in co-opetition relationship endorsed to our hypotheses i.e. co-

opetition intensity significant positive impact on performance of firm with the mediating role of trust and paradoxical tension significant effects on this relationship. Moreover, this study makes several theoretical and practical contributions. First, it urges businesses to be attentive and implement the appropriate ensures as well as organizes in arrange to become aware of and avoid information mismanagement and taking advantage of problems in a timely manner. Firms would benefit from a stronger and favorable impact of co-opetition intensity on firm performance if they did so. Second, this study add literature in the act of response to the trust and paradoxical tension for empirical analysis of paradoxical tension and trust being a distinct categories (Latusek & Vlaar, 2018; Saunders, Dietz, & Thornhill, 2014). Our findings suggest that the construct paradoxical tension and trust has different aspect and both have separate viewpoint. The finding of this study in connection with previous studies suggests that paradoxical tension and trust do not survive on the same extent, i.e. more paradoxical tensions are not the same as less trust and more trust are also not same as less paradoxical tension (Cho & Trent, 2006). Third, this study demonstrated that how paradoxical tensions and trust engage in creating different roles in helping organizations improve their performance. While, trust has the most significant positive affect being a very important intervening element on intensity of co-opetition and firm performance relationship. Thus, this paper discovered that paradoxical tension is an essential moderator that further improves the favorable link between co-opetition intensity and firm performance relationship. Overall, this paper enhances co-opetition research by arguing that distinct roles of trust and paradoxical tension are essential in co-opetition. Both support firms in dealing with stressful situations and unpredictability that come with co-opetition in order to attain greater results. In terms of practical application, this paper believes that

distinguishing between trust and paradoxical tension is especially important for managers as businesses increasingly engage in co-opetitive partnerships. Successful co-opetition relationship may not be taken for granted because organizations in this kind of arrangements have only participated in part and not extend beyond interests that appearance a variety of risks, tensions, and uncertainties. In co-opetition relationship, both trust and paradoxical tension act in various ways, yet both are necessary for improved performance of firm. On the other hand, trust builds a strong belief and strength of mind that produce significance importance paradoxical tension restrains unwelcome surprises from destroying value. As a result, managers must recognize that paradoxical tension does not imply with the low level of trust, and in same way trust does not entail with high level of tensions. Therefore, these two elements must be in attendance and control together for co-opetition to be successful.

According to other studies, this paper also has study limitations that can be examined in the future research. This paper selected one specific region of Pakistan due to our context demand and time constrain. Therefore, in arrange to take a broader view in future research results might be test these hypotheses framework in different setting across other countries.

## 6. Conclusion

This research paper investigated and highlighted the key issues in co-opetition literature, which indicated that how and when co-opetition (cooperation and competition) leads to a superior long run performance. This study also demonstrated that the relationship between intensity of competition and firm performance through mediated effect of intervening construct trust and paradoxical tensions influence as a moderated construct in this relationship. According to expectations, the findings of this

study examined that intensity of co-opetition has a significant affects on the performance of firm with the mediating relationship of trust and paradoxical tensions negatively influence on this relationship. At the end, this study recommended that these two construct paradoxical tension and trust have different aspects and role in intensity of co-opetition and firm performance relationship, but both play beneficial roles that increasing superior long run performance.

## References

1. Andriopoulos, C., & Lewis, M. W. (2009). Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation. *Organization science*, 20(4), 696-717.
2. Bahar, V. S., Nenonen, S., & Starr Jr, R. G. (2022). Coopetition with platforms: Balancing the interplay of cooperation and competition in hospitality. *Tourism Management*, 88, 104417.
3. Barney. (1991). Firm resources and sustained competitive advantage. *Journal of management*, 17(1), 99-120.
4. Barney. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of management*, 27(6), 643-650.
5. Bednarek, R., Paroutis, S., & Sillince, J. (2017). Transcendence through rhetorical practices: Responding to paradox in the science sector. *Organization Studies*, 38(1), 77-101.
6. Bengtsson, M., & Johansson, M. (2014). Managing coopetition to create opportunities for small firms. *International small business journal*, 32(4), 401-427.
7. Bengtsson, M., & Raza-Ullah, T. (2016). A systematic review of research on coopetition: Toward a multilevel understanding. *Industrial Marketing Management*, 57, 23-39.

