Can Social Capital Dimensions Optimize Operational Performance? - Mediating Role of Supply Chain Collaboration

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Abstract--- **This study examines the role of social capital dimensions such as structural capital, cognitive capital, and relational capital on the operational performance of the textile industry of Thailand with the help of supply chain collaboration as a mediator. The data is collected from supply chain managers of the textile companies that are operating in Thailand. The survey questionnaire was used for data collection, and PLS-SEM was used for analysis. The results show that all the dimensions of social capital, such as structural capital, cognitive capital, and relational capital, has the ability to improve the operational performance of the companies. Moreover, supply chain collaboration has also played a vital role in mediation between the social capital and operational performance of the company. This study suggested to the policymakers that they should improve the social capital and supply chain management that is necessary for the operational performance of the company.**

Key Words: Social Capital, Operational Performance, Structural Capital, Supply Chain, Cognitive Capital, Relational Capital

1. Introduction

The textile industry is the major export industry of those countries whose economy rely on agriculture products because heavy raw material requirements of textile companies are fulfilled by the agricultural sector of the country. Moreover, the textile industry also has a valuable contribution to the GDP of the country in almost all of the country of the world [1]. Similarly, in developing countries, the textile industry plays a vital role in the economy and exports of the country. Same in the case of Thailand, the textile industry has a valuable contribution to the

economy, GDP, employment, and exports of the country [2]. Thai textile industry is very prominent in the world, and its second-largest export market was the European Union (EU). Thai exports the textile products about 19.5 percent of the total export of $326.3 million to that market. While, the total worth of exports of textile goods only to the EU was around $1.2 billion at that time [3]. On the other hand the association of "Southeast Asian Nations (ASEAN)" was considered third largest exports market for the Thailand and Thailand is also a member of this association while exports in this market were around $183 million at that time [4].

Table 1 of the study given below shows the exports of textile industry of different countries of the world. According to these figures, China is at the top of the list in cloth exports that was 4.0 percent in 1985 and 34.0 percent in 2015 and the second position in textile exports that was 4.6 percent in 1985 and 28.3 percent in 2015. Moreover, EU is at the second position in cloth exports that was 42.0 percent in 1985 and 30.7 percent in 2015 and at the top of the list in textile exports that was 49.4 percent in 1985 and 29.5 percent in 2015. In addition, Hong Kong is at the third position in cloth exports that was 12.3 percent in 1985 and 10.2 percent in 2015 and also at the third position in textile exports that was 3.3 percent in 1985 and 6.4 percent in 2015. Furthermore, Turkey is at fourth position in cloth exports that was 0.3 percent in 1985 and 3.8 percent in 2015 and at eighth position in textile exports that was 0.6 percent in 1985 and 3.7 percent in 2015. Additionally, India is at fifth position in cloth exports that was 1.7 percent in 1985 and 3.6 percent in 2015

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and at sixth position in textile exports that was 2.4 percent in 1985 and 4.3 percent in 2015.

Similarly, Bangladesh is at sixth in cloth exports that were 0 percent in 1985 and 3.4 percent in 2015, and at fifteen positions in textile exports, that was 0.1 percent in 1985 and 0.5 percent in 2015. Likewise, United States is at ninth in cloth exports that were 3.1

percent in 1985 and 1.3 percent in 2015 and the fourth position in textile exports that was 6.8 percent in 1985 and 4.7 percent in 2015. Moreover, Thailand is at the eleventh position in cloth exports that was 0.7 percent in 1985 and 1.2 percent in 2015 and at the twelfth position in textile exports that was 0.6 percent in 1985 and 1.4 percent in 2015.

Table 1. Textile Exports of Different Countries

Leading Clothing Exports	Share in World Exports %				Leading Textile Exports	Share in World Exports %			
	1985	1995	2005	2015		1985	1995	2005	2015
China	4.0	8.9	18.2	34.0	EU (27)	49.4	48.7	36.0	29.5
EU (27)	42.0	37.0	16.9	30.7	China	4.6	6.9	10.3	28.3
Hong Kong	12.3	14.2	12.2	10.2	Hong Kong	3.3	7.9	8.5	6.4
Turkey	0.3	3.1	3.3	3.8	United States	6.8	4.8	7.0	4.7
India	1.7	2.3	3.1	3.6	Korea Republic	4.0	5.8	8.1	4.3
Bangladesh	0	0.6	2.6	3.4	India	2.4	2.1	3.5	4.3
Vietnam	-	0	0.9	2.7	Taipei	3.2	5.9	7.6	3.7
Indonesia	0.2	1.5	2.4	1.9	Turkey	0.6	1.4	2.3	3.7
United States	3.1	2.4	4.4	1.3	Pakistan	1.6	2.6	2.9	3.1
Mexico	0	0.5	4.4	1.3	Japan	9.3	5.6	4.5	2.9
Thailand	0.7	2.6	1.9	1.2	Indonesia	0.1	1.2	2.2	1.5
Pakistan	0.3	0.9	1.1	1.1	Thailand	0.6	0.9	1.2	1.4

