THE MEDIATING ROLE OF ABSORPTIVE CAPACITY IN THE RELATIONSHIP BETWEEN THE SUPPLY CHAIN AGILITY AND FIRM PERFORMANCE

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ABSTRACT

The study was planned to examine the mediating role of absorptive capacity in the relationship between the supply chain agility and firm performance. To perform the statistical analysis and data screening we have used SPSS-22 for addressing the research objectives. We have analyzed the instrument's reliability and validity and hypothesis of the study with the assessment of measurement and structural model by employing the Smart PLS 3.1.2 which is the most recent or latest second generation multivariate analysis technique. We have received 420 questionnaires, out of which we have excluded 35 items as they were not suitable for the analysis. The above studies that presented SCA as a potential mechanism to gain high level of performance by reforming their AC efforts. The companies with superior AC were considered to be in beneficial position through appreciations to new knowledge assimilated, acquired, transformed and practical in those regions that gave SCA advantages. For instance, the companies which had superior AC level could recognize market fluctuations more timely over the others, because they would be more sensitive to evaluate their consumer requirements, new business areas, anticipate competitor's moves and so on. In the same way, the further information in relation to the areas for example by enhancing the SCA's dimension of market sensitivity, demand information procedures must permit the companies to targets the customer's efficiently. AC might be an important component to perform positively in the association of supply chain. Because of the transformation, assimilation and exploitation of the most relevant and acquired external updated knowledge, to align and coordinate resources along the supply chain, companies would know their buyers more or the suppliers could be enhanced by synchronization with suppliers through the use of knowledge and the enhancement of rapid and effective management across the supply chain completely.

Keywords:

Absorptive capacity, supply chain agility, firm performance

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Background

Now a days in recent times the business environment is considered through the progressing international competition which is a challenge for the business to gain and to maintain competitive benefits (Jermsittiparsert, Nguyen, Nguyen, Huynh, & Shankar, 2019; Syazali, Putra, Rinaldi, Utami, Widayanti, Umam, & Jermsittiparsert, 2019). Various researchers have claimed that no longer any individual businesses would participate as a single autonomous unit but they would rather operate as supply chain (Kulangara, Jackson, & Prater, 2016). Supply chain is the considered as an integral part which includes both the customers and suppliers in a firm. One of the requirements for businesses growth is its dependency on the supply chains to react rapidly to the fluctuating conditions in market, in the same way they should be equipped with the updated knowledge and latest technology, this they could manage through appropriate utilization of external sources for usage of knowledge or by in-house R&D. There are two significant dynamic abilities which are the bases of sustainable competitive benefits namely, supply chain agility (SCA) and absorptive capacity (AC). On the contrary, AC is considered as a significant factor since it transforms and applies valued external knowledge to their own methods or operations in link to get a competitive benefit, it evaluates the firm's capability to categorize and assimilate. As a result, this dimension permits the firm to possess and upgrade technology from its perspective of innovation and knowledge of the assumed market changes.

Under other conditions, SCA is actually a capability to react briskly upon the unpredictable market conditions which plays a significant role in an environments which is extremely dynamic (Lam, Cheng, & Dominguez-Pery, 2017; Puška, Maksimović, & Stojanović, 2018). According to various research that have been conducted it has been determined that the firm performance have positive impact by agility and absorptive capacities (Li, Sun, & Dong, 2018; Valentim, Lisboa, & Franco, 2016; Yeniyurt, Wu, & Kim, 2019; Zhang, Pan, & Jiang, 2020). According to the continuously varying external environmental conditions firms have been competing with each other at the level of supply chain, the international competitiveness that is influenced by the firm's most significant components such as SCA and AC (Wu, Holsapple, & Goldsby, 2017).

Although, there is only limited research work available regarding the linkage among the dynamic capability elements and how it would influence the performance of the firm. However, various researchers have claimed about the significant role of knowledge about the management of supply chains (Hassan & Raziq, 2019; Kasemsap, 2017; Tseng, Chiu, & Lim, 2017), more researchers have pointed out that there is a further need to discuss and the requirement of research about the effect of AC on various features of supply chain that includes agility (Yeniyurt et al., 2019).