8. Bengtsson, M., & Raza-Ullah, T. (2017). Paradox at an inter-firm level: a coopetition lens.
9. Bengtsson, M., Raza-Ullah, T., & Srivastava, M. K. (2020). Looking different vs thinking differently: Impact of TMT diversity on coopetition capability. *Long Range Planning*, 53(1), 101857.
10. Bengtsson, M., Raza-Ullah, T., & Vanyushyn, V. (2016). The coopetition paradox and tension: The moderating role of coopetition capability. *Industrial Marketing Management*, 53, 19-30.
11. Bengtsson, M., Wilson, T., Kock, S., Nisuls, J., & Söderqvist, A. (2010). Co-opetition: a source of international opportunities in Finnish SMEs. *Competitiveness Review: An International Business Journal*.
12. Bonel, E., & Rocco, E. (2009). Coopetition and business model change: a case-based framework of coopetition-driven effects. In *Coopetition Strategy* (pp. 211-238): Routledge.
13. Bouncken, R. B., Fredrich, V., Ritala, P., & Kraus, S. (2017). Orchestrating value creation–input–capture dynamics for cooperative product innovation. Paper presented at the Academy of Management Proceedings.
14. Bouncken, R. B., & Kraus, S. (2013). Innovation in knowledge-intensive industries: The double-edged sword of competition. *Journal of Business Research*, 66(10), 2060-2070.
15. Castañer, X., & Oliveira, N. (2020). Collaboration, coordination, and cooperation among organizations: Establishing the distinctive meanings of these terms through a systematic literature review. *Journal of Management*, 46(6), 965-1001.
16. Chang, Y.-W., Hsu, P.-Y., & Lan, Y.-C. (2019). Cooperation and competition between online travel agencies and hotels. *Tourism Management*, 71, 187-196.
17. Cho, J., & Trent, A. (2006). Validity in qualitative research revisited. *Qualitative research*, 6(3), 319-340.
18. Choi, P., Garcia, R., & Friedrich, C. (2010). The drivers for collective horizontal coopetition: a case study of screwcap initiatives in the international wine industry. *International Journal of Strategic Business Alliances*, 1(3), 271-290.
19. Claro, D. P., Hagelaar, G., & Omta, O. (2003). The determinants of relational governance and performance: how to manage business relationships? *Industrial Marketing Management*, 32(8), 703-716.
20. Crick, J. M., & Crick, D. (2020). Coopetition and sales performance: evidence from non-mainstream sporting clubs. *International Journal of Entrepreneurial Behavior*
21. Czakon, W., & Czernek, K. (2016). The role of trust-building mechanisms in entering into network competition: The case of tourism networks in Poland. *Industrial Marketing Management*, 57, 64-74.
22. Czakon, W., Srivastava, M. K., Le Roy, F., & Gnyawali, D. (2020). Coopetition strategies: Critical issues and research directions. *Long Range Planning*, 53(1), 101948.doi:<https://doi.org/10.1016/j.lrp.2019.101948>
23. Czernek, K., & Czakon, W. (2016). Trust-building processes in tourist competition: The case of a Polish region. *Tourism Management*, 52, 380-394.
24. Denis, J.-L., Langley, A., & Rouleau, L. (2007). Strategizing in pluralistic contexts: Rethinking theoretical frames. *Human relations*, 60(1), 179-215.
25. Efrat, K., Souchon, A. L., Wald, A., Hughes, P., & Cai, J. (2022). Mitigating competition tensions: The forgotten formation stage. *European Management Review*.
26. Fernandez, A.-S., Le Roy, F., & Gnyawali, D. R. (2014a). Sources and management of tension in co-opetition case evidence from

