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Empirical Study on the Effect of Enterprise Needs on Cooperative Behavior with Relationship Commitment as a Mediator

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Supported by Research and innovation projects of college graduate in Jiangsu province in 2013(Number: CXZZ13_07), Qu han-yu, Study on the matching of cooperation form and cooperative stability; Humanities and social sciences planning issues of Department of Education(Number: 11YJA630129), Wang Li, Study of the mechanism of partnership and coordination strategy in the life cycle of supply chain.

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Abstract

From hierarchy of enterprise needs theory, the idea that the supply chain enterprises may meet their needs through cooperation was pointed out. According to the development process of supply chain relationship, using relationship commitment as mediator, an assuming model which involved cooperative behavior with different levels need was developed. Then structural equation model was chose and an empirical study was conducted. The results show that in order to obtain the resources they need from partners; companies with different hierarchy of needs will make different commitments under different economic or social interests' stimulus and ensure the smooth progress of cooperation.

Key words: Hierarchy of enterprise needs; Relationship commitment; Cooperative behavior; Empirical study

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INTRODUCTIONS

With the rapid network technology and development of the knowledge economy, the global economy continues to accelerate the process of integration. Cooperation is increasingly becomes a strategic management and the main way to acquire external resources for enterprises (Wang, 2001). Exploring how to build and enhance partnerships between members of the supply chain has the theoretical and practical significance. The motivation of cooperation should be considered when the partnership is built. For the study of the motivation, some scholars discussed qualitatively on the transaction cost theory, resource-based theory, resource dependency theory and organizational learning theory (Macher, 2008; Cassiman, 2009; Ritala, 2010; Wu, 2008). Summed up in the following points: firstly, reducing transaction costs and sharing business risks; secondly, resource sharing and complementary advantages; thirdly, accumulation of intangible assets and knowledge sharing; fourthly, accessing to social network resources. These motivations is ultimately reflected the need of the resource in different environments and different development stages. Enterprises want to acquire the resource they needed through cooperation and achieve the stated objectives smoothly. Although these studies analyzed the motivation of cooperation, failed to explain where the motivation comes from and which the dominant motivation is at different stages during the growth process of enterprise. Enterprises cooperative behavior is the choice which is made under its dominant motivation and environment constrained and stimulated. So the article will study the enterprises cooperation with hierarchy of enterprise needs perspective.

Enterprise is the economic organization with the main characters of beings. Enterprise needs is complex and diverse, different enterprises has different needs, the same one nay have different needs in different develop stages and environments. In this paper, enterprise needs

is divided into existence needs, order needs, ethics needs, self-actualization needs (Gu, 2005). Supply chain members establish partnerships which is the interaction that can give interests for members under mutual commitment between members to meet the needs (Luo, 2001). Therefore, combining with the study about the existing supply chain partnership, we select relationship benefits, communication, shared values, special assets investment and relationship commitment as the influencing factors of cooperative behavior from the perspective of the relationship formulation in order to analyze the cooperative behavior of enterprises that in different hierarchy of needs and provide a theoretical reference for building and maintaining relationship of supply chain members.

1. VARIABLE DEFINED AND HYPOTHESES

1.1 Variable Defined

1.1.1 Explained variables

(1) Relationship benefits

Relationship benefits refers to a range of economic benefits that partners may bring in the process of cooperation, including price with competence, profit margins and other price conditions and some hidden preferential policies (Maria, 2001). Pursuit of economic interests is the business goals, while core propose of cooperation is to obtain product posits. The economic benefit which is brought by relationship is important for maintaining relationships, while such benefits cannot acquire by one. To sum up, three items are used as the measure of relationship benefits, as shown in Table 1.

(2) Communication

Communication refers enterprises share the useful and timely information for both sides in the formal and informal forms, which is the process of inter-enterprise resources and information shared with each other (Fynes, 2005). Effective communication is the key to successful cooperation; communication can be used as a tool to reduce opportunistic behavior in the cooperation process (Saleh & Ali, 2014). On the contrary, the lack of communication will eventually lead to rupture of partnership and replace partners (Friman, Garling, Millett, Mattsson & Johnston, 2002). To sum up, three items are used as the measure of communication, as shown in Table 2.

