Contemporary Competitive Typology: Organizational Learning as Competitive Advantage in Higher Education Institutes

Yasmine Muhammad Javaid Iqbal
Lecturer, National Defence University, Islamabad Pakistan and Ph.D. Fellow, George Washington University, Washington DC, USA.
Yasmine@ndu.edu.pk

Dr. Umer Iftikhar
Assistant Professor – National Defence University

Dr. Muhammad Zia – Ur – Rehman
Associate Professor – National Defence University

Abstract

Organizational learning is gaining pace in the era of knowledge management. Cutthroat competition has shifted the trend from optimal economic consumption of organizational resource to optimal economic allocation of organizational knowledge. In retrospection of this concept, purpose of this study is to investigate the impact of organizational learning on competitive advantage as a contemporary competitive typology. Simple random sampling technique is used for data collection and empirical analysis is conducted by applying organizational learning and competitive advantage (OL- CA) model by Akhtar et. all. Statistical standpoint is gathered using, reliability, validity, pair – wise correlation, linear, multiple and stepwise regression analysis in SPSS. Correlation and linear regression analysis support the relationship of constructs of organizational learning with competitive advantage. Strategic learning and the flow of knowledge and information significantly influenced competitive advantage achievement and systems thinking showed least impact. Organizations instead of concentrating on elevating resource optimization, it is recommended for enterprises to factor in the resource of organizational learning for sustainable competitive advantage. Further studies may check this model in industries that receives less attention in Pakistan and have varied organizational culture and norms because of causality, including police department, intelligence agencies and pharmaceutical industry.

Keywords: *Competitive Advantage, Organizational Learning, OL – CA model, Knowledge Management, Academic Sector, Pakistan.*

Introduction

The volatile nature of the contemporary business typology challenges the ventures to stay competitive. The universal pressures of knowledge economy, artificial intelligence and decreasing half-lives of technological advancements put business ventures to think critically (Mujtaba, Marschke, & Nguyen, 2012). Currently organizations must engage themselves proactively in order to survive and stay competitive in the business landscape where scare resources are becoming costly to acquire. The situation is challenging and demands organizations to institutionalize optimal knowledge resources in comparison to tangible enterprise resources (Crossan, Lane, & White, 2017).

Researchers in the age of globalization and frenzied market competition, suggest learning and knowledge management as major constructs for long term competitive advantage (Carayannis, 2014). By knowledge means a firm possess something crucial that its competitors are not known off. Learning on the other hand is acquiring knowledge in a better good for improved organizational routines. Strategists are calling learning as a building block for organizational possession of dynamic capabilities which differentiates itself from agile sustainability (Goh & Richards, 1997). Therefore, to nurture a culture of learning, organizations must inculcate a learning process. Institutional learning is a continuous process without any notion of stagnation (Akhtar, Khan, & Mujtaba, 2013).

Public and private education institutes of Pakistan are striving hard plan and implement organizational learning processes to remain at par with international standards and stay competitive. Education sector is the most deprived and agile securing around 3% budgeting from the total GDP of the country (Azeem, Ahmad, Hussain, & Nafees, 2021). Therefore, there is a need to proactively search for novel arenas to help higher education institutes in deployment of optimal economic allocation of organizational knowledge rather than the optimal economic consumption of scarce and costly organizational resources. This study bridges the gap by providing empirical evidence of impact of organizational learning on competitive comparative advantage with the notion of cost-effective formula.

Review of Literature

Learning organizations are perceived as organizations that create their own future by the expanding their capacity (Senge, 2006). Research have introduced comprehensive models for organizational learning in literature. Senge (2006) discussed five dimensions of organizational learning. Systems' thinking is elaborated as a collective interdependence of organizational functions to work as one system. Personal mastery is defined as an individual's commitment to learn and improve. Team learning is team's knowledge or synergy. Mental models are self- reflection of ideas and shared vision is the vision common across levels. Senge discusses the disciplines of organizational learning and the role of a

leader not connected with the constructs of a learning organization with competitive advantage.

Goh observed five constructs of organizational learning that builds competitive advantage over a period if given thorough strategic and leadership attention. In these five constructs vision and mission is the alignment of individual actions with organizational objectives (Akhtar, Khan, & Mujtaba, 2013). Leadership is elaborated as empowering staff in decision making and taking calculated risk. Experimentation is encouraging the staff to explore new ways and rewarding them in return. Teamwork is synergy and transfer of knowledge is dissemination of information and knowledge across levels. The research has associated organizational learning with competitive advantage where a more recent literature on the same grounds will enhance the subject knowledge (Crossan, Lane, & White, 2017).