The above discussed linkage plays a significant role due to its higher requirement for generating dynamic abilities for contribution in competition to international economy. However, currently the innovation is more extensively versatile, even the organizations build collaboration between several dynamic capabilities to improve the overall organizational performance by keeping in view the vital role of intangibles. For example, various researchers have recommended that it is more convenient for the implementation of bundles of agility practices rather than in single practices in relation to the advantages which were gained from the potential corporation between numerous practices (Khan & Wisner, 2019).

So, the importance of this research is to recognize the relationship whether SCA act as a moderator in association among the firm performance and AC. After the confirmation of mediating impact, in this research it has been presented SCA as a mechanism which would determine how the performance of the firm was enhanced with the support of AC. However, SCA have significant managerial applications as a moderator due to which the requirements for the corporation are justified among the both dynamic capabilities which is less verified and more necessary. The framework of this research is defined as follows: initially this research has analyzed different researched that have been conducted previously through which hypothesis has been developed after the detailed studies. Secondly, this research would discuss about the methodology of the theoretical research through the outcomes and their explanation with the association of administration. Lastly, the research has been closed with the limitations and conclusions.

Literature Review

This empirical research has established the point of view that has shown it is dependent on RBV of company which increase with the dynamic capabilities perception, although both perceptions relies on the fact that describes the competition of SCA and AC associations. In other words, the primary fundaments of the RBV is that a company's competitive benefits depends upon the implications of bundles of resources that are in-imitable and non- substitutable, valuable and rare (Jogaratnam, 2017).

In business management the RBV gained importance by the researchers but its fame rate increase in the supply chain management study and in the production area. For instance, Acosta, Popa, and Palacios (2016) developed the RBV to create the association among, firm performance, entrepreneurial supply chain management competence and the strategies of supply chain management. In other words, the perception of

dynamic capabilities were referred to as insufficient assembly of resources. For the competitive resources organizations required capabilities to develop, integrate, apply resources and reconfigure (Hamidi, 2018).

However, for the company to compete with others innovation plays an important role it also supports in the enhancement of company's performance, however to prosper and for the growth innovation of managements is not sufficient itself. The requirement of dynamic capabilities among organizations that supports them to establish agility expansion of 265 supply chain or transformation into resource station. The dynamic capability efficiently supports in the competitive benefit of the organization through assisting with a sequence of short-term benefits which lets the company compete as compare to their rivals and sustain through competitive benefit. However, the ownership of the dynamic capabilities, supporting such as its promise to hold great potential, the speedy reconfiguration of a firm's supply chain and promises to hold great potential. In the same way, similar opinion is established for the link with AC (Srinivasan & Swink, 2018).

The perception of AC was primarily presented by the researchers (Rafique, Hameed, & Agha, 2018). They claimed that firms could not gain a competitive benefits when knowledge is transferred to external sources, since this would result in becoming exposed to and open to them. On the other hand, firms should produce the skills to identify the importance of integration among external knowledge and utilize them at commercial scale later on. Initially there were three types of dimension such as to exploit knowledge, to identify and assimilate that has been discussed by various scholars and extensive research has been carried out on them by the researchers lately.

For example, Li et al. (2018) presented the four dimensions that were studied by various researchers lately such as transformation, acquisition, exploitation of new knowledge and assimilation. In order to explain these dimensions, the stages of integration has been considered as the recognition of new knowledge and how it would be transferred from one company to another company; the integration showed the company's capability for the utilization of skills, resources and procedures which supported it to integrate the attained knowledge; the implementation of changes which were the combination of internal and external knowledge to fit in the company's requirements, and lastly the exploitation that described the accomplishment of company's targets that paid off the resources and efforts which were invested in the early stages. AC was developed as a firm's dynamic capability that it appreciated and was hard to reproduce by the rivals, since AC relied mostly on the prior knowledge and trajectory of every company (Lee & Chen, 2019).

The abilities developed such as difficult to imitate, scarce and replace which supports to gain the more competitive benefits as compare to the rivals. There are four dimensions of AC such as exploitation, acquisition, transformation and assimilation, they strengthen and harmonize each other to develop a dynamic capability that is AC which motivate the performance enhancement and improvement. However, the organizations that have efficient AC are more capable to recognize the consumer's requirements by means of estimated and latest products, for the enhancement of company's performance the administration participate positively in the activities and at the same time organization enhance their firm's schedules (Shafique & Hyder, 2019; Valentim et al., 2016).