(3) Shared values

Shared values is refers to the degree of shared faith that whether the parties' behaviors, goals and norms are important, appropriate and right for each other(Morgan & Hunt, 1994). It connects different bodies into the same logical system and makes the members communicate in the similar way (Wu, Chen, & Chung, 2010). Shared values are the driving factors of culture, while it is very important to adapt to new culture and is the cornerstone of future cooperation (Friman, 2002). To sum up, four items are used as the measure of shared values, as shown in Table 3.

Table 1
Measuring Scale of Relationship Benefits

Variable name	Items	Basis
Relationship Benefits (RB)	RB1: To cooperate with him because of its excellent products RB2: To cooperate with him because of satisfactory profits RB3: To cooperate with him because of its best service	Morgan (1994)

Table 2
Measuring Scale of Communication

Variable name	Items	Basis
Communication (CM)	CM1: We hope exchange benefit information CM2: We hope inform each other the changes of market and business on time CM3: We hope the activities about information exchange not only according to formal agreement	Saleh (2014)

Table 3
Measuring Scale of Shared Values

Variable name	Items	Basis
Shared Values (SV)	SV1: To cooperate with him because of the common values SV2: We choose partners depends on its values SV3: The values of partners are very important for us to fight or authorize the distribution rights SV4: If the values of partners are different to us, we will not fight or authorize the distribution rights	Morgan (1994)

(4) Specific asset investment

Specific asset investment refers partners make the investment to strengthen the relationship between the two sides, including physical specificity, human capital and other general specific investment and the investment of human relations involved the personal relationship of managers and employees between cooperative enterprises (Wu, 2008). According to transaction cost theory, specific investments can increase investment efficiency of enterprises, enhance cooperation between the two sides and reduce transaction costs (Li, 2013). Both sides can achieve returns through specific investments that stimulate need to develop long-term relationship for each side (Yun, 2005). To sum up, four items are used as the measure of specific asset investment, as shown in Table 4.

(5) Relationship commitment

Relationship commitment refers to a persistent desire for the development and maintenance of trade relations, while enterprises are willing to make implicitly or explicitly guarantees and sacrifice for acquiring long-term interests (Rylander, Strutton, & Pelton, 1997). Relationship commitment has multidimensional, it can be divided into emotion, calculation and normative commitment (Bansal, 2004; Ganesan, 2010; Gounaris, 2005); it also can be divided into attitudes and behavior dimensions, which emotion and calculation commitment are belong to attitudes or behavior commitment (Cullen, 1995; Gilliland, 2002). The paper selects the study of dimension divided of relationship commitment by Wang (2002) and argues that relationship commitment includes economic and affective commitment, in which economic commitment can be subdivided into income commitment and switching cost commitment.

Income commitment refers to an attitude of maintaining relationship based on income factors, emphasizing the utilitarian motives. Affective commitment refers to an attitude of maintaining relationship based on emotional reliance. Switching cost commitment refers to an attitude of maintaining relationship based on the loss of transfer costs. Income commitment is the foundation for the establishment and development partnerships; affective commitment is the highest form of relationship development; switching cost commitment is materialized gradually based on income and affective commitment. To sum up, items are used as the measure of relationship commitment, as shown in Table 5.

Table 4
Measuring Scale of Specific Asset Investment

Variable name	Items	Basis
Specific asset investment (SI)	SI1: We hope the two sides make specific physical asset investment	Pelton (1997)
	SI2: We hope the two sides make specific management asset investment	
	SI3: We hope the two sides make specific human capital investment	
	SI4: We hope the two sides make specific theological asset investment	

Table 5
Measuring Scale of Relationship Commitment

Variable name	Items	Basis
Income Commitment (IC)	IC1: Need to maintain relationship based on the more revenue	Wang (2002)
	IC2: Need to maintain relationship because the termination of the relationship will lead to a greater loss of revenue	
	IC3: Partners can bring more benefits, dare not the relationship	
Affective Commitment (AC)	AC1: Very deeply friendship is produced, we are wiling to maintain relations	
	AC2: Cooperation with him feels like brothers, we do not want to leave it	
	AC3: Cooperation with him feels happy, willing to continue to maintain a relationship	
Switching cost Commitment (CC)	CC1: Changing partners will lead to financial and human investment losses, we have to maintain relations	
	CC2: The joint investment and transformation are difficult to transfer to others, we have to maintain relations	
	CC3: Looking for new partners require more money and manpower, we have to maintain relations	

(6) Cooperative behavior

Cooperative behavior is refers to the coordinated action that parties want to achieve common goals, according to a flexible, exchange of information and sharing of problem-solving (Jiang, 2012). The cooperation involved product design, process design, forecasting and production planning, quality practices and so on. Both sides recognize that they can achieve more return including efficiency, productivity and effectiveness than a single (Zeng, 2010). To sum up, four items are used as the measure of cooperative behavior, as shown in Table 6.