Figure 1 of the study given below shows the exports of apparel to the other countries from Thailand. According to these figures, the exports of apparel to the US is more than other counties of the world. In 2006, exports to the US were $1600 million while the UK is on the second position with $300 million, Japan is at third position with $250 million and rest of the countries fewer exports tan these countries. Moreover, in 2007, exports to the US were $1400 million while the UK is on the second position with $280 million, Japan is at third position with $200 million and rest of the countries fewer exports tan these countries. In addition, in 2008, exports to the

US were $1300 million while the UK is on the second position with $275 million, Japan is at third position with $240 million and rest of the countries fewer exports tan these countries. Additionally, in 2009, exports to the US were $1000 million while the UK is on the second position with $200 million, Japan is at third position with $180 million and rest of the countries fewer exports tan these countries. Finally, in 2010, exports to the US were $1100 million while the UK is on the second position with $250 million, Japan is at third position with $200 million and rest of the countries fewer exports tan these countries.
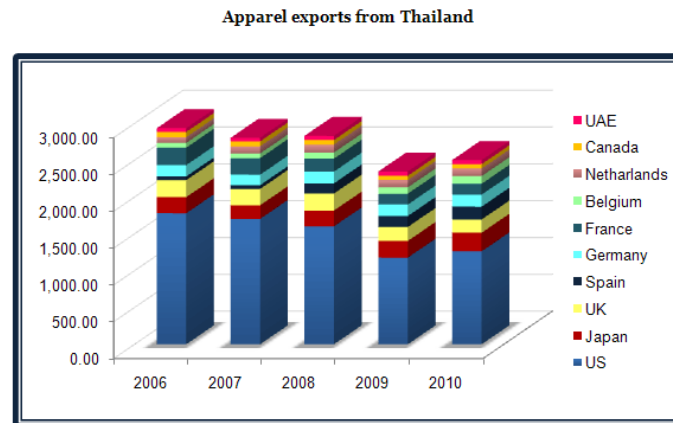
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Figure 1: Apparel Exports from Thailand

The above Table 1 shows that the exports of Thailand are very limited than the other countries of the world such as the export of cloths are only 1.2 percent while exports of whole textile products are only 1.4 percent. On the other hand, exports of both cloths and textile products of other countries are more than thus like in China export of cloths are only 34 percent while exports of whole textile products are only 28.3 percent. Moreover, Figure 1 of the study shows that the exports of Thailand reduce with time such as in 2005 exports were $3000 million, but in 2010 it was only $2600 million. Thus, in accordance with all the importance of textile industry of Thailand, there should be some important measures that must be watched by the policymakers of textile industry of Thailand and this study also investigate the operational performance of the textile industry in Thailand with respect to social capital and supply chain.

2. Literature Review

Literature regarding the operational definitions about understudy variables and literature regarding the relationship among the variables used in the study are mentioned in the section.

2.1. Operational Performance

It refers to the performance of the company that is due to routine operations of the business entity such as regulations compliances, productivity, and quality assurance [35]. Moreover, "the performance of the company against prescribed standards, such as compliance with regulations, waste reduction, and productivity" [5]. In addition, operational performance is defined as the performance of the organization from its day to day operations of the company. Additionally, the operational performance is the performance that comes from the quality assurance, regulation compliances, quality management, waste reduction, and other daily operations of the organizations [36, 38]. However, "operational performance management (OPM) is the alignment of all business units within an organization to ensure that they are working together to achieve core business goals. In manufacturing, OPM software integrates and analyzes data from a variety of plant sources and translates raw data feeds into actionable information" [6]. Similarly, operational performance depends upon the different operations of the organization. If a company has a quality-oriented day to day operations, it also has better operational performance. However, "operational performance measurements are the key metrics which are used to measure the operational performance of a company. Different companies have different metrics to measure their performance, but few of the metrics are common across the entire business environment" [7]. Thus, operational performance is necessary for the improvement of the overall performance of every organization in the country, and this study also used this variable as a dependent variable of the study.

2.2. Structural Capital

It defined as the information, methods, tools, procedures, and data that are necessary for the achievement of the organizational goals. Moreover, "structural capital refers to the tool, process or information that helps a firm to retain knowledge or

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use it to achieve objectives" [8]. Some examples of structural capital are data, media, documentations, principals, processes, procedures, methods, tools, automation, and intellectual properties. In addition, structural capital is capital of sources such as sources of data, sources of information, sources of documentation, and the sources of procedures, processes, and methods that a company use for its improvement of performance or the achievement of specific goals. Additionally, "structural capital is the supportive infrastructure that enables the rest of an organization to function in a repeatable, scalable way. It is owned by an organization and remains with an organization even when people leave. Structural capital includes processes, data, systems, designs, and knowledge" [9]. Likewise, structural capital that is owned by the business entity and used for the achievement of goals or that facilitate the organization in a particular task and assignments. Similarly, "structural capital is one of the three primary components of intellectual capital, and consists of the supportive infrastructure, processes, and databases of the organization that enables human capital to function" [10]. Thus, structural capital is necessary for the improvement of the overall performance of every organization in the country, and this study also used this variable as an independent variable of the study.