- telecommunications satellites manufacturing in Europe. *Industrial Marketing Management*, 43(2), 222-235.
27. Fernandez, A.-S., Le Roy, F., & Gnyawali, D. R. J. I. M. M. (2014b). Sources and management of tension in co-opetition case evidence from telecommunications satellites manufacturing in Europe. 43(2), 222-235.
28. Fong, V. H. I., Hong, J. F. L., & Wong, I. A. (2021). The evolution of triadic relationships in a tourism supply chain through coopetition. *Tourism Management*, 84, 104274.
29. Forsman, H. (2010). Linking Innovation and Learning. *Blended Learning in Finland*, 179.
30. Gnyawali, D. R., Madhavan, R., He, J., & Bengtsson, M. (2016). The competition-cooperation paradox in inter-firm relationships: A conceptual framework. *Industrial Marketing Management*, 53, 7-18.
31. Gnyawali, D. R., & Park, B.-J. R. (2011). Co-opetition between giants: Collaboration with competitors for technological innovation. *Research policy*, 40(5), 650-663.
32. Guo, J., Chen, R., & Tsai, J. J. (2017). A survey of trust computation models for service management in internet of things systems. *Computer Communications*, 97, 1-14.
33. Guo, S.-L., Lumineau, F., & Lewicki, R. J. (2015). Revisiting the foundations of organizational distrust. *Foundations and Trends in Strategic Management*, Forthcoming.
34. Guo, S.-L., Lumineau, F., & Lewicki, R. J. (2017). Revisiting the foundations of organizational distrust. *Foundations and Trends® in Management*, 1(1), 1-88.
35. Gylfe, P., Franck, H., & Vaara, E. (2019). Living with paradox through irony. *Organizational Behavior and Human Decision Processes*, 155, 68-82.
36. Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. *Journal of the academy of marketing science*, 45(5), 616-632.
37. Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook*. In: Springer Nature.
38. Harbison, J. R., & Pekar, P. (1998). Institutionalising alliance skills: secrets of repeatable success. *Strategy Business*, 79-94.
39. Holmlund, M., & Kock, S. (1998). Relationships and the internationalisation of Finnish small and medium-sized companies. *International small business journal*, 16(4), 46-63.
40. Ingram, A. E., Lewis, M. W., Barton, S., & Gartner, W. B. (2016). Paradoxes and innovation in family firms: The role of paradoxical thinking. *Entrepreneurship Theory and Practice*, 40(1), 161-176.
41. Jakobsen, S. (2020). Managing tension in coopetition through mutual dependence and asymmetries: A longitudinal study of a Norwegian R&D alliance. *Industrial Marketing Management*, 84, 251-260.
42. Jarvenpaa, S. L., & Wernick, A. (2011). Paradoxical tensions in open innovation networks. *European Journal of Innovation Management*.
43. Jarzabkowski, P. A., & Lê, J. K. (2017). We have to do this and that? You must be joking: Constructing and responding to paradox through humor. *Organization Studies*, 38(3-4), 433-462.
44. Kostis, A., & Näsholm, M. H. (2020). Towards a research agenda on how, when and why trust and distrust matter to coopetition. *Journal of Trust Research*, 10(1), 66-90.
45. Krishnan, R., Martin, X., & Noorderhaven, N. G. (2006). When does trust matter to alliance performance? *Academy of Management journal*, 49(5), 894-917.

47. Lane, P. J., Salk, J. E., & Lyles, M. A. (2001). Absorptive capacity, learning, and performance in international joint ventures. *Strategic management journal*, 22(12), 1139-1161.
48. Latusek, D., & Vlaar, P. W. (2018). Uncertainty in interorganizational collaboration and the dynamics of trust: A qualitative study. *European Management Journal*, 36(1), 12-27.
49. Lavie, D., Haunschild, P. R., & Khanna, P. (2012). Organizational differences, relational mechanisms, and alliance performance. *Strategic Management Journal*, 33(13), 1453-1479.
50. Le Roy, F., & Czakon, W. (2016). Managing coopetition: the missing link between strategy and performance. *Industrial Marketing Management*, 53(1), 3-6.
51. Lee, J., & Lee, J. (2018). When you trust and distrust the other side: The roles of asymmetric power in a policy network. Paper presented at the Academy of Management Proceedings.
52. Lewicki, R. J., McAllister, D. J., & Bies, R. J. (1998). Trust and distrust: New relationships and realities. *Academy of management Review*, 23(3), 438-458.
53. Lewis, G. B., & Cho, Y. J. (2011). The aging of the state government workforce: Trends and implications. *The American Review of Public Administration*, 41(1), 48-60.
54. Luo, Y. (2004). A coopetition perspective of MNC–host government relations. *Journal of International Management*, 10(4), 431-451.
55. McEvily, B., Perrone, V., & Zaheer, A. (2003). Trust as an organizing principle. *Organization science*, 14(1), 91-103.
56. McEvily, B., & Zaheer, A. (2006). trust in inter-organizational exchange. *Handbook of trust research*, 280.
57. McKnight, D. H., & Chervany, N. (2001). While trust is cool and collected, distrust is fiery and frenzied: A model of distrust concepts.
58. Meena, A., Dhir, S., & Sushil, S. (2022). A review of coopetition and future research agenda. *Journal of Business Industrial Marketing*.
59. Morris, M. H., Kocak, A., & Ozer, A. (2007). Coopetition as a small business strategy: Implications for performance. *Journal of small business strategy*, 18(1), 35-56.
60. Nikolova, N., Möllering, G., & Reihlen, M. (2015). Trusting as a ‘leap of faith’: Trust-building practices in client–consultant relationships. *Scandinavian Journal of Management*, 31(2), 232-245.
61. Padula, G., & Dagnino, G. B. (2007). Untangling the rise of coopetition: the intrusion of competition in a cooperative game structure. *International Studies of Management Organization science*, 37(2), 32-52.
62. Park, S. H., & Ungson, G. R. (2001). Interfirm rivalry and managerial complexity: A conceptual framework of alliance failure. *Organization science*, 12(1), 37-53.
63. Peteraf, M. A. (1993). The cornerstones of competitive advantage: a resource-based view. *Strategic management journal*, 14(3), 179-191.
64. Putnam, L. L., Fairhurst, G. T., & Banghart, S. (2016). Contradictions, dialectics, and paradoxes in organizations: A constitutive approach. *Academy of Management Annals*, 10(1), 65-171.
65. Raza-Ullah, T. (2019). The Power of ‘Both/And’: Simultaneous Trust and Distrust in Inter-Firm Coopetitive Alliances. Paper presented at the BAM 2019 Conference, Birmingham, September 3-5, 2019.
66. Raza-Ullah, T., Bengtsson, M., & Gnyawali, D. (2018). Experienced paradoxical tension in coopetition and firm performance: The moderating role of coopetition capability.