Supply chain is actually a structure of a company in which they chain their work in an exact framework which is necessary to enhance their abilities and frequently improve their actions, may be from the consumer's side or by the supplier's side. The perception of agility has gained more focus in the researches of supply chain because of its significant role in the administrational work and in production. SCA can be evaluated as a dynamic capability because during the whole

procedure of supply chain it support companies to assume fluctuations and offer timely reactions (Wu et al., 2017). However, SCA extent further than an isolated company and engage all alliances with important suppliers and consumers. Latest research have done at SCA Sharma, Sahay, and Shankar (2017) and Zhang et al. (2020).

However, the previous researchers analyzed on the association among the SCA and integration, but recently the researchers studied about the relationship among the operational performance and SCA. Similarly SCA and AC are multi-dimensional and wide concepts which linked the various developments. The positive influence of agility seeking more attention, scholars have claimed about various conceptualizations of agility and standardizing the structure for the recommendation regarding associations between factors of interest within the zone of agility.

Yeniyurt et al. (2019) investigated about the structure of agility-related models, for the research of SCA every model with the advantages and with disadvantages. For this sake the researcher has targeted the structure that appear for the reorganization and the enablers of agility among "across firms" or the features of a supply chain that should have 266 BJM 13,2 like agile due to the various structure that have in-house, the relationship among SCA and AC are not hypothetically beneficial to create it . The researcher in this research has used a model which was previously presented by the researcher Martinez and Lahoz (2018) and afterward assumed by Nazempour, Yang, and Waheed (2020).

This structure has the following important components of an agile supply chain: virtual, market sensitivity, network based and process integration. Firstly, appreciation to the dimension of market sensitivity, supply chain react at the actual demand and forecast to deal with the threats and increase the market opportunities. The virtual supply chain is considered as the supply chain which depend upon the data instead of portfolio which accomplished by the practice through the information technology which transfer information online among the suppliers and the consumers. In the same way, agile supply chain establish an integrated links between the participants , the reason behind it that the organizations with great level of integration are capable to react timely and efficiently over the market changes. Consequently, the method of collaboration defines the working corporation among the suppliers and the consumers, common system and shared information, and the mutual product development. These are the features which assumed the market changes rapidly and more competitive in the market (Khan & Wisner, 2019; Tseng et al., 2017).

Conceptual framework and hypotheses development

Supply chain agility is one of the kinds of operational capability, which is considered as a company's ability to achieve the combined operational activities with the channel partners in connection to assume or react quickly on the market fluctuations. Generally, a supply chain includes a sequence of related activities, among channel members, including design, delivery of product or services and the manufacture. For performing the linked activities with efficiency the organization requires the collaboration among the partners and mutually handle the marketplace instability for enhancement of competitive benefits (Chang, Wong, & Chiu, 2019). According to these situation, supply agility is defined as the customer reaction during the instability in the market situation (Chang et al., 2019), it plays an important role in promising the effectiveness of company because it allows effective and efficient reaction towards the operational changes for example market promotion, procurement, delivery and manufacturing.

The perception of supply chain agility reveals a difficult philosophy, which could not discussed about the procedures and rules that can be certainly imitated or implemented, but the collaboration and understanding between various

channel participants with in the supply chain (Modak & Kelle, 2019). This agility needs that the companies organize carefully about the independent rules but in operations they depends upon the other members for example manufacturers, suppliers and the distributions , to keep up the coordination and close association" (Modak & Kelle, 2019).

This term needs that supply chain agility can describe that for the development of complementary resources how good the organization cooperate with the channel partners and progress the routines of knowledge sharing, although they mutually administrating the market fluctuations (Chang et al., 2019). However, supply chain agility refers as a valuable, rare and imitable the operational capability which were not perfect, which are very important for the performance enhancement of the organization (Modak & Kelle, 2019).

Specially, supply chain agility supports the company to attain a great reaction from the buyers side and leading by the information collaboration towards the marketplace fluctuations (Chang et al., 2019). The collaboration enhances their supply chain perception and makes the company able to recognize fluctuation timely in the market place, although the cost of uncertain demand is decreasing (Cooper, 2017). Moreover, supply chain agility allows the company to integrate with the channel partners on the basis of business processes and planning on the basis of mutual vision (Cooper, 2017). This management reduces the possible disputes and resourceful activities across the supply chain, it encourages the company to group and fix the capitals with the channel partners to improve the product and service delivery effectively (Cooper, 2017). Thus, supply chain agility not only increases the capability to enhance the daily practices in the company but also supports to gain more profitability and decrease the level of costs.