2.3. Cognitive Capital

It refers to the intellectual capacity of the workers, management, and owners of the company that includes quickness of mind, ability to deals with complex situations, and the ability to deals with responsibility. Moreover, "cognitive, social capital is a dimension of social capital that relates to resources providing shared representations, interpretations, and systems of meaning among parties. It is the cognitive schemes and systems of meaning as exhibited in common vocabulary and narratives" [11]. In addition, cognitive capital is also defined as the ability and skills of the workforce that enhance the capacity of the organization to operate in tough situations in the market successfully. Additionally, "a concept that represents knowledge as a scarce resource that can be traded with money, social influence, and political power. This concept is derived from Pierre Bourdieu's concept of cultural capital, and it sheds light on accumulation

and exchange processes regarding cognitive skills, knowledge, and information" [12]. Likewise, the cognitive capital is associated with the ability of workforce of the organization, the ability of quick decisions, the ability to work in tough situations, and the ability to work with high responsibilities. Similarly, "the cognitive dimension of social capital is the social setting, or culture, that dictate how one should act in any given setting or situation. It relates to the proper ways of acting in a social system" [13]. Thus, cognitive capital is necessary for the improvement of the overall performance of every organization in the country, and this study also used this variable as an independent variable of the study.

2.4. Relational Capital

Relational capital refers to the relationship of the company with its shareholders, credit providers, customers, and other stakeholders of the company that help the business entity in grooming and development. Moreover, "relational capital is defined as all relationships - market relationships, power relationships, and cooperation - established between firms, institutions, and people, which stem from a strong sense of belonging and a highly developed capacity of cooperation typical of culturally similar people and institutions" [14]. Similarly, it means the relationship of business entity with its stakeholders and others that help and facilitate the business entity to survive and develop in the market. In addition, "relational capital is a type of intangible asset established by a business based on its reputation and relationships with stakeholders. The following are common elements of relational capital, such as Brand awareness, legacy, reputation, and image" [15]. Furthermore, the relational capital is the reputation of the business entity in terms of legacy, brand, image, and credit reputation of the company that facilitates it to groom in the market. Additionally, "relational Capital is a subcategory of intellectual capital focusing on the intangible value present in the relations an organization has with business partners and other external parties that contribute to fulfilling the company's needs" [16]. Thus, relational capital is necessary for the improvement of the overall performance of every organization in the country, and this study also used this variable as an independent variable of the study.

2.5. Supply Chain Collaboration

Supply chain collaboration is defined as the relationship of two or more business entities of the supply chain with each other in respect of the supply of goods and services that enhance the performance. Moreover,

"in supply chain management, supply chain collabora tion is defined as two or more autonomous firms working jointly to plan and execute supply chain operations. It can deliver substantial benefits and advantages to its partners [37]. It has been known as a cooperative strategy when one or more companies or business unit's work together to create mutual benefits" [17]. In addition, the collaboration of supply chain refers to the relationship of two or more entities of the supply chain in terms of their dealings with each other. Additionally, "effective collaboration with supply chain partners requires that your organization share valuable information in real-time. You are trying to create, through near-transparent communication, a network of collaborators to act as an extension of your efforts to get the right product to the right customer in the right market at the exact time they want and need it" [18]. Furthermore, supply chain collaboration is the collaboration between the partners of the supply chain that are necessary for the effective supply chain management and improvement of the company [19]. Thus, supply chain collaboration is necessary for the improvement of the overall performance of every organization in the country, and this study also used this variable as a mediator variable of the study.

2.6. Structural Capital and Operational Performance

The operational performance can be increased by the effective and strong structural capital of the company. Moreover, if the company has effective tools, methods, measures, processes, and procedures, then the operational performance of the company has been improved [20]. Furthermore, structural capital has a positive link with the operational performance of the company. Similarly, structural capital is playing a vital role in the improvement of the operational performance of the company. Likewise, the operational performance of the company depends upon the effective structural capital of the company [21]. In addition, structural capital is a key factor that enhances the operational performance of the

company. Additionally, if the company has strong structural capital, then the operational performance of the company also increased. Moreover, structural capital is a part of social capital that playing an important role in the operational performance of the company [22]. Furthermore, structural capital is considered one of the key elements that enhance the operational as well as the overall performance of the company. Similarly, there is a significant and positive association has been observed between the structural capital and operational performance of the company [23]. Thus, based on all previous literature that are mentioned above, concluded that structural, capital has the ability to enhance the operational capital of the company and this study also develop the hypothesis:

H1: There is a significant and positive association between structural capital and operational performance of the textile industry of Thailand.

2.7. Cognitive Capital and Operational Performance

The operational performance can be increased by the effective cognitive capital of the company. Moreover, if the company has skilled, experienced, and sharp-minded personals, then the operational performance of the company has been improved. Furthermore, cognitive capital has a positive link with the operational performance of the company [24]. Similarly, a study by [25] also found that cognitive capital is playing a vital role in the improvement of the operational performance of the company. In addition, cognitive capital is a key factor that enhances the operational performance of the company. Additionally, if the company has effective cognitive capital, then the operational performance of the company also increased. Furthermore, cognitive capital is considered one of the key elements that enhance the operational as well as the overall performance of the company [26]. Thus, based on all previous literature that is mentioned above, concluded that cognitive capital has the ability to enhance the operational capital of the company, and this study also develops the hypothesis:

H2: There is a significant and positive association between cognitive capital and operational performance of the textile industry of Thailand.

