

# Strategic Leadership, Organizational Innovativeness and the Firm Supply Performance: The Mediating Role of Information Technology Capability

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**Abstract-** The main objective of the current study is to examine the impact of the strategic leadership, and the organizational innovation on the firm supply performance. Additionally, the study has examined the mediating role information technology capability in the relationship between the strategic leadership and firm supply performance, and between the organizational innovation and firm supply performance. The study has used the resource-based view, the theory is useful for IT research through resource attributes, which facilitates the relationship between IT resources and non-IT resources, since the resource-based theory establishes a clear link between resources and sustained competitive advantage. It is generally agreed upon by information system scholars that IT capabilities can act as key enablers of higher order organizational capabilities or interact with other. The study has used the SEM-PLS to examine the relationship between and among the variables. The response rate of the current study is 44.7 percent. The results have highlighted that the relationship between strategic leadership, organizational innovativeness and firm supply performance are significant. Results from the study give support to the key theoretical propositions. Precisely, the present study has succeeded in answering all the research questions as well as the objectives despite some of limitations. While there have been, numerous studies investigating the factors that affect strategy implementation, however, the current study addressed the theoretical gap by incorporating IT capability as a significant mediating variable for strategic leadership.

**Keywords;** *Leadership, Innovation, Information Technology, Supply performance*

## 1. Background

The comparative advantage is the main source for strategic leadership [1]. The competitive advantage can be sustained with organizational capabilities in an organization developed by strategic leaders [2]. According to the resource-based view number of organizations have

tried to get complete advantage with the exploitation of organizational capabilities and resources [3]. According to many strategic leaders the sustainable complete advantage can be increased through the social capital and investment in organizational capabilities by following the knowledge-based view and strategic leadership view [4].

The resource-based view (RBV) highlight the importance of internal resources of organization, whereas for organizational strategic leaders, effectively managing the resources portfolio of organization is the most important task [5]. The strategic leaders convert the organizational resources into capabilities, and for using these capabilities structure the organization and for the resource leverage develop and implement a strategy for the achievement of competitive advantage [6].

For the creation of strategic intensive organizations, the strategic leadership focuses on what actually leaders do[7]. Furthermore, the focus of strategic leaders should be on key resources of organization, which can help in creating a difference and for the organization ensure the success and sustainable future [7]. In different situations of organization, the strategic leaders can be more adaptive and proactive by using the RBV [7]. According to [8] the decisions of strategic leaders are mostly connected with their observations regarding environment and organizational resources, and this is the basic practice for implementing the strategy. The strategic leaders are answerable for the maximum use of available resources in organization. The perception of strategic leaders is central dimension in RBV, which effect the allocation of resources, and make sure that there are different uses of resources in different organizations and support the theory of heterogeneity held by [9].

According to the literature, in an organization the outcome of innovation process is positively affected by the resource-based view e.g. [10] and [4]. The following

studies provide a new vision in relation to RBV versus innovation. The relation between organizational innovativeness and resource-based research depends on the important ideas that capabilities and resources of organization determines the innovative capacity of organization.

According to this point of view all tangible and intangible resources of organization are considered to put their contribution which can transform and combined the capabilities of organization for producing the different methods of competitive advantage. The technical resources such as IT system and other facilities also effect the innovation positively [5].

In educational institutions the implementation of innovation activities required a prior investment in technical equipment's, which can increase the opportunity of producing innovative outcomes and increase the value for that institution [7].

The recent studies on organizational innovativeness in relation with RBV have diverted the consideration towards the intangible resources of organization from the tangible resources [9]. In strategic viewpoint may be the intangible resources are more important, subsequently together they can bring the common requirements which are necessary for the creation of sustainable advantages, and which are unique valued and hard to copy and replace by other competitors [11]. For example, there are number of highly trained strategic leaders having modern technical skills knows that how R&D department is linked with tendency of taking risk, increase the possibility of carrying out the innovative activities of organization [12].

Because of ignoring the nearby resources with the assumption of simple exit of resources many researchers have criticized the RBV [13]. In the available literature some issues are still unexplored, such as how we can develop the resources which are combined with organization and how we can release them. Many scholars have employed the RBV for exploring the relation between effectiveness and capabilities. Strategic leaders can be produced by investing on human capital, IT and innovation are the essential sources of competitive advantage in short run, whereas in long run they sustain the competitive advantage [14].