H1: The firm's performance is positively linked with a firm's supply chain agility.

Absorptive capacity is considered as a firm's capability to understand the worth of latest knowledge by external source in the same way as to commercialize it and to assimilate it (Flor, Cooper, & Oltra, 2018; Lichtenthaler, 2016). Absorptive capacity contains a group of routines to use knowledge and growing the impact of continuous learning among the company (Flor et al., 2018; Lichtenthaler, 2016). It allows the formation of market knowledge which is dependent on the previous history of the firm, rich communication and the routines of effective learning (Flor et al., 2018). Lately the researchers considered the absorptive capacity as an important dynamic capability which connects it to the creation of knowledge and to apply knowledge in the competition which is based on the knowledge, these characteristics would support the company to attain and maintain the benefit of competitive advantage (Lichtenthaler, 2016).

Efficiently explaining and positioning the company's assets in terms of its knowledge base, the company would be responsive towards changes when the absorptive capacity is high, hence, for the performance enhancement it would reform its operational capabilities (Lichtenthaler, 2016). Depending upon the concept of dynamic capabilities, in this research the researcher has presented the absorptive capacity as a vital cause of high-performance enhancement in the firm. Particularly, the great absorptive capacity as a latest knowledge gained from the sources which are external based. For example, competitors, customers, other channel partners and the suppliers and the implementation of knowledge to recognize the business opportunities in the market place (Lichtenthaler, 2016).

For instance, in the presence of absorptive capacity, company can efficiently gain the latest external knowledge regarding technological innovation, customer preferences, emerging markets and many more. Gaining such knowledge would support the company to understand the environmental instabilities, catch market opportunities and understand market tendencies,

which would be important to enhance the market share and enhance its profitability. Moreover, absorptive capacity confirms the effective processing of the internal knowledge (Flor et al., 2018) (Lichtenthaler, 2016). It also accelerates the development of informal and formal links across the company towards widely transferred knowledge with in the various operating departments. Hence, the company would attain understanding that how to implement the latest knowledge to reengineer its methods and enhance its services and products.

H2: The firm's performance is positively linked with a firm's absorptive capacity.

The research showed that a (Falasca, Zhang, & Conchar, 2017; Wang & Kim, 2017). Falasca et al. (2017) presented that the company's dynamic capability execute like a strategic possibility that prepared company to reform the current operational capability when the new openings and demand increases. The current absorptive capacity research showed that researchers presented more about the implementation of external knowledge which is a main component of the company's operational capability (Lichtenthaler, 2016).

The research work on the Agility presented that the firm's agility is measured through the amount of knowledge richness and reach with which the company can attain. This capability shows that the base of the company's competitive benefit help to utilize the absorptive capacity to progress a distinctive operational capability for example agility (Falasca et al., 2017). Therefore, the supply chain agility is positively linked with a firm's absorptive capacity. Particularly, a company with the high absorptive capacity is proficient for learning from experiences and recognizing the market changes (Wang & Kim, 2017). This capability supports the company to develop a rich communications with the channel partners by the utilization of developed base of knowledge, hence it enhance the image of the supply chain. Moreover, the absorptive capacity supports the company to establish a mutual understanding with the channel partners through reforming and developing the latest gained knowledge. These understandings support the harmonizing the resources, channel management, partner tasks (Wang & Kim, 2017). Consequently, the latest knowledge support the company to recognize the partner's market opinions and better value, however through improving the shared values within the supply chain to confirm the supply chain agility.

H3 : supply chain agility is positively related with a firm's absorptive capacity.

The impact of supply chain agility act as a moderator in the association among firm performance and AC. The knowledge of company has always been discussed through the RBV as an important source to gain the competitive benefits as compare to rivals , various researchers claimed about the vital role played by the management of supply chains (Hassan & Raziq, 2019; Kasemsap, 2017; Tseng et al., 2017). Therefore, there has been a very few research work carried to describe the transfer of knowledge among the participants of supply chain or how the management of supply chain is influenced by the latest knowledge (Yeniyurt et al., 2019).