Table 6
Measuring Scale of Cooperative Behavior

Variable name	Items	Basis
Cooperative Behavior (CB)	CB1: Cooperate with him closely in product design CB2: Cooperate with him closely in business process design CB3: Cooperate with him closely in forecast production CB4: Cooperate with him closely in quality practice	Zeng (2010)

1.1.2 Control Variables

Based on the above explanatory variables, we select hierarchy of enterprise needs as the control variable to discuss the effect of the hierarchy of enterprise needs on explained variable (the dependent variable). The control variables of paper is existence needs, order needs, ethics needs, self-actualization needs.

(1) Existence needs

Existence needs is the basic needs of enterprises to maintain its basic operation and could survive. Under this hierarchy, enterprises give more focuses on short-term interests in order to fight to the basic profitability. At this hierarchy, sales profit is the fundamental purpose for enterprises.

(2) Order needs

After the enterprises meet the existence needs, the strength is gradually increased and the scale of operation and production is constantly expanded. Centralized management cannot meet the needs of enterprise development. Enterprises need to use scientific management methods to standardize the employees and enterprises activities. At this hierarchy, enterprises require the needs of institutional, organizational structure and standardized management.

(3) Ethics needs

Enterprises at this hierarchy have achieved a relatively stable position and have a certain economic strength. The commercial activities are assessed from the view of ethical behavior, not only from economic efficiency. Enterprises look to the long-term development strategy to improve internal cohesion and reputation. At this hierarchy, enterprises require the needs of good and evil norms of behaviors in the production and operation.

(4) Self-Actualization needs

Self-actualization needs are based on the previous three needs. Enterprises not only pursuit the interests, but also give more emphasis on social responsibility and social value under the guidance of a certain ethical values. Customer-centric economy is advocated, while enterprises culture with the features of innovation is created. The variety of the potential and resources of enterprise will be fully played. Enterprises will guide consumption and meet the consumer. At this hierarchy, enterprises require the needs of excellence.

In summary, based on the study of Gu (2005), respondents judge the hierarchy that their enterprises may be according to the description of the four hierarchy of needs. As shown in Table 7.

Table 7
Measuring Scale of Hierarchy of Enterprise Needs

Which hierarchy of enterprise needs is your enterprises at: **□Existence needs □Order needs □Ethics needs □Self-actualization needs**
Existence needs: basic survival needs, sales profit is the fundamental purpose
Order needs: the needs of institutional, organizational structure and standardized management.
Ethics needs: the needs of good and evil norms of behaviors
Self-actualization needs: the needs of excellence under the guidance of a certain ethical values

1.2 Hypothesis and Model

(1)Relationship benefits and Relationship commitment

Morgan and Hunt (1994) considers relationship benefits as the leading factors of relationship commitment and believes the one gets more revenue from partnerships often exhibits a higher level of commitment. When members can get more profit or benefits from the partnership than other options, they will give more relationship commitment (Yang, 2002). Thus, we propose the following assumptions:

H1a: There is a significant positive relationship between relationship benefits and income commitment;

H1b: There is a significant positive relationship between relationship benefits and affective commitment;

H1c: There is a significant positive relationship between relationship benefits and switching cost commitment.

(2) Communication and Relationship commitment

Enterprises get benefits brought by the sudden changes information of products, price or logistics through the valuable communication with the other during the cooperation. Effective communication and integration of information systems can reduce the grumble and improve coordination between two sides. Communication may promote commitments and increase the level of supply chain partnerships. Therefore, the more effective and satisfied communication, the higher level of commitments will be (Saleh, et al., 2014). Thus, we propose the following assumptions:

H2a: There is a significant positive relationship between communication and income commitment;

H2b: There is a significant positive relationship between communication and affective commitment;

H2c: There is a significant positive relationship between communication and switching cost commitment.