The theory of dynamic capabilities (DC) which was derived from the resource-based view, emphasizes on renewal and reconfiguration of resources. Whereas the resource selection is highlighted by the resource-based view, with the realization modern types of competitive advantages by renovating the capabilities and internal resources exist I the approach of dynamic capabilities [15]. For conceptualizing the strategic leadership and supporting RBV we have used the dynamic capability theory, in an unstable environment for addressing the issue of sustainable performance for implementing the effective strategy we have used Supply chain (SC)

capability. Under these circumstances SC capabilities help to bridge such gaps in terms of buffer between change in business environment and organizational resources. The Dynamic capabilities of an organization supports the RBV theory. Actually, for RBV approach DC can be a complement [16]. According to [17] with reference to RBV it is not resource bundle only which matters but also the organizational mechanism through which it accumulates and learn modern skills, and forces which limited the directions of procedure.

Organizations are assisted by the dynamic resources for maintaining the organizational sustainability of competitive advantages and adjusting their resources but if it is not then it diminishes quickly. Consequently, the choice of appropriate resource selection will be stresses out by RBV, and DC will emphasis on the renewal of resource development. According to the study of [18] the different features of DC can be attained via internal organizational resources, which can be helpful for the organization in uncertain environment.

## 2. Hypothesis Development

### 2.1. Firm Supply performance

The practices and perspectives that help in connecting all the consumers, distributors, manufacturers and suppliers for achieving the long-term performance objectives are known as Supply chain management practices (SCMP)[19]. For SCI information sharing plays key role. Many researchers have shown their agreement on some mutual goals of SCM. According to the [20] the ultimate goals of SCM are the elimination of redundancies and communication barriers. Latter on according to the [13] flexible production, quality management, delivery performance operational synchronization and reduction of waste are known as SCM goals. Whereas in literature some other goals such as relation of suppliers, warehousing, time cost, and customer satisfaction were added by the [11]. In addition to this some other activities like leadership and audit activities were also included in SC. SCM is arising as combined approach, which includes long term relations of suppliers, warehousing, cost, time satisfaction of customers, flexibility, quality management, delivery performance, operational synchronization and waste reduction. For the enhancement of effectiveness and achievement of competitive advantage [16].

In supply literature for the measurement of Supply chain performance (SCP) two different measurement models have been used the first one is Cost, which includes both inventory operating and inventory cost whereas the second is the amalgamation of customer responsiveness and cost which includes both operating cost and inventory cost. Flexibility customer responsiveness, time of activity relationship and cost these all have been used as measures of SCP weather singly or jointly. [17] have mentioned the key dimensions of

effective supply chain as responsiveness (RS, pp. relationship (RL, pp. flexibility (FL) and described cost (CT).

The key measure of firm performance is controlling the cost, and all firms are determined deliver the quality products at low cost. One of the main deterrents of SCP is cost effectiveness particularly inventory cost, which basically holds the major portion of total operational cost of an organization. Now a days in competitive market the main competitive forces are delivery cost, outsourcing cost and manufacturing cost [19].

## 2.2. Strategic Leadership (SL) and Firm Supply Performance (FSP)

Leadership basically help in enabling the followers to keep focused on the goals or objectives [15]. The outputs can be improved with the help of effective influencing direction of strategic leaders. Again, in implementing the strategy we cannot over emphasize the role of strategic leadership (SL). We can define the strategic leadership as the ability of a leader to maintain flexibility, envision and anticipation and creation of strategic change as compulsion for the empowerment of others.

The strategic leadership is a complexed activity which involves in managing different things via others, and to cope up the change, by assisting the organization which is increasing worldwide dramatically in current business environment [21]. In an organization for the internal and external business environment, the strategic leadership required integrating and embracing the capabilities for managing the complexed processing of information. The strategic leaders are the blend of visionary and managerial style of leadership [22]. Literature highlight the increasing interest in the area of strategic leadership. In spite of available literature on leadership, the researchers have figure out the importance of strategic leadership lately. Once again, the key pressing factors which determines the execution of strategies in Saudi Arabian banks were investigated by [22] according to his findings there is significant role of leadership. On the other side for the execution of strategic plans of institution the strategic leaders play a glaring role. In a study of [23] they research about the strategy implementation in universities of Australia. They have stated that institutional resources aligned with the leadership lead towards the successful execution. There is another study which was conducted by [24] for implementing the strategic plans in some schools of Kenya. The results of this study indicate that leadership is a point towards the execution of strategies effectively. While [25] also carried out a study on role of leaders for implementing the strategies in live pool university. He distributed total 197 questionnaires to different respondents. The measurement scale was based on factors such as, evaluation of performance score, strategy implementation, and formulation, setting goals

and objectives, and development of mission and vision. Which shows that in institutional tertiary is basic for strategic leadership.