Through the structure of this research the purpose is to access the role of SCA if it acts as a moderator among the firm performance and AC. This examination is significant as SCA recommend that AC changes through the SCA into greater performance. Companies with the higher level of AC are firstly ranked at a superior position to gain an improved performance because of all latest gained knowledge, transformed and applied, assimilated, but the query is that if there is an existence of better performance it may be in a better situations for the SCA. In recent times companies have to face the world full of competition in which improved technology and the demand of consumer are regularly and gradually fluctuating. However, firms are in a need to have knowledge about these fluctuations, such as it might be their understanding, hence they should be reproducing it regularly.

AC facilitates the firm in the implementation of latest knowledge to enhance their internal functions. The progress is achieved through the development of dynamic capability, since these companies should be agree to get the latest knowledge and the practices which are based on the various functions hence, it enhances their knowledge and performance. The knowledge generation increase in some region like the customer needs knowledge, the level of market knowledge and the processes knowledge. High level of AC permits companies to gain further latest knowledge related to their whole supply chain (Martinez & Lahoz, 2018). Firstly, the companies with a high level of AC are more enable to adjust themselves to their customer demand timely and recognize the market fluctuation more rapidly.

Secondly, it has been made possible all through the support of current and updated knowledge that the understanding about all the procedures and relationships among the supply chain participants has been improved, hence these companies would be in a good rank to enhance the efficiency among 267 supply chain agility, i-house processes effectively, connections across the supply chain and the enhancement in its timely response. In addition to this, latest knowledge would allow companies to maintain its stability through advance technology which is more linked with SCA. However in thus research it has been stated that

H4: SCA act as a mediates in the link among the firm performance and AC.

Methodology

The inferential and descriptive were used to analyze the data in this study. To perform the statistical analysis and data screening we have used SPSS-22 for addressing the research objectives. By following the study of Henseler (2018) a five point Likert scale was taken where we have categorized the mean values as very high (5.81-7.00), high (4.61-5.80), moderate (3.41-4.60), low (2.21-3.40), and very low (1.00-2.20). we have analyzed the instrument's reliability and validity and hypothesis of the study with the assessment of measurement and structural model by employing the Smart PLS 3.1.2 which is the most recent or latest second generation multivariate analysis technique. We have received 420 questionnaires, out of which we have excluded 35 items as they were not suitable for the analysis. We have also used the missing value feature of PLS-3 through which we can easily detect the missing values, but we haven't found any missing value in data.

Results

For the path coefficients and estimation of loadings we have used the multiple regression analysis and variation of correlation in smart PLS-3 by following the study of Henseler, Hubona, and Ray (2016). For the estimation of average variance extracted and boot strapping the data we generally use PLS-3. For complex studies according to Hair, Hult, and Ringle (2016) we can employ the smart PLS-3, as the second order constructs are involved in the present study so for this study its an ideal technique to be used. In the meantime, because of formative and reflective nature of items the use of this software is essential as other software cannot handle them in proper way (Basheer, Hafeez, Hassan, & Haroon, 2018; Hair et al., 2016). Moreover, it is also noticed that for this study the measurement errors are considered as more appropriate. The PLS-3 software was used in this study to perform the statistical analysis and checking the relations among the different variables of study (Basheer, Hameed, Rashid, & Nadim, 2019; Ramayah, Cheah, & Memon, 2018). So, for the prediction confirmation and estimation of involved variables and probable relations among the variables we have employed the smart PLS. Moreover, it is also useful to carry out the importance of performance matrix analysis.