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2.8. Relational Capital and Operational Performance

If the company has effective relationships with the customers, credit providers, and other stakeholders of the company, then the operational performance of the company has been improved. Similarly, relational capital is playing a vital role in the improvement of the operational performance of the company [27]. Likewise, the operational performance of the company depends upon the effective relationship and image of the company. Additionally, if the company has a strong image, name, and reputation, then the operational performance of the company also increased. Moreover, relational capital is a part of social capital that playing an important role in the operational performance of the company [28]. Similarly, there is a significant and positive association has been observed between the relational capital and operational performance of the company [29]. Thus, based on all previous literature that is mentioned above, concluded that relational capital has the ability to enhance the operational capital of the company, and this study also develops the hypothesis:

H3: There is a significant and positive association between relational capital and operational performance of the textile industry of Thailand.

2.9. Mediating Role of Supply Chain Collaboration

The collaboration between the partners of the supply chain can improve the relationship among the social capital and operational performance of the company [30]. The strong relationship among the supply chain partners can enhance the intellectual capital of the company, and effective intellectual capital can enhance the operational performance of the company. The effective collaboration between supply chain

partners improves the image, reputation, and strength of the institution that is necessary for the improvement of operational performance [31]. The sharp-minded employees, effective tools, and methods are results of the effective relationship of supply chain partners that also reason the improvement in operational performance of the company [32]. Thus, based on the above literature, we can say that effective relationship of supply chain partners can improve the social capital and operational performance of the company. So, the current study developed the following hypotheses:

H4 (a): Supply chain collaboration mediates the relationship among the structural capital and operational performance of the textile industry in Thailand.

H4 (b): Supply chain collaboration mediates the relationship among the cognitive capital and operational performance of the textile industry in Thailand.

H4 (c): Supply chain collaboration mediates the relationship among the relational capital and operational performance of the textile industry in Thailand.

3. Research Methods

The scope of the study is the textile industry of Thailand, and according to the ministry of industry in Thailand, more than 300,000 factories are working of small, medium, and large size. This study target only large size textile industry who have more than one million exports quarterly. Around 765 textile companies were selected according to the criteria mentioned above. A mail questionnaire sends to the export manager of each company. Questions on the questionnaire consist of five points Likert scale, and PLS-SEM was used for analysis.

3.1. Measures

Operational performance (OP) is used as a dependent variable of the study having five items [33]. While, three dimensions of social capital such as structural capital (SC), cognitive capital (CC) and relational capital (RC) are used as an independent variable having thirteen, eleven and six items respectively [34]. Moreover, supply chain collaboration (SCC) is used as a mediator that has six items.

3.2. Data Collection Procedure

This study target only large size textile industry who have more than one million exports quarterly. Around 765 textile companies were selected according to the criteria as mentioned above. A mail questionnaire sends to the export manager of each company. Only 590 responses were returned from the respondent, and out of the 40 responses are not meet the standard and eliminated from the study.

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Remaining 550 valid responses with approximately 71.89 percent response rate was used for the analysis.

3.3. Research Framework
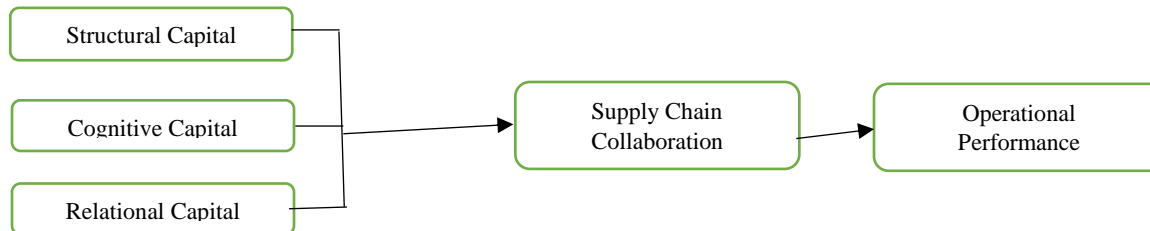
4. Results

The findings showed the measurement assessment model and structural assessment model. In the measurement model, we check the validity of the items and constructs. Convergent validity is checked by factor loading of the items that are greater than 0.50, Cronbach's Alpha of constructs that is greater than 0.70, composite reliability that is greater than 0.70 and AVE that is greater than 0.50 that shows that convergent validity is valid. Convergent validity of the items and constructs are given below in Table 2.