Furthermore, another study [26] conducted a survey by selecting samples from public tertiary institutions, from a population of 30 department heads, 136 lecturers and top managers in Meru, the Central district in Kenya. The findings suggest insignificant influence of managerial behavior, due to strategic thinking management. [27] suggested that inducting sub-ordinates as the institution's faculty members by the organizational leaders, thus results in the effective strategy implementation. Sixteen factors were responsible for the failure of strategic implementation in Iraq's higher learning institutions, with 71% contribution of leadership role. Omboi argued that these tertiary institutions will keep functioning without proper mission, vision, leadership, good strategies, work ethics, adequate resources, well defined cultures, and better structures. [28] also conducted a study involving five universities that are offering medicine degrees in Iran. They attempted to examine factors responsible for the strategic plan implementation failure in public health sector. It has been reported in their study that leadership plays an important role in crafting and executing strategic plans; and leadership may fail to create brilliant vision of the strategic program, if strategic leader does not associate with his subordinates, during strategic implementation process. Thus, [29] advocated the above view and stated that organizational leadership helps in identifying relevant resources, such as, promoting the desired host of others and organizational cultures, and in choosing proper women and men for the strategy. Thus, we can hypothesize that:

**H1:** Strategic Leadership (SL) has significant impact on the firm supply performance (FSP)

## 2.3. Organizational innovativeness and Firm Supply Performance (FSP)

Organizational innovativeness is an important characteristic of an organizational culture, which refers to the openness towards new ideas[30, 39]. Thus, innovativeness serves as a measure to analyze organizational orientation towards innovation. [11] suggested some preconditions to organizational innovativeness, such as, learning, collaboration, organizational culture, participative decision making, power sharing and collaboration and support, etc. [13] were the earliest ones to use the term 'capacity to innovate' as an ability of an organization to successfully implement or adopt new products, processes, or ideas. Therefore, those tertiary institutions having the innovation ability are likely to achieve higher performance and competitive advantage. [15] have integrated organizational innovativeness as a unidimensional construct in their study, representing the behavioral aspect

of organizational innovation. Thus, the term behavioral innovativeness shows the organization's sustained behavioral change thereby leading to organizational innovation.

The extant literature encompasses the relationship between strategy implementation and organizational innovativeness. There are four generic strategies proposed by [21] these include, differentiation, middle of the road and low cost. [17] also put forward four strategies, these are; analyzer, reactor, prospector, and defender. On the other hand, [23] also developed strategy measures which use interval scale as a substitute for categorical variables. Meanwhile, innovation serves as one of the basic organizational strategy dimensions, regardless of the way that a strategy is conceptualized, thus, the higher levels of innovativeness indicates serious creative strategies. Moreover, [3] defined informational technology, as the products, instruments, knowledge, processes, systems and procedures that helps in producing goods and services by the tertiary institutions for identifying the customer satisfaction and needs. Thus, successful and effective strategic implementation begins from the coordination and integration of information technological innovations in financial, personnel, marketing and production processes. Firms that particularly employ multiple administrative innovations are likely to perform better as compared to others. A study on prospectors and defenders' strategies as well as their association with firm supply performance and innovativeness was conducted by [7]. Findings of this study suggest that in the non-innovative and innovative industries, defenders perform better than the prospectors when probability and cash flows are considered as the performance measures. In another study [25] the relationship among organizational learning, innovation and performance was analyzed by using Structural Equation Modeling (SEM) for 451 firms, in Spain. The study revealed a positive contribution of organizational innovativeness and organizational learning to the business performance. Furthermore, [19] examined the relationship among organizational performance and innovation ability in Istanbul, Turkey. [9] also examined how construction companies' performance is influenced by innovation, in Singapore, by conducting expert interviews and employing statistical data for the 18 organizations in OECD economies. The study suggested that clients award constructional activities on the basis of lowest cost, thereby making innovation a non-feasible competitive strategy. The study also shows that firms, especially construction companies may achieve competitive advantage by employing those innovations which may minimize the construction cost and for which consumers are willing to pay. [26] used a case study of DHL and reported that a positive relationship exists between competitiveness, financial performance and network innovation. In another study [2], the effects of learning

processes and differentiated knowledge sources were analyzed on the technology capacity of an organization to achieve competitive performance and innovation, using the case of export companies in Brazil. Therefore, their study revealed a significant positive association among organizational innovativeness, competitive performance and knowledge.