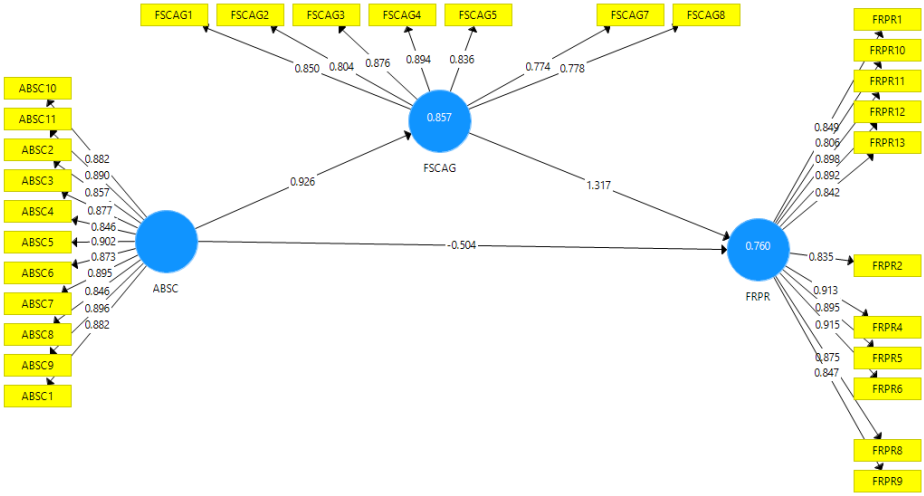

Figure 1: Measurement Model

Table 1: Cross Loadings

	ABSC	FRPR	FSCAG
ABSC10	**0.882**	0.632	0.809
ABSC11	**0.890**	0.670	0.839
ABSC1	**0.882**	0.613	0.808
ABSC2	**0.857**	0.603	0.797
ABSC3	**0.877**	0.593	0.809
ABSC4	**0.846**	0.606	0.791
ABSC5	**0.902**	0.690	0.854
ABSC6	**0.873**	0.616	0.794
ABSC7	**0.895**	0.642	0.842
ABSC8	**0.846**	0.562	0.754
ABSC9	**0.896**	0.659	0.823
FRPR1	0.596	**0.849**	0.730
FRPR10	0.559	**0.806**	0.667
FRPR11	0.616	**0.898**	0.743
FRPR12	0.651	**0.892**	0.753
FRPR13	0.597	**0.842**	0.731
FRPR2	0.558	**0.835**	0.706
FRPR4	0.683	**0.913**	0.780
FRPR5	0.647	**0.895**	0.800
FRPR6	0.678	**0.915**	0.790
FRPR8	0.615	**0.875**	0.722
FRPR9	0.636	**0.847**	0.705
FSCAG1	0.808	0.649	**0.850**
FSCAG2	0.798	0.630	**0.804**
FSCAG3	0.825	0.677	**0.876**
FSCAG4	0.847	0.695	**0.894**
FSCAG5	0.847	0.621	**0.836**
FSCAG7	0.623	0.841	**0.774**
FSCAG8	0.629	0.840	**0.778**

For the determination of construct validity (discriminant validity and convergent validity) and for the assessment of measurement model we have performed the Confirmatory factor analysis (CFA). Moreover, for the variables of this study we have also calculated the average variance extracted (AVE) composite reliability (CR). Basheer et al. (2019) and Henseler et al. (2016) has suggested that the values of AVE must be higher than 0.5 whereas the values of CR must be higher than 0.70. Singh and Prasad (2018) has suggested that the value of Cronbach alpha should be 0.7. After the achievement of validity and reliability of measurement model we have estimated the structural model in next step.

Table 2: Reliability

	Cronbach's Alpha	rho_A	CR	(AVE)
ABSC	**0.970**	**0.971**	**0.973**	**0.769**
FRPR	**0.968**	**0.969**	**0.972**	**0.757**
FSCAG	**0.925**	**0.926**	**0.940**	**0.691**

Table 3: Validity

	ABSC	FRPR	FSCAG
ABSC	0.877		
FRPR	0.715	0.870	
FSCAG	0.726	0.851	0.831

Consequently, we have performed the multicollinearity test with the observation of condition index of independent variables, VIF value and tolerance value, where the level of variance in an independent variable which not explained by dependent variable elaborated in structural model. The VIF indicate the Variance inflating factor which shows the degree at which because of correlation or collinearity of independent variables the independent variable inflates whereas in formative models the critical levels of collinearity were observed by a conditional index (CI) (Hair et al., 2016; Hair, Matthews, Matthews, & Sarstedt, 2017; Mikalef & Pateli, 2017; Ramayah et al., 2018). The multicollinearity will be existed in the study if the CI is greater or equal to 30 the value of VIF is equal or greater than 5 and the tolerance level is equal or less than 0.20. Which shows that in this study there is no existence of multicollinearity problem.