Table 2. Convergent Validity

Constructs	Items	Loadings	Alpha	CR	AVE
Cognitive Capital	CC1	0.774	0.862	0.897	0.594
	CC10	0.831			
	CC11	0.706			
	CC4	0.733			
	CC5	0.753			
	CC8	0.818			
Operational Performance	OP1	0.819	0.843	0.889	0.618
	OP2	0.695			
	OP3	0.700			
	OP4	0.851			
	OP5	0.850			
Relational capital	RC1	0.265	0.759	0.849	0.554
	RC2	0.874			
	RC3	0.734			
	RC4	0.790			
	RC5	0.880			
Structural Capital	SC1	0.823	0.905	0.921	0.515
	SC10	0.678			
	SC11	0.751			
	SC12	0.716			
	SC13	0.634			
	SC2	0.686			

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	SC3	0.645			
	SC4	0.777			
	SC5	0.714			
	SC8	0.670			
	SC9	0.772			
Supply Chain Collaboration	SCC1	0.811	0.814	0.881	0.608

Table 2 Continue

Constructs	Items	Loadings	Alpha	CR	AVE
	SCC2	0.885			
	SCC3	0.858			
	SCC4	0.894			
	SCC5	0.816			
	SCC6	-0.090			

The discriminant validity is checked by Fornel Lacker; the first value of the constructs is greater than the other values that show discriminant validity is confirmed. Table 3 given below shows the Fronel Lacker results, and Table 4 shows the cross-loading.

Table 3. Fornel Lacker

	CC	OP	RC	SC	SCC
CC	0.770				
OP	0.693	0.786			
RC	0.412	0.491	0.745		
SC	0.740	0.702	0.445	0.717	
SCC	0.750	0.630	0.475	0.626	0.780

Table 4. Outer Loadings

	CC	OP	RC	SC	SCC
CC1	0.774	0.609	0.288	0.701	0.504
CC10	0.831	0.633	0.275	0.670	0.488
CC11	0.706	0.388	0.319	0.426	0.579
CC4	0.733	0.429	0.367	0.461	0.660
CC5	0.753	0.498	0.362	0.526	0.731
CC8	0.818	0.631	0.289	0.623	0.488
OP1	0.531	0.819	0.387	0.554	0.448
OP2	0.564	0.695	0.361	0.531	0.550
OP3	0.489	0.700	0.377	0.463	0.540
OP4	0.581	0.851	0.425	0.596	0.460
OP5	0.550	0.850	0.377	0.603	0.481
RC1	0.200	0.220	0.265	0.220	0.211
RC2	0.320	0.419	0.874	0.369	0.422
RC3	0.304	0.403	0.734	0.361	0.274
RC4	0.307	0.364	0.790	0.303	0.383

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RC5	0.372	0.381	0.880	0.375	0.423
SC1	0.682	0.576	0.300	0.823	0.593

Table 4 Continue

	CC	OP	RC	SC	SCC
SC10	0.462	0.381	0.210	0.678	0.316
SC11	0.577	0.492	0.235	0.751	0.506
SC12	0.558	0.537	0.240	0.716	0.440
SC13	0.404	0.454	0.500	0.634	0.419
SC2	0.448	0.495	0.479	0.686	0.449
SC3	0.413	0.547	0.428	0.645	0.396
SC4	0.641	0.523	0.294	0.777	0.507
SC5	0.490	0.420	0.242	0.714	0.346
SC8	0.461	0.459	0.318	0.670	0.373
SC9	0.628	0.593	0.277	0.772	0.506
SCC1	0.580	0.470	0.374	0.507	0.811
SCC2	0.668	0.555	0.424	0.550	0.885
SCC3	0.640	0.582	0.458	0.548	0.858
SCC4	0.678	0.553	0.404	0.567	0.894
SCC5	0.631	0.519	0.358	0.495	0.816
SCC6	-0.056	-0.057	-0.096	-0.087	-0.090

The second way of checking the discriminant validity is HTMT ratio, and the values of HTMT is less than 0.85, that means discriminant validity is valid. Table 5 given below mentioned the HTMT ratio of the study.

Table 5. HTMT Ratio

	CC	OP	RC	SC	SCC
CC					
OP	0.810				
RC	0.520	0.627			
SC	0.825	0.794	0.552		
SCC	0.861	0.740	0.602	0.702	

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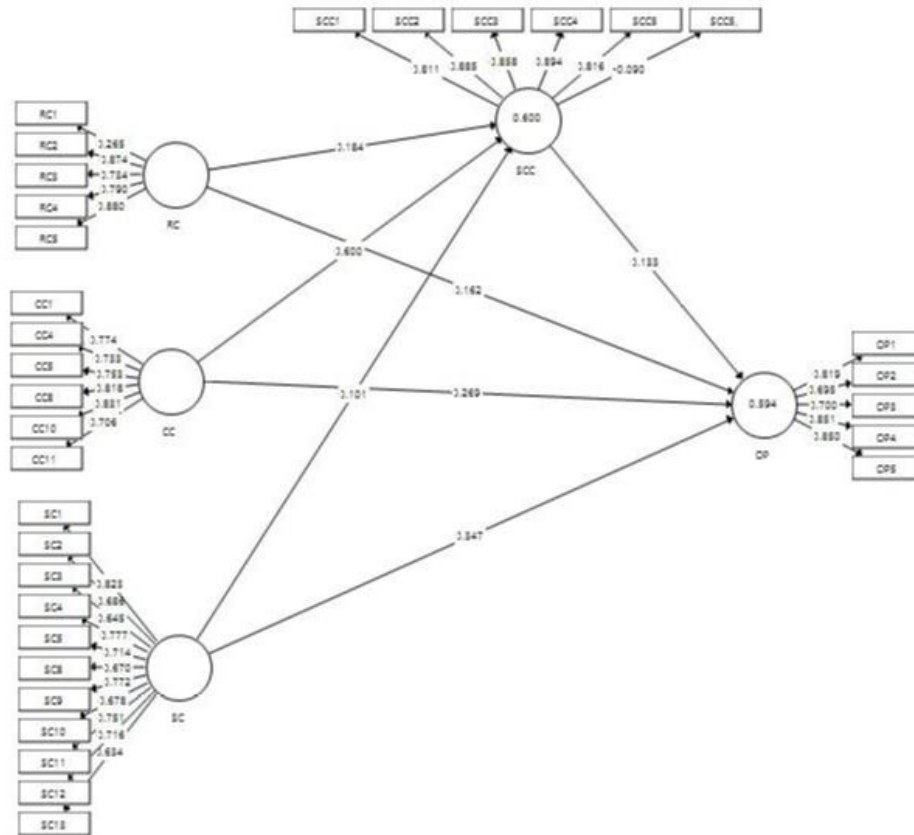