[31] also conducted a research to examine the organizational innovativeness as a mediator in the relationship between organizational effectiveness and organizational culture, in the tertiary institution in Iran. Therefore, they targeted 369 respondents for data collection and found that significant positive association exists among organizational effectiveness and organizational innovativeness. [32] study also provides empirical evidence concerning performance and strategic innovation relationship in the Kenya's public universities. He obtained data for this study by formulating a structured questionnaire and reported that strategic innovation together with the wider business strategy tend to improve the capability of an organization, to better understand customer insights as well as offer significant and new value for organization to survive and achieve success. Therefore, we hypothesize that:

**H2:** Organizational innovativeness (OI) has significant impact on the firm supply performance (FSP).

## 2.4. IT Capability as Potential Mediator

It is proposed in this study that IT capability acts as a moderating variable in the effective strategy implementation and strategic leadership behavior interface. Based on the underlying theory by [6] on internal organizational resources and their continuity, the IT capability is expected to serve as a moderator in the relationship between effective strategy implementation, organizational innovativeness, and strategic leadership. [12] have argued that instead of a mediator, IT capability is a moderating variable subject to the resource-based view (RBV, pp. as IT capability refers as an organizational ability to deploy and mobilize IT related resources, and is likely to be unaffected directly by the IT investment. Since the mid-1990s, scholars from the field of information science have widely used the RBV theory [33]. This theory can be helpful in IT research in terms of its resource attributes, and in promoting the association among non-IT resources and IT resources. The RBV theory tends to develop a clear association among sustained competitive advantage and resources. There is a general consensus among Information System scholars that IT capabilities are the key enablers to develop interaction among other resources (such as, organizational innovativeness, strategic leadership) for achieving organizational success or to attain higher-order organizational capabilities [34].

It has also been argued that several scholars are in support of the intervening variable, since IT capability is expected to have an indirect impact on the organizations for competitive advantage improvement, through integrating significant organizational capabilities, as the intervening variables [28]. These various capabilities play the role of intermediating variables on organizational success and IT capability interface; these include, innovation [4] and knowledge management. In earlier researches, IT is indicated to help organization in enhancing their efficiency in decision-making and in executing business and corporate strategies. Therefore, [22] suggested that decision related to organizational strategy implementation must be taken by the strategic leaders, and for these decisions, the required information is available or stored in the form of computer database. Hence, the information technology makes the strategy implementation easier and quicker and also helps in decision-making. Database language, properties, and incomplete information may cause communication problems, which in turn may put the effectiveness of information processing on risk, and thus affect the implementation of an effective strategy. Initially, several strategic leaders have faced problems to collect, organize, distribute, and store large amount of information [14]. However, computer technological developments have made it easier for the strategic leaders to select the best suited and required information, as well as on their required time, making the strategic decision implementation even easier. According to [31] his mostly occurs in case of current information and when this information is required by many people at the same time.

[16] opined that a delivery performance entails warehousing location, delivery channel, vehicle scheduling and distribution mode, which itself is an achievement in the supply performance domain. However, there are certain factors which influence the organization's delivery performance, these are: scheduling, location policies, and delivery channels, and choosing suitable combination of these factors can positively enhance the delivery performance. Furthermore, another study [6], revealed a positive association among supply chain performance and delivery performance, while delivery at the committed dates, explored delivery at the requested date and lead time for order fills are the important delivery performance measures that are essential for the supply chain performance. For a supply chain strategy, customer satisfaction is the central element and it is impossible to measure performance without considering customer satisfaction [34]. Besides customer requirements, delivery methods, product design and all other feedbacks must also be considered. With the increasing diversity and environmental uncertainty, companies tend to incorporate supply chain as one of the competitive advantages gaining tools. Therefore, [32] suggested flexibility as an important

supply chain management dimension. In a broader context, flexibility is the ability of a firm to respond and adjust in accordance to the constant variation in environmental factors, such as, customer needs and market demand. Thus, it is hypothesized that:

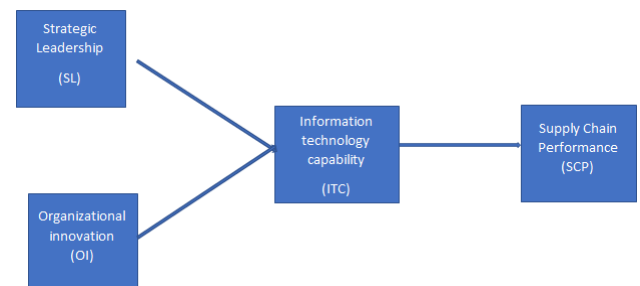
**H3:** Strategic Leadership (SL) has significant impact on the information technology capability (ITC).