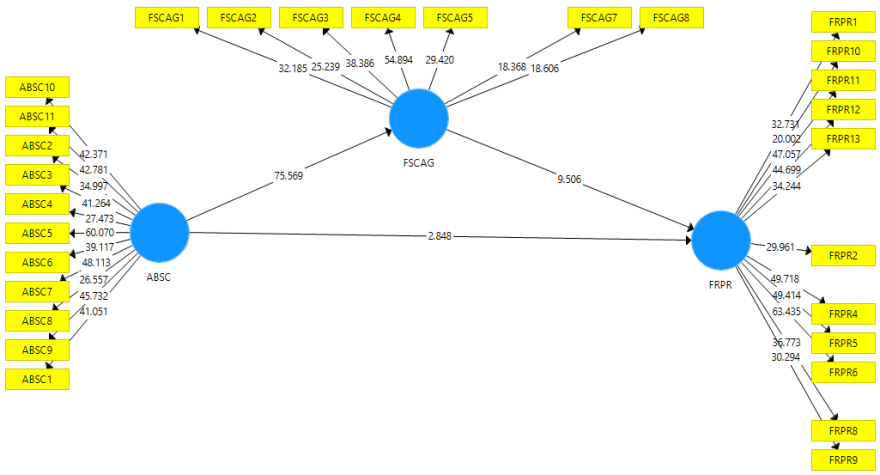

Figure 2: Structural model

The dependent relations were reflected by the structural model, by creating link between the hypothesized model and their constructs (Hafeez, Basheer, & Rafique, 2018; Hair et al., 2017). The structural model interprets the relations between the different constructs of model such as correlation between latent variables. With the estimation of structural model, we have tested the hypothesis and relations among variables. We have analyzed the structural model to check the significance of coefficient of determination, effect sizes, structural relations, predictive relevance, collinearity issues. To obtain the standard errors and t-statistics we have carried out the bootstrapping procedure as well, as it's a nonparametric approach to check the appropriateness of PLS estimates. Meanwhile with the help of this researcher can establish the path coefficients significance (Hair et al., 2016; Singh & Prasad, 2018; Zahra, Hameed, Fiaz, & Basheer, 2019).

Table 4: Direct Results

	(O)	(M)	(STDEV)	(|O/STDEV|)	P Values
ABSC -> FRPR	0.715	0.716	0.065	11.072	**0.000**
ABSC -> FSCAG	0.926	0.926	0.012	75.569	**0.000**
FSCAG -> FRPR	1.317	1.311	0.139	9.506	**0.000**

Table 5: Mediation

	(O)	(M)	(STDEV)	(|O/STDEV|)	P Values
ABSC -> FSCAG -> FRPR	1.219	1.214	0.129	9.415	**0.000**

The exogenous or independent variables ability to predict the exogenous variable were represented by Coefficient of determination (R^2). R^2 is basically a measure to check the goodness of fit, and its value lies between 0 to 1. Its important criterion to check the model's predictive accuracy.

Table 6: **R Square**

	R Square
FRPR	0.760
FSCAG	0.857

We use the predictive relevance for the determination of predictive relevance of predictor variables. In PLS its an additional measure for determination of goodness of fit. With the help of blindfolding procedure, we have computed the value of Q^2

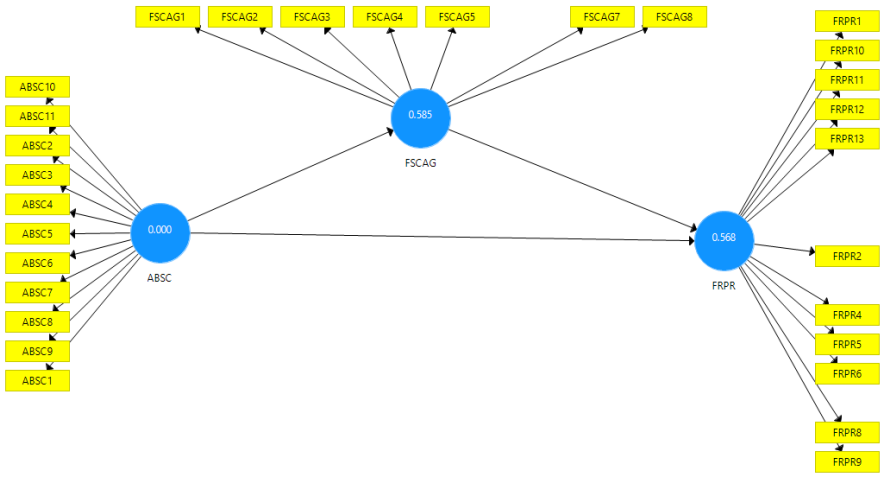

Figure 3: Blindfolding

For the assessment of predictive relevance of constructs, we have used the cross-validated redundancy approach because different elements of structural model predicted eliminated data and path model are involved in this approach (Hair et al., 2017; Hameed, Nawaz, Basheer, & Waseem, 2019).