Figure 2: Measurement Assessment Model

The results of the regression show that positive association between all the dimensions of social capital such as structural capital, cognitive capital and relational capital and operational performance of the country because probability value is less than 0.05, "T" statistics are greater than 1.64 and positive sign with beta values. Moreover, supply chain collaboration also positively mediates the relationship between all the dimensions of social capital and operational performance of the textile industry in Thailand.

Table 6. Path Analysis

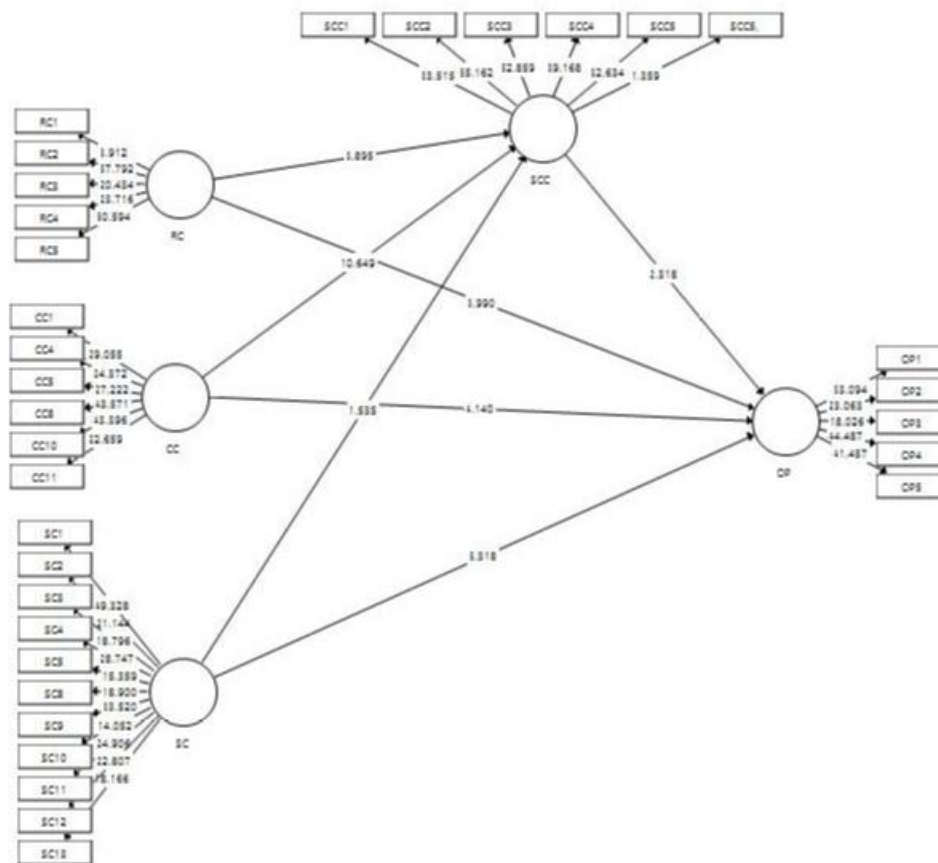|	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values	Confidence Interval 5%	95%
CC -> OP	0.269	0.270	0.065	4.140	0.000	0.158	0.374
RC -> OP	0.162	0.167	0.041	3.990	0.000	0.106	0.232
SC -> OP	0.347	0.349	0.055	6.318	0.000	0.254	0.436
CC -> SCC -> OP	0.080	0.076	0.037	2.170	0.015	0.016	0.140
RC -> SCC -> OP	0.024	0.023	0.012	2.047	0.021	0.005	0.043
SC -> SCC -> OP	0.013	0.013	0.010	1.935	0.041	0.002	0.031

Figure 3: Structural Assessment Model

5. Discussions

The findings revealed that all the dimensions of social capital can increase the performance of the company because when the company has high-quality intellectual capital then the performance of the company always at the top and these results are matched with previous studies [8, 10, 17]. The results also exposed that supply chain collaboration positively mediates the relationship among the social capital and operational performance that means collaboration between supply chain partners can enhance the social capital that leads to improving the operational performance.