- Paper presented at the 34th EGOS Colloquium, Tallinn, Estonia, July 5-7, 2018.
67. Raza-Ullah, T., Bengtsson, M., & Kock, S. (2014). The coopetition paradox and tension in coopetition at multiple levels. *Industrial Marketing Management*, 43(2), 189-198.
  68. Raza-Ullah, T., & Kostis, A. (2020). Do trust and distrust in coopetition matter to performance? *European Management Journal*, 38(3), 367-376.
  69. Saunders, M. N., Dietz, G., & Thornhill, A. (2014). Trust and distrust: Polar opposites, or independent but co-existing? *Human Relations*, 67(6), 639-665.
  70. Schad, J., Lewis, M. W., Raisch, S., & Smith, W. K. (2016). Paradox research in management science: Looking back to move forward. *Academy of Management Annals*, 10(1), 5-64.
  71. Schilke, O., & Cook, K. S. (2013). A cross-level process theory of trust development in interorganizational relationships. *Strategic organization*, 11(3), 281-303.
  72. Segrestin, B. (2005). Partnering to explore: The Renault–Nissan Alliance as a forerunner of new cooperative patterns. *Research policy*, 34(5), 657-672.
  73. Sheep, M. L., Fairhurst, G. T., & Khazanchi, S. (2017). Knots in the discourse of innovation: Investigating multiple tensions in a reacquired spin-off. *Organization Studies*, 38(3-4), 463-488.
  74. Shrum, W., Chompalov, I., & Genuth, J. (2001). Trust, conflict and performance in scientific collaborations. *Social studies of science*, 31(5), 681-730.
  75. Steinicke, S., Wallenburg, C. M., & Schmoltzi, C. (2012). Governing for innovation in horizontal service cooperations. *Journal of Service Management*.
  76. Tekin Bilbil, E. (2019). Platform coopetition in the tourism industry: conflicts and tensions caused by the closure of Booking.com in Turkey. *Current Issues in Tourism*, 22(13), 1617-1637.
  77. Tidström, A. (2014). Managing tensions in coopetition. *Industrial Marketing Management*, 43(2), 261-271.
  78. Tidström, A. (2014). Managing tensions in coopetition. *Industrial Marketing Management*, 43(2), 261-271.
  79. Vince, R., & Broussine, M. (1996). Paradox, defense and attachment: Accessing and working with emotions and relations underlying organizational change. *Organization studies*, 17(1), 1-21.
  80. Wilhelm, M., & Sydow, J. (2018). Managing coopetition in supplier networks—A paradox perspective. *Journal of Supply Chain Management*, 54(3), 22-41.
  81. Wilhelm, M. M. (2011). Managing coopetition through horizontal supply chain relations: Linking dyadic and network levels of analysis. *Journal of Operations Management*, 29(7-8), 663-676.
  82. Worimegbe, P. M., Abosede, A. J., & Eze, B. U. (2022). Coopetition and micro, small and medium enterprises performance. *Independent Journal of Management Production*, 13(2), 771-790.
  83. Zacharia, Z., Plasch, M., Mohan, U., & Gerschberger, M. (2019). The emerging role of coopetition within inter-firm relationships. *The International Journal of Logistics Management*.