Gravin, Edmondson and Gino (2008) discuss about organizational learning for adaptability in the age of globalization. The researcher emphasized on organizational learning and its important role as a survival tool for competitive advantage. Three main dimensions are proposed to organizations for organizational learning including a learning environment, leadership behaviour and concrete learning processes (Garvin et. al. 2008). Researchers define competitive advantage as a concept that is multi- dimensional. It explains the achievement of better performance in comparison to competitors (Porter, 2008). The distinguished performance is achieved with the backdrop of industrial analysis, resource-based view, and knowledge-based view. Literature covers that notion of competitive advantage achievement embark cost efficiency, brand equity and healthier financial performance.

The expensive most resource that an organization can possess is knowledge (Daniela, 2014). In today's business world the creation, sharing, implementation and preservation of knowledge is the expensive most resource for organizations (Amarakoon, Weerawardena, & Verreynne, 2018). Organizations that use knowledge as a resource for learning are categorized as learning organizations in the current knowledge economy milieu.

Lei, Slocum, & Pitts (2004) envisioned to design organizations for competitive advantage through the power of organizational learning. No matter how much an organization invest in latest and expensive technologies or processes, at the end of the day they are stuck in obsolete management practices. Hence, a firm must inculcate resource – based view, its internal recourse for sustainable competitive advantage (Fahy, 2000). Contemporary enterprises must meticulously and proactively look in to amalgamating organizational learning as a resource for achieving competitive advantage. It has become an important

domain in contemporary dynamic and faced paced environment of change (Akhtar, Khan, & Mujtaba, 2013).

Research that caters knowledge resource for competitive advantage are mainly focused on international context. Empirical evidence from Pakistan to support the notion is thin. Under theoretical underpinning of Goh & Richards previous researchers presented OL-CA model for measuring the effect of organizational learning on competitive advantage. However, this piece of research used the dimensions related to knowledge creation and sharing. The study used seven dimensions to measure the organizational learning and its impact on competitive advantage. The study presents recommendations for future researchers to apply the same model in other industries in Pakistan for generalizability (Akhtar, Khan, & Mujtaba, 2013).

This research put forward OL-CA model to observe the relationship in the academic sector of Pakistan. Similar model and dimensions are used to observe the relationship and generalize the results. Systems thinking explain the holistic approach of an organization and its collective thinking as one unit. Actions taken in accordance with past experiences and signals from the environment constitute strategic thinking. Shared vision is elaborated as a vision of an organization shared across levels. Employees adhere to the vision and each employee objective contributes to the vision of the organization. The delegation of authority towards employees explains empowerment. Personal goals of an employee are synchronized with organizational objectives. Knowledge and information flow across all levels of organization strengthen the knowledge base and constitutes a culture of knowledge sharing and creation. Personal mastery, strengths and weaknesses of oneself is explained a internality and the multiplying team effort is elucidated as synergy.

Organizational learning and competitive advantage (OL – CA) model:

Based on the above review of literature, the study postulates the following theoretical framework and hypotheses.

H1: Systems thinking (Sys T) has a positive relationship with (CA) competitive advantage.

H2: Strategic thinking (Str. T) has a positive relationship with (CA) competitive advantage.

H3: Strategic learning (SL) has a positive relationship with (CA) competitive advantage.

H4: Empowerment (Emp) has a positive relationship with (CA) competitive advantage.

H5: Knowledge and information flow (Knw & Inf) has a positive relationship with (CA) competitive advantage.

H6: Internality (Int) has a positive relationship with (CA) competitive advantage.

H7: Synergy (Syn) has a positive relationship with (CA) competitive advantage.

H8: Organizational learning (OL) has a positive relationship with (CA) competitive advantage.