Table 7: **Q^2**

	SSO	**SSE**	**Q^2 (=1-SSE/SSO)**
ABSC	2387.000	2387.000	
FRPR	2387.000	1030.123	0.568
FSCAG	1519.000	630.376	0.585

Conclusion

The current research that has been carried out has contributed to numerous topics of supply chain management. Firstly, it describes that a high level of AC in company contributed to get a superior level of company performance which has backed the results by other researchers for instance in companies entering new markets, or, Liu, Shen, and Ding (2017) in the manufacturing industry, Valentim et al. (2016) in their analysis of joint-ventures, and the food and chemistry industries. The current studies explains about a positive link among the firm performance and SCA which has supported various research works that have illustrated the impact of SCA in achievement of competitive benefits (Khan & Wisner, 2019; Tseng et al., 2017). According to this research the enhancement of performance in a company may be described through various advantages that would be determined through different SCA dimension.

For instant, it has been possible due to the association between the members of supply chain that has enabled firms to respond rapidly and efficiently over the marketplace fluctuations, most importantly due to the high perceptibility across the supply chain. In the same way, the incorporation of knowledge or data and procedures that would enhance the efficiency level and the decision efficacy would depends upon the updated most recent and original data knowledge. The collaboration among these operators was achieved by all supply chain member it also enhanced and increased the efficiency of the supply chain completely. But the major support in this case is through SCA involvement to determine the reason for the firm's performance that is positively linked with the AC. The exchange of knowledge also plays an important role in the accomplishment of the supply chain's targets but it is important to investigate that how knowledge is developed and enhanced by the associations across the agents of the supply chain. It is also significant to illuminate the latest knowledge in various topics of supply chain management.

The above studies that presented SCA as a potential mechanism to gain high level of performance by reforming their AC efforts. The companies with superior AC were considered to be in beneficial position through appreciations to new knowledge assimilated, acquired, transformed and practical in those regions that gave SCA advantages. For instance, the companies which had superior AC level could recognize market fluctuations more timely over the others, because they would be more sensitive to evaluate their consumer requirements, new business areas, anticipate competitor's moves and so on. In the same way, the further information in relation to the areas for example by enhancing the SCA's dimension of market sensitivity, demand information procedures must permit the companies to targets the customer's efficiently. AC might be an important component to perform positively in the association of supply chain. Because of the transformation, assimilation and exploitation of the most relevant and acquired external updated knowledge, to align and coordinate resources along the supply chain,

companies would know their buyers more or the suppliers could be enhanced by synchronization with suppliers through the use of knowledge and the enhancement of rapid and effective management across the supply chain completely.

Absorptive capacity has been defined as the capability of an organization to assimilate, value and implementation of latest knowledge which is gained from the external resources for example, alliance partners, suppliers and the consumers. The Supply chain agility is referred as a capability of an organization which integrate efficiently with the channel partners to react in a more vigorous way upon the market conditions. The supply chain agility and the absorptive capacity both are considered as important components, in the competitive market as they are the direct sources of high level performance in the firm (Chan, Ngai, & Moon, 2017).

However, the better explanation regarding performance of an organization can be performed through the analysis two dynamic capabilities when considered together that are AC and SCA rather than single. In other view, AC is a vital capability to follow the market fluctuations through the in-house learning by assimilating the external knowledge and the past experiences. However, AC is also appropriate to create the link in the supply chain with various agents due to the diffusion among good practices which is a commonly considered objective for supply chain.

Within the structure of this study, SCA supports to react vigorously upon the environmental fluctuations and enhancement of the firm performance through further productivity by making absorptive knowledge all the way through supply chain. There is only limited theoretical indications in research work regarding the positive link among the firm's performance and AC (Shafique & Hyder, 2019; Valentim et al., 2016). The association within a supply chain structure has been researched very few times, as well as the casual mechanisms which has defined this association.

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