(3) Shared values and relationship commitment

Shared values could guide the behavior of channel members, while it is a basic and relatively persistent variable (Kashyap & Sivadas, 2012). Morgan and Hunt (1994) believe ethics and values have a fundamental effect on trading relationship and thus affect relationship commitment. Affective commitment is built on the basis of the consistency of ethics and values (Gregory, Achrol & John, 1995). Dwyer (1987) demonstrates the positive correlation between shared values and commitment. Thus, we propose the following assumptions:

H3a: There is a significant positive relationship between shared values and income commitment;

H3b: There is a significant positive relationship between shared values and affective commitment;

H3c: There is a significant positive relationship between shared values and switching cost commitment.

(4) Specific asset investment and Relationship commitment

Specific asset investment shows a desire to long-term development of bilateral cooperation. If the specification of asset that the parties makes is higher, the transfer costs will rise when terminate the relationship (Jap, 1999). With the increase of the transfer costs, relationship commitment should be strengthen correspondingly (Wu, 2007). Specific asset investment brings more incentives for both parties; the perception of the degree of investment and relationship termination costs will improve enterprises to maintain and enhance the relationship (Yun, 2005). Thus, we propose the following assumptions:

H4a: There is a significant positive relationship between specific asset investment and income commitment;

H4b: There is a significant positive relationship between specific asset investment and affective commitment;

H4c: There is a significant positive relationship between specific asset investment and switching cost commitment.

(5) Relationship commitment and cooperative behavior

Anderson believes the nature of commitment is sacrifice and stable, which is a desire for the development of a stable relationship (Brown, Lusch, & Nicholson, 1995). High level relationship commitment will bring the more cooperation and the less opportune (Cathal, 2004). Meanwhile, some factors such as relationship benefits, trust and rights will affect the cooperative behavior through the formation of relationship commitment. Thus, we propose the following assumptions:

H5: There is a significant positive relationship between income commitment and cooperative behavior;

H6: There is a significant positive relationship between affective commitment and cooperative behavior;

H7: There is a significant positive relationship between switching cost commitment and cooperative behavior.

Based on the above study, we propose the theoretical assumption model which is shown in Figure 1.

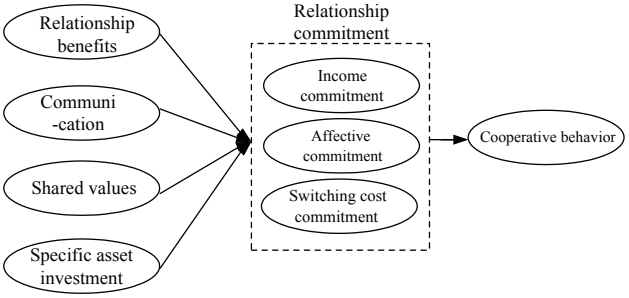

Figure 1
Assuming Model

2. RESEARCH METHODS

2.1 Sample Selection and Data Collection

This paper obtains information through questionnaire survey, while the sample is focused on the enterprises in Jingsu and Zhengjiang because of the fast economic development, wide variety industries, and rapid development and formed a variety of industries in supply chain partnership. It is appropriate to do this research. The objects that questionnaire distributed includes employees in the manufacturing and non-manufacturing supply chain enterprises. The questionnaires are sent 789 questionnaires, which 474 questionnaires are recovered and 34 questionnaires with obvious errors or incomplete answers are excluded. Then 440 valid questionnaires is collected. Recovery is 60.1% and the effective rate is 55.8%.

2.2 Variables Measured

In order to ensure the validity and reliability of the measurement tool, the paper mainly uses existing literatures scales that have been used. Based on the specific needs of the paper we make appropriate modification as the tool of collecting empirical data. Before finalizing the questionnaire and payment, please scholars and experts in related fields to recommend on the questionnaire. Then the pre-survey is made in the part of the business people and revised on the basis of the views of experts and scholars. Using 5-Likert scales to measure all the items of the questionnaire, items of the design is “not significant” to “very significant” option.

3. DATA PROCESSING AND ANALYSIS

3.1 The Basic Situation of Surveyed Enterprises

From the surveyed enterprises, the majority of staffs interviewed are more than mid-level management positions and only 21.7 percent of corporate grassroots management, which is basically consistent with our

objects investigated. The main industries are machinery, electronics and other manufacturing companies, in which the number of employees is mostly more than 1,000 people and sales volume is more than 30 million Yuan.

3.2 Measurement Model Analysis

In order to ensure the model has good reliability and validity based on a two-stage analysis of Anderson, the paper evaluates the measurement model and then analyze the structural model. Software SPSS19.0 and AMOS17.0 are used.