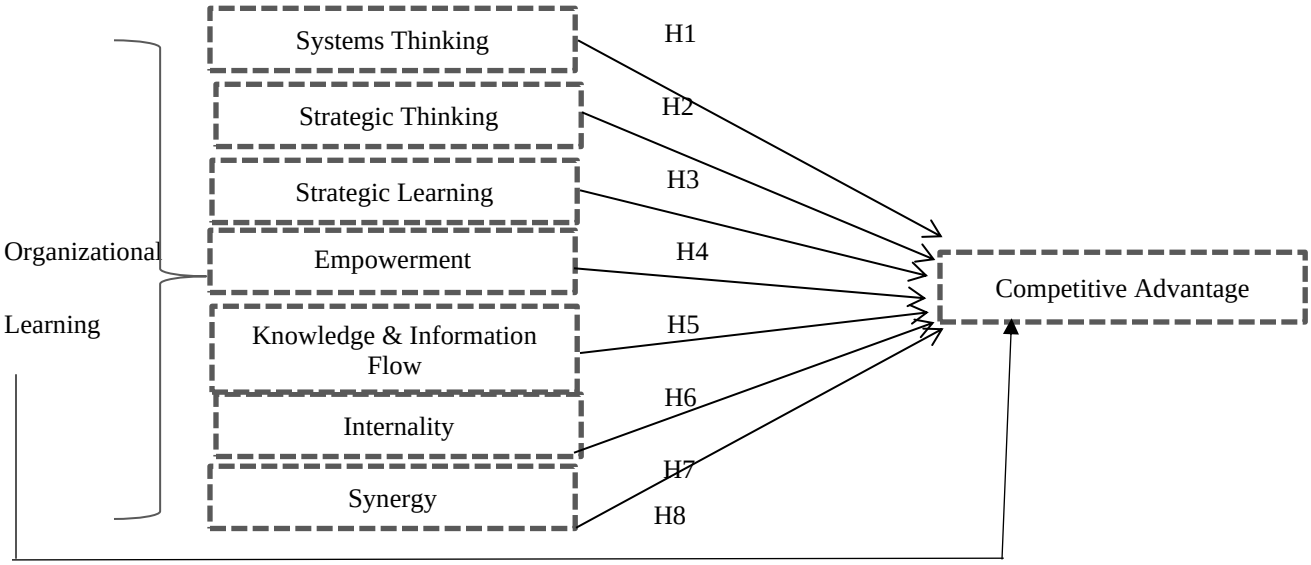

Figure1: Theoretical Framework

Research Methodology

Research design for this study is quantitative, analytical/ hypothesis testing and correlational. Valid questionnaire for organizational learning from Akhtar et.al is used as a research instrument which has already met the reliability and validity criterion including face validity, content validity and composite reliability. Time horizon is cross sectional and unit of analysis are individual from the academic sector of Pakistan. Constructs of organizational learning are analyzed with competitive advantage in the backdrop of OL-CA model 2013. Statistical standpoint is gathered using, reliability, pair – wise correlation, linear, multiple, and stepwise regression analysis in SPSS.

Population and sample

This research is conducted in the academic sector of Pakistan including universities located in Federal capital - Islamabad capital territory. List of recognized higher education institutes is extracted from the official website of (HEC) The state level Higher education

commission of Pakistan. There are total of 206 public and private universities and degree awarding institutes recognized by Higher Education Commission of Pakistan. Among 206 universities, 82 universities are in private sector whereas 124 are public sector universities all over Pakistan. The Federal Capital city Islamabad has 22 Universities, among which 7 universities are in the private sector and 15 universities are public sector. Staff members of these 22 universities are the population of the study.

The total population of teaching and managerial staff is estimated to be 2200 and as per Krejcie and Morgan table the calculated sample size is 327. A total of 350 questionnaires are floated to collect 23 questionnaires extra keeping in mind the degree of non-responsiveness in data collection. Out of 350 a total of 342 duly filled questionnaires are received back. All the questionnaires are made part of the study data analysis. Keeping this standardization in focus the sample size of this study is 342.

Data Analysis techniques

Internal consistency is measure by Cronbach alpha. Linear regression and multiple regression tests are applied on OL-CA model with standard and step- wise regression analysis. It is mandatory of apply the assumptions of regression before conducting a regression analysis on the model.

Internal Reliability

Internal consistency of constructs and overall instrument is measured by Cronbach alpha. Reliability scores are categorized as acceptable when the value is greater than 0.6 and good when the value is greater than 0.7. Table 1. represents reliability scores of used research instrument.

Table 1. Internal consistency scores

Sr. #	Constructs	Reliability Scores	No. of items
1	Systems Thinking	0.770	7
2.	Strategic Thinking	0.808	6
3.	Strategic Learning	0.853	8
4.	Empowerment	0.794	8
5.	Knowledge & Information Flow	0.855	8
6.	Internality	0.837	9
7.	Synergy	0.792	7
8.	Competitive Advantage	0.894	8

Overall reliability score	**0.898**

Reliability of the instrument is determined to 0.898 and reliability of individual constructs is measured to be greater than 0.7. Both individual and overall reliability values are good and within the acceptable threshold.

Discriminant validity

Discriminant validity test supports the existence and non- existence of collinearity among the variables. Pair-wise correlation analysis is conducted to measure discriminant validity. A value less than 0.85 shows the variables are measuring 2 different concepts and value greater than this supports the variables under study are overlapping on measuring a similar concept.

Table 2. Mean, Std. Dev and Pair-wise correlation (n = 342).

Sr #	Construct	Mean $\bar{x}$	S.D Σx	1	2	3	4	5	6	7	8
1.	**ST**	3.04	.998	1							
2.	**Stg. Thk.**	3.58	.801	0.359**	1						
3.	**SL**	3.25	.905	0.475**	0.583**	1					
4.	**Emp.**	3.73	.907	0.277**	0.471**	0.466**	1				
5.	**K&IF**	3.17	.909	0.439**	0.454**	0.579**	0.514**	1			
6.	**Int.**	3.47	.979	0.364**	0.413**	0.474**	0.425**	0.548**	1		
7.	**Synergy.**	3.52	.922	0.397**	0.337**	0.479**	0.362**	0.463**	0.554**	1	
8.	**CA.**	3.39	.798	0.641**	0.710**	0.705**	0.692**	0.785**	0.734**	0.716**	1

** Correlation is significant at 0.01 level (2-tailed)

Mean and standard deviation values are calculated to be closer to 3 and less than 1. This shows that there exists a general agreement among the responses of the respondents for all the 8 constructs of the study. Pair – wise correlation statistics for measuring any presence of collinearity among the constructs shows values < 0.85, the threshold value. Collinearity does not exist with the model and all constructs are different from each other and measure different concepts.

The study fulfilled the assumptions of regression including linearity, normality, homo and heteroscedasticity, autocorrelation and multicollinearity. All assumptions tests showed acceptable results and declared data fit for regression analysis.

Results and Discussion

Sample size of the study is 342 respondents. Sample descriptive statistics are shows sample gender distribution, consisting of 60.2 % males and 39.8% of female respondents. Age group distribution statistics, 80% of respondents falls within 20-40 years and the remaining 20% within the age bracket of 41 to 60 years. Functional positions, 29.5% of respondents

are management staff and the remaining 71.5 % are teaching staff of the institutes.

Descriptive statistics including mean, standard deviation, skewness and kurtosis value values are calculated. Table 3. Represents in the descriptive statistics of data of the study. The statistics below lies within the standard acceptable values. Mean value of the data is calculated to be closer to 3. Standard deviation is calculated to be less than 1. Similarly, skewness and kurtosis is also calculated to be between the values of +/- 3, the acceptable threshold values.

Table 3. Data Descriptive Statistics (n= 342):

Data Descriptive Statistics	
Mean	3.39
Standard Deviation	0.699
Skewness	-0.009
Kurtosis	-0.436

Regression Analysis

Hypotheses testing is done by conducting linear, multiple and step- wise regression analysis. The assumptions of regression are confirmed before conducting the regression analysis. Large sample size is observed to have standard normal distribution. A sample size greater than 100 respondents is assumed to observe normality and therefore does not disturb regression analysis. The sample size of this study is 342 therefore fulfilling the normality requirements. Linearity of data is confirmed by mean and standard deviation scores in table 3 and Collinearity test is conducted by pair-wise correlation.

Results of correlation analysis in Table 2. confirms no collinearity among the constructs.

Table 4. Linear Regression (n= 342):

Sr. #	**Construct**	**Hypothesis**	**R**	**R^2**	**Adj. R^2**	**Std. E**	**Sig**	**B**	**Summary**
1.	ST	H1	0.641	0.411	0.409	0.613	0.000**	0.468	Accepted
2.	Stg. Thk.	H2	0.710	0.504	0.503	0.563	0.000**	0.512	Accepted
3.	SL	H3	0.805	0.648	0.647	0.474	0.000**	0.598	Accepted
4.	Emp.	H4	0.692	0.478	0.477	0.577	0.000**	0.503	Accepted
5.	K&IF	H5	0.785	0.617	0.615	0.495	0.000**	0.570	Accepted
6.	Int.	H6	0.734	0.539	0.537	0.542	0.000**	0.537	Accepted

7.	Synergy.	H7	0.716	0.513	0.512	0.557	0.000**	0.524	Accepted
8.	OL	H8	0.707	0.500	0.473	0.450	0.000**	0.588	Accepted

**P – value is sig. at <0.01

Standard linear regression analysis is performed to observe the impact of dimensions of organizational learning (independent variable) and dependent variable competitive advantage. All dimensions showed significant results. All constructs are positively related to the competitive advantage denoted as predicting variable. Maximum variance in this variable is explained by strategic learning with R – value of 0.805, 0.598 value of Beta and significance value 0.000 at p value <0.01. Followed by knowledge and information flow, internality, synergy, strategic thinking, empowerment and systems thinking. Figure 2. Represents linear regression results.

All hypotheses and their relationship with the dependent variable are reflect in the figure 2.