**H4:** Organizational innovation (OI) has significant impact on the information technology capability (ITC).

**H5:** Information technology capability (ITC) has significant impact on the firm supply performance (FSP).

**H6:** Information technology capability (ITC) mediates the relationship between the strategic leadership (SL) and firm supply performance (FSP).

**H7:** Information technology capability (ITC) mediates the relationship between the organizational innovation (OI) and firm supply performance (FSP).



**Figure 1.** Conceptual Model

### 3. Methodology

For current research, measurement and structural models were established using Smart PLS path modeling. The measurement model tends to explain the validity and reliability of constructs that are involved in the current research. Secondly, in the structural model, the bivariate correlation and regression analyses are simultaneously conducted for determining the effects of relationships and correlations between the model constructs. In addition, the study also used mechanisms, such as, bootstrapping and PLS algorithm.

New techniques may somehow work well amongst structural equation models (SEM) containing cause-and-effect associations and latent variables [36]. The Partial Least Square (PLS) approach acts as a powerful and flexible tool to make predictions and develop statistical models. Therefore, this research has integrated PLS technique for SEM models, because these models are considered as superior with better estimation ability to assess the intervening variables in the model, compared to regressions [35]. PLS-SEM has been reported to present accurate measurement of the mediating and mediating effects, and also accounts for the measurement errors that may occur during the estimation process. According to [40], PLS path modeling is more appropriate and advantageous for complex models and real-world

applications. The soft modeling assumptions, such as, ability to efficiently formulate and ascertain complex models, thus provides PLS technique the advantage to measure large as well as complex models.

The data normality problem can commonly be observed in most social science researches [35], but there is no requirement of data normality under PLS path modeling. Putting differently, non-normal data can be treated well in PLS technique. Therefore, PLS approach is mainly selected for the current research to prevent the occurrence of such data abnormality issues during the process of data analysis [36]. A total of 420 questionnaires were distributed among the respondents. The response rate if the study is turned out to be 44.7 percent.

### 4. Results

For evaluation and description of PLS-SEM path results, the current study adopted a two-step process, which has been put forward by [37]. PLS-SEM path estimation comprises of two steps; the measurement model assessment; and the structural model assessment.

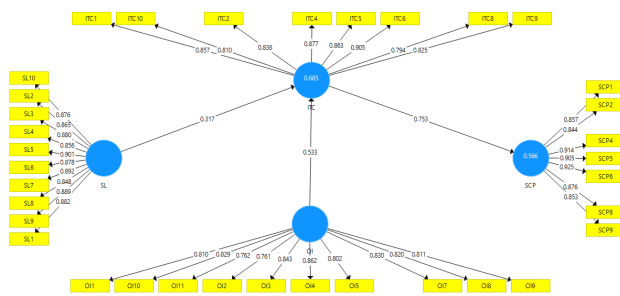


Figure 2. Measurement Model

Measurement model assessment signifies the estimation of discriminant validity, convergent validity, internal consistency reliability, content validity and the individual item reliability [35]. To determine discriminant validity, the cross-loadings and indicator loadings are compared, and indicator loadings must turn out to be greater than the indicator loadings for discriminant validity to be sufficient.

Table 1. Outer Loadings

	ITC	OI	SCP	SL
ITC1	0.857			
ITC10	0.810			
ITC2	0.836			
ITC4	0.877			
ITC5	0.863			
ITC6	0.905			
ITC8	0.794			
ITC9	0.825			
OI1		0.810		
OI10		0.829		

OI11		0.762	
OI2		0.761	
OI3		0.843	
OI4		0.862	
OI5		0.802	
OI7		0.830	
OI8		0.820	
OI9		0.811	
SCP1			0.857
SCP2			0.844
SCP4			0.914
SCP5			0.905
SCP6			0.925
SCP8			0.876
SCP9			0.853
SL10			0.876
SL2			0.865
SL3			0.880
SL4			0.856
SL5			0.901
SL6			0.878
SL7			0.892
SL8			0.848
SL9			0.889
SL1			0.882

Construct validity is further categorized into discriminant validity and convergent validity. It brings conformity between measuring instruments and a theoretical concept. It specifically analyzes the correspondence between attributes and the measurement scale [38]. For analyzing convergent validity, the certain criteria such as, composite reliability, average variance extracted, and factor loadings are employed [36]. Therefore, to achieve adequate convergent validity, all those measures that claim to reflect a particular construct must be related. Prior to convergent validity, the cross loadings and individual loadings are to be observed as an essential requirement to assess convergent validity or to identify any issues related to the items.