The current study concluded that if the company has effective social capital, their performance will increase. Moreover, it also concluded that if the strong relationship with supply chain partners that will enhance company's social capital due to which performance of the company also increases. Thus, this study recommended to the policymakers that they should enhance the relationship with supply chain partners as well as improve the social capital for a high level of operational performance of the company.

The present study also has some limitation that would help future researchers in their research. Firstly, this study used only three dimensions of social capital, and future researchers may use other dimensions of social capital. Secondly, this study investigates the textile sector, and future studies can use another sector for analysis. The current study used only supply chain collaboration as mediator other studies can use other variables as mediator and moderator.

References

[1]   C. Kasemset, J. Chernsupornchai, and W. Pala-ud, *"Application of MFCA in waste reduction: Case study on a small textile factory in Thailand,"* Journal of Cleaner Production, Vol. 108, pp. 1342-1351, 2015.

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[2]   A. Hasanbeigi and L. Price, *"A technical review of emerging technologies for energy and water efficiency and pollution reduction in the textile industry,"* Journal of Cleaner Production, Vol. 95, pp. 30-44, 2015.

[3]   K. Hasan, M. S. Mia, M. Rahman, A. Ullah, and M. Ullah, *"Role of textile and clothing industries in the growth and development of trade & business strategies of Bangladesh in the global economy,"* International Journal of Textile Science, Vol. 5, pp. 39-48, 2016.

[4]   A. Cox, *"The pressure of wildcat strikes on the transformation of industrial relations in a developing country: The case of the garment and textile industry in Vietnam,"* Journal of Industrial Relations, Vol. 57, pp. 271-290, 2015.

[5]   D. Podgórski, *"Measuring operational performance of OSH management system–A demonstration of AHP-based selection of leading key performance indicators,"* Safety Science, Vol. 73, pp. 146-166, 2015.

[6]   I. Gallego-Álvarez, L. Segura, and J. Martínez-Ferrero, *"Carbon emission reduction: The impact on the financial and operational performance of international companies,"* Journal of Cleaner Production, Vol. 103, pp. 149-159, 2015.

[7]   C. J. C. Jabbour, A. B. L. de Sousa Jabbour, K. Govindan, T. P. De Freitas, D. F. Soubihia, D. Kannan, and H. Latan, "*Barriers to the adoption of green operational practices at Brazilian companies: effects on green and operational performance,"* International Journal of Production Research, Vol. 54, pp. 3042-3058, 2016.

[8]   R. Hejazi, M. Ghanbari, and M. Alipour, *"Intellectual, human and structural capital effects on firm performance as measured by Tobin's Q,"* Knowledge and Process Management, Vol. 23, pp. 259-273, 2016.

[9]   P. Cleary, *"An empirical investigation of the impact of management accounting on structural capital and business performance,"* Journal of Intellectual Capital, Vol. 16, pp. 566-586, 2015.

[10]   B. Y. Obeidat, A. Tarhini, R. E. Masa'deh, and N. O. Aqqad, *"The impact of intellectual capital on innovation via the mediating role of knowledge management: A structural equation modelling approach,"* International Journal of Knowledge Management Studies, Vol. 8, pp. 273-298, 2017.

[11]   R. A. L. Muniady, A. A. Mamun, M. R. Mohamad, P. Y. Permarupan, and N. R. B. Zainol, *"The effect of cognitive and relational social capital on structural social capital and micro-enterprise performance,"* Sage Open, Vol. 5, pp. 2158244015611187, 2015.

[12]   J. Brinckmann and S. M. Kim, *"Why we plan: The impact of nascent entrepreneurs' cognitive characteristics and human capital on business planning,"* Strategic Entrepreneurship Journal, Vol. 9, pp. 153-166, 2015.

[13]   D. Sen, S. Bingol, and O. Vayvay, *"Strategic enterprise management for innovative companies: The last decade of the balanced scorecard, "* International Journal of Asian Social Science, Vol. 7, No. 1, pp. 97-109, 2017.

[14]   H. Sulistyo, *"Innovation capability of SMEs through entrepreneurship, marketing capability, relational capital and empowerment,"* Asia Pacific Management Review, Vol. 21, pp. 196-203, 2016.

[15]   S. Sanchita, S. C. Swain, and B. Mishra, *"A framework to study organizational trust and support for innovation with reference to performance of dairy sector in ranchi (India),"* International Journal of Publication and Social Studies, Vol. 1, No. 1, pp. 10-15, 2017.

[16]   E. A. Read and H. K. Laschinger, *"The influence of authentic leadership and empowerment on nurses' relational social capital, mental health and job satisfaction over the first year of practice,"* Journal of Advanced Nursing, Vol. 71, pp. 1611-1623, 2015.

[17]   S. Emmett and B. Crocker, *The relationship-driven supply chain: creating a culture of collaboration throughout the chain:* Routledge, 2016.

[18]   T. A. Chin, H. H. Tat, and Z. Sulaiman, *"Green supply chain management, environmental collaboration and sustainability performance,"* Procedia Cirp, Vol. 26, pp. 695-699, 2015.

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[19] S.-H. Liao, D.-C. Hu, and L.-W. Ding, *"Assessing the influence of supply chain collaboration value innovation, supply chain capability and competitive advantage in Taiwan's networking communication industry,"* International Journal of Production Economics, Vol. 191, pp. 143-153, 2017.

[20] S.-Y. Lee, *"The effects of green supply chain management on the supplier's performance through social capital accumulation,"* Supply Chain Management: An International Journal, Vol. 20, pp. 42-55, 2015.

[21] L. P. Tan and K. Y. Wong*, "Linkage between knowledge management and manufacturing performance: a structural equation modeling approach,"* Journal of Knowledge Management, Vol. 19, pp. 814-835, 2015.

[22] T. Wakui, H. Kawayoshi, and R. Yokoyama, *"Optimal structural design of residential power and heat supply devices in consideration of operational and capital recovery constraints,"* Applied Energy, Vol. 163, pp. 118-133, 2016.

[23] S. Chu, H. Yang, M. Lee, and S. Park, *"The impact of institutional pressures on green supply chain management and firm performance: Top management roles and social capital,"* Sustainability, Vol. 9, pp. 764, 2017.

[24] W. D. Dai, Z. E. Mao, X. R. Zhao, and A. S. Mattila, *"How does social capital influence the hospitality firm's financial performance? The moderating role of entrepreneurial activities,"* International Journal of Hospitality Management, Vol. 51, pp. 42-55, 2015.

[25] H. Russell and C.M. Samuel, *"Asylum seekers prejudice: Tertiary education, the media, and the government,"* International Journal of Innovation, Creativity and Change, Vol. 3, No. 4, pp. 13-29, 2018.

[26] F. O. Agyapong, A. Agyapong, and K. Poku, *"Nexus between social capital and performance of micro and small firms in an emerging economy: The mediating role of innovation,"* Cogent Business & Management, Vol. 4, pp. 1309784, 2017.

[27] S. Bianchi Martini, A. Corvino, F. Doni, and A. Rigolini, *"Relational capital disclosure, corporate reporting and company*

performance: Evidence from Europe," Journal of Intellectual Capital, Vol. 17, pp. 186-217, 2016.

[28] K.-T. Kim, J. S. Lee, and S.-Y. Lee, *"The effects of supply chain fairness and the buyer's power sources on the innovation performance of the supplier: A mediating role of social capital accumulation,"* Journal of Business & Industrial Marketing, Vol. 32, pp. 987-997, 2017.

[29] S. Abualoush, R. E. Masa'deh, K. Bataineh, and A. Alrowwad, *"The role of knowledge management process and intellectual capital as intermediary variables between knowledge management infrastructure and organization performance,"* Interdisciplinary Journal of Information, Knowledge, and Management, Vol. 13, pp. 279-309, 2018.

[30] Ahmad, A., Iqbal, N., & Siddiqui, R. Determinants of Housing Demand in Urban Areas of Pakistan: Evidence from the PSLM. The Pakistan Development Review, 57(1), 1-25, 2018.

[31] Wiengarten and A. Longoni, *"A nuanced view on supply chain integration: A coordinative and collaborative approach to operational and sustainability performance improvement,"* Supply Chain Management: An International Journal, Vol. 20, pp. 139-150, 2015.

[32] M. A. Salam*, "The mediating role of supply chain collaboration on the relationship between technology, trust and operational performance: An empirical investigation,"* Benchmarking: An International Journal, Vol. 24, pp. 298-317, 2017.

[33] X. Shi and Z. Liao, *"Inter-firm dependence, inter-firm trust, and operational performance: The mediating effect of e-business integration,"* Information & Management, Vol. 52, pp. 943-950, 2015.

[34] M. Khalique, N. Bontis, J. Abdul Nassir bin Shaari, and A. Hassan Md. Isa, *"Intellectual capital in small and medium enterprises in Pakistan,"* Journal of Intellectual Capital, Vol. 16, pp. 224-238, 2015.

[35] D. Ryan, *"Motivation to be an artist: Insights relevant to mental health,"* International Journal of Innovation, Creativity and Change, Vol. 4, No. 3, pp. 21-32, 2018.

829

Int. J Sup. Chain. Mgt   Vol. 8, No. 5, August 2019

[36]   T. Sriyakul, R. Umam, and K. Jermsittiparsert, *"Internal supply chain integration and operational performance of Indonesian fashion industry firms: A supplier to buyer approach,"* Humanities and Social Sciences Reviews, Vol. 7, No. 2, pp. 479-486, 2019.

[37]   K. Jermsittiparsert, J. Sutduean, and C. Sutduean, *"Sustainable procurement & sustainable distribution influence the organizational performance (economic, social and environmental): Moderating role of governance and collaboration at thai food industry,"* International Journal of Supply Chain Management, Vol. 8, No. 3, pp. 83-94, 2019.

[38]   H.W. Kamran, A. Omran, and S. Bahrain, *"Determinants of non-performing loans in world economy, EU, G10 and G20 member states: Aggregated and disaggregated analysis,"* Revista Dilemas Contemporáneos: Educación, Política y Valores, Vol. 6, pp. 1-39, 2019.