3.2.1 Reliability and Validity Analysis

Reliability test is mainly the consistency and stability analysis of the results. According to multivariate statistics, Cronbach value is acceptable of 0.7 or more and is rejected of 0.35 or less. The results in Table 3.1 shows that the scale of this study have higher reliability because of the variables Alpha (α) coefficients are higher than 0.79. For the validity, design of items is basically reference on existing literature and takes the small-scale research and pre-interviews. In addition, the average variance (AVE) extracted from each variable values are above 0.50, indicating that the measured sample data has good validity. Reliability and validity results are shown in Table 8.

Table 8
Reliability and Validity Testing Table

Variable	Cronbach α and AVE at each hierarchy of needs							
	Existence needs		Order needs		Ethics needs		Self-actualization needs	
	Cronbach α	AVE	Cronbach α	AVE	Cronbach α	AVE	Cronbach α	AVE
Relationship benefits	0.831	0.6240	0.860	0.6604	0.920	0.7793	0.910	0.7656
Communication	0.824	0.6036	0.894	0.7428	0.913	0.7821	0.908	0.7651
Shared values	0.838	0.5835	0.869	0.6569	0.926	0.7675	0.923	0.7305
Specific asset investment	0.819	0.5024	0.884	0.6580	0.924	0.7501	0.921	0.7325
Income commitment	0.887	0.7551	0.882	0.7194	0.924	0.7998	0.921	0.7975
Affective commitment	0.796	0.5794	0.860	0.6781	0.903	0.7606	0.900	0.7479
Switching cost commitment	0.826	0.6344	0.880	0.7212	0.927	0.7989	0.919	0.7921
Cooperative behavior	0.870	0.6011	0.887	0.6429	0.880	0.6126	0.887	0.6352

3.2.2 Analysis of the overall fit of the measurement model

Sample data of the four hierarchies of needs and the fit of the assumptions model are respectively tested. According to the fit summary table made by AMOS, the fit indexes of the initial assumption do not meet the ideal state. However, the revised index table shows residual correction index between explanatory variables is higher. Thus, the establishment of associations between them will reduce significantly the chi-square value and enhance significant degree. The comparison of the fit about before revision and after correct assuming model is shown in Table 9. After revised, fit indicators have reached the desired level besides GFI close to 0.9.

Table 9
Comparison of Pre-Revised Model Fit Coefficients with Revised One

Hierarchies of needs	Fit indicators	x^2	x^2/df	RMR	RMS-EA	GFI	IFI	CFI
	Recommended value	The smaller the better	<2	<0.05	<0.05	>0.90	>0.90	>0.90
Existence needs	Before correction	304.757	1.006	0.042	0.064	0.828	0.989	0.989
	After correction	244.500	0.766	0.041	0.003	0.875	0.997	0.996
Order needs	Before correction	358.195	1.182	0.056	0.039	0.829	0.973	0.972
	After correction	248.776	0.864	0.039	0.001	0.878	0.989	0.991
Ethics needs	Before correction	386.486	1.276	0.050	0.049	0.818	0.971	0.971
	After correction	262.880	0.929	0.048	0.000	0.864	0.993	0.992
Self-Actualization needs	Before correction	339.238	1.285	0.051	0.047	0.827	0.972	0.971
	After correction	236.803	0.964	0.045	0.000	0.870	0.998	0.997

3.3 Hypothesis Testing and Analysis

Using AMOS17.0 software, the relevant data is substituted and the path map and the standard path coefficients are automatically generated. Following the standards of hypothesis testing in structural equation model, the positive estimated value indicates a positive correlation

between the factors; the negative estimated value indicates they are negatively correlated. Moreover, significant test should be conducted. It's associated with P value. If P value between 0.00 and 0.05, it's generally considered to be not significant and the original hypothesis not to be rejected; If P value is greater than 0.05, it's generally considered to be significant and the original hypothesis is rejected. According to this standard, assumptions presented in this paper have been validated. The results are shown in Table10 which points out the path, the path coefficient, P value and the final conclusion (support or not support).

Table10
Results of Model Hypothesis Test

Path	Existence needs		Order needs		Ethics needs		Self-Actualization needs	
	coefficient	conclusion	coefficient	conclusion	coefficient	conclusion	coefficient	conclusion
H1a Relationship benefits→ Income commitment	0.370***	support	0.385***	support	0.280**	support	0.281**	support
H1b Relationship benefits→ Affective commitment	0.147	not support	0.164	not support	0.030	not support	0.021	not support
H1c Relationship benefits→ Switching cost commitment	0.143	not support	0.121	not support	0.079	not support	0.094	not support
H2a Communication→ Income commitment	0.175	not support	0.239*	support	0.208*	support	0.224*	support
H2b Communication→ Affective commitment	0.058	not support	0.311**	support	0.239*	support	0.280**	support
H2c Communication→ Switching cost commitment	0.131	not support	0.258*	support	0.215*	support	0.261**	support
H3a Shared values→ Income commitment	0.011	not support	0.138	not support	0.210*	support	0.223*	support
H3b Shared values→ Affective commitment	0.156	not support	0.259*	support	0.325***	support	0.347***	support
H3c Shared values→ Switching cost commitment	0.013	not support	0.141	not support	0.259*	support	0.293**	support
H4a Specific asset investment→ Income commitment	0.111	not support	0.168	not support	0.210*	support	0.202*	support
H4b Specific asset investment→ Affective commitment	0.075	not support	0.205*	support	0.299**	support	0.300**	support
H4c Specific asset investment→ Switching cost commitment	0.085	not support	0.299**	support	0.331***	support	0.354***	support
H5 Income commitment→ Cooperative behavior	0.442***	support	0.366***	support	0.226*	support	0.225*	support
H6 Affective commitment→ Cooperative behavior	0.075	not support	0.265**	support	0.386***	support	0.423***	support
H7 Switching cost commitment→ Cooperative behavior	0.085	not support	0.242**	support	0.393***	support	0.416***	support

Note: The level of significance *P<0.05, **P<0.01, ***P<0.001

4. RESULTS AND DISCUSSION

Through the above analysis of empirical research, we can draw the following conclusions:

(1) For the enterprises with existence needs, only H1a and H5 are proved and only one significant path is existence: Relationship benefits→Income commitment→Cooperative behavior. This shows that enterprises are pursuing the concept of "profit maximization", while the basic concern is to obtain profits to survive or develop. They will reduce production costs and transaction costs by all means. Desire for money makes enterprises tend to short-term gains through cooperation in the decision-making. It leads limited communication and no shared values with partners, not the deeper aspirations of investment with the partners. In summary, the enterprises with existence needs in supply chain will make income commitment (0.442) based on the aware of the economic interests.

(2) For the enterprises with order needs H1a, H2a, H2b, H2c, H3b, H4b, H4c, H5, H6 and H7 are proved and six significant path shown in Table 11 is existence. Compared to the enterprises with existence needs, affective commitment and switching cost commitment are held besides income commitment. This shows that enterprise hope cooperate with partners to do some special technical investments, such as updating or invest in new information systems, equipment and personnel training, in order to support existing processes

reengineering from a technical perspective. The object of the reengineering is organizational structure which is not fit for the flow of information based on the traditional logistics. Communication with the partners is enhanced and shared values about new process design and implementation is appeared. In summary, the enterprises with order needs make some income commitment (0.366), affective commitment (0.265) and switching cost commitment (0.242).

Table 11
Cooperative Behavior Path of Enterprise with Order Needs

Hierarchies of needs	Path	Indirect effects values
Order needs	Relationship benefits→ Income commitment→ Cooperative behavior	0.385*0.366=0.141
	Communication→ Income commitment→ Cooperative behavior	0.239*0.366=0.087
	Communication→ Affective commitment→ Cooperative behavior	0.311*0.265=0.082
	Shared values→ Affective commitment→ Cooperative behavior	0.259*0.265=0.069
	Communication→ Switching cost commitment →Cooperative behavior	0.258*0.242=0.062
	Specific asset investment→ Switching cost commitment→ Cooperative behavior	0.299*0.242=0.072

(3) For the enterprises with ethics needs, only H1b and H1c are not proved and ten significant paths shown in Table 12 is existence. Although the majority of path is the same compared to the enterprises with order needs, effects values of path which is through income commitment to cooperate (0.063) is lower than the order ones (0.087), while through affective commitment (0.088) and switching cost commitment (0.084) are higher than the order ones (0.082, 0.072). This shows that although enterprises are concern about economic profits brought by relationship benefits, mainly focuses on the realization of social values. On the one hand, enterprises may communicate with partners deeply and hope learn innovative concepts and methods from partners to develop differentiate products or services and improve reputation and brand, while they want to make increase investment in science with partners in order to improve the existing products, services or technologies and achieve incremental innovation. On the other hand, excellent partner will influence the culture of enterprises and promote reputation and culture shaping. In summary, the enterprises with ethics needs will make come commitment (0.226), higher affective commitment (0.368) and switching cost commitment (0.393).

Table 12
Cooperative Behavior Path of Enterprise with Ethics Needs

Hierarchies of needs	Path	Indirect effects values
Ethics needs	Relationship benefits→ Income commitment→ Cooperative behavior	0.280*0.226=0.063
	Communication→ Income commitment→ Cooperative behavior	0.208*0.226=0.047
	Shared values→ Income commitment→ Cooperative behavior	0.210*0.226=0.047
	Specific asset investment→ Income commitment→ Cooperative behavior	0.210*0.226=0.047
	Communication→ Affective commitment→ Cooperative behavior	0.239*0.368=0.088
	Shared values→ Affective commitment→ Cooperative behavior	0.325*0.368=0.120
	Specific asset investment→ Affective commitment→ Cooperative behavior	0.299*0.368=0.110
	Communication→ Switching cost commitment →Cooperative behavior	0.215*0.393=0.084
	Shared values→ Switching cost commitment→ Cooperative behavior	0.259*0.393=0.102
	Specific asset investment→ Switching cost commitment→ Cooperative behavior	0.331*0.393=0.130

(4) For the enterprises with self-actualization needs, only H1b and H1c are not proved and ten significant paths shown in Table 13 is existence. The paths are the same to the ethics ones, however, the effect degree of communication, shared values and specific asset investment is higher than the latter and effects values of path which is through three commitments is relatively increase. This shows that they are the further development based on the ethics ones. Communication will involve all aspects of the business processes and management philosophy, while the way of communication is not only a formal exchange. They hope interact innovative ideas with partners positively and enhance technological innovation and market development capabilities. Both sides make higher specific asset investment involved production, technology and manpower in accordance with the design and create an unprecedented performance features or a new product in the process, product and service areas to achieve radical innovation. They strive to create and satisfy customer needs by thinking and application innovation. In summary, the enterprises with self-actualization needs will make income commitment (0.225), highest affective commitment (0.423) and switching cost commitment (0.416).

Table 13
Cooperative Behavior Path of Enterprise with Self-Actualization Needs

Hierarchies of needs	Path	Indirect effects values
Self-Actualization needs	Relationship benefits→ Income commitment→ Cooperative behavior	0.280*0.225=0.063
	Communication→ Income commitment→ Cooperative behavior	0.224*0.225=0.050
	Shared values→ Income commitment→ Cooperative behavior	0.223*0.225=0.050
	Specific asset investment→ Income commitment→ Cooperative behavior	0.202*0.225=0.045
	Communication→ Affective commitment→ Cooperative behavior	0.280*0.423=0.118
	Shared values→ Affective commitment→ Cooperative behavior	0.347*0.423=0.147
	Specific asset investment→ Affective commitment→ Cooperative behavior	0.300*0.423=0.127
	Communication→ Switching cost commitment →Cooperative behavior	0.261*0.416=0.109
	Shared values→ Switching cost commitment→ Cooperative behavior	0.293*0.416=0.122
	Specific asset investment→ Switching cost commitment→ Cooperative behavior	0.354*0.416=0.147

In short, enterprises in the supply chain meet the economic or social interests by cooperation. To ensure acquire resources needed from partners, the enterprises which are at different hierarchy of needs will make the commitment under different stimulation of economic or social interests. Therefore, different hierarchy of needs brings different commitment and different level of commitment. Different commitments held by different enterprises with hierarchy of needs are summarized in Table 14.

Table14
Type of Relationship Commitment in Different Hierarchy of Enterprise Needs

Hierarchy of needs	Type of relationship commitment
Existence needs	Income commitment
Order needs	Income commitment, lower affective commitment and switching cost commitment
Ethics needs	Income commitment, higher affective commitment and switching cost commitment
Self-Actualization needs	Income commitment, the highest affective commitment and switching cost commitment

Enterprises with different hierarchy of needs are the objects in the paper and the types of commitments they held during the cooperation are verified. Future research may from the interaction perspective study the types of commitments held by two enterprises with the same or different hierarchy of need in order to discus cooperation deeply and maintain the stable relation.

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