Table 2. Reliability

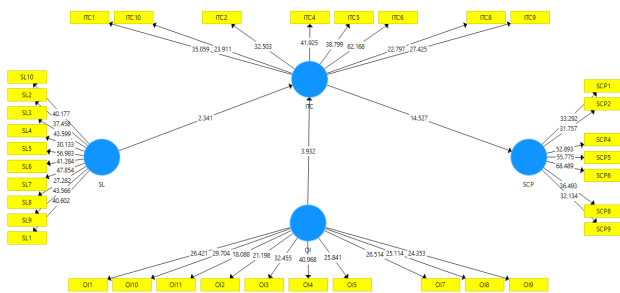
	Cronbach's Alpha	rho_A	CR	(AVE)
ITC	0.943	0.945	0.953	0.717
OI	0.943	0.945	0.951	0.662
SCP	0.953	0.954	0.961	0.779
SL	0.967	0.967	0.971	0.769

Discriminant validity signifies that no relation actually exists among measures which are supposed to be unrelated. For adequate discriminant validity, the

individual construct's square root of AVE is observed [40]. The obtained AVE square root coefficients are then placed along the diagonal positions, in a correlation matrix. Therefore, the square root AVE's must exceed the squared correlation values [35] and the coefficients on the diagonal position should also be greater than the coefficients at non-diagonal positions, such as at the parallel rows and columns.

**Table 3.** Discriminant Validity

	ITC	OI	SCP	SL
ITC	0.847			
OI	0.815	0.893		
SCP	0.753	0.829	0.883	
SL	0.791	0.888	0.709	0.877



**Figure 3.** Structural Model

Next step in PLS-SEM is to ascertain the inner or structural model. For this purpose, standard bootstrapping procedure was used for analyzing the path coefficients' significance, by including 5000 bootstrap samples [36] Structural model estimates, including mediating variable are shown in Table 4, and Figure 3.

**Table 4.** Direct Relationships

	(O)	(M)	(STDEV)	( O/STDEV )	P Values
ITC -> SCP	0.753	0.755	0.052	14.527	0
OI -> ITC	0.533	0.541	0.136	3.932	0
OI -> SCP	0.401	0.413	0.122	3.3	0
SL -> ITC	0.317	0.311	0.135	2.341	0.01
SL -> SCP	0.239	0.232	0.096	2.482	0.007

**Table 5.** Mediation

	(O)	(M)	(STDEV)	( O/STDEV )	P Values
OI -> ITC -> SCP	0.401	0.413	0.122	3.300	0.000
SL -> ITC -> SCP	0.239	0.232	0.096	2.482	0.007

Under PLS-SEM, the structural model can also be examined by analyzing the R-square value, which is an important criterion to assess the predictive ability of the model and is also known as coefficient of determination ( $R^2$ ) [35]. Furthermore, it also shows the proportion of variation in endogenous variable which can be predictable by the model predictors.

**Table 6.** R-square

	R Square
ITC	0.685
SCP	0.566

**5. Conclusion**

The current study has contributed in the existing literature by providing enough evidence concerning the moderating role of IT capability on the relationship between organizational innovativeness, strategic leadership and strategy implementation. This study also found supporting evidence towards key theoretical propositions. Despite of a few limitations, all the research questions and objectives have been met in this current research. Meanwhile, numerous studies are available in the existing literature, that have investigated factors influencing strategy implementation process, but this study has incorporated IT capability to address the existing theoretical gap and observed the role of IT capability as a moderator for the strategic leadership. In addition, the present study provides both empirical and theoretical support concerning the IT capability's role as a moderator on the relationship among organizational innovativeness, strategic leadership and strategy implementation. This study has successfully evaluated that in what way the relationship among endogenous and exogenous variables is moderated by the IT capability. The study also introduced theoretical framework in the areas of complementarity theory, dynamic capability theory, and resource-based view theory, by analyzing the potential effects of organizational innovativeness and

strategic leadership on the organization's effective strategy implementation. The findings obtained in this research presents important practical implications for the managers and institutions. Putting differently, the present study also proposed directions for future research as well as the research limitations. Finally, various valuable practical, methodological and theoretical implications have been offered by this research to the literature of technology management, psychology, and strategic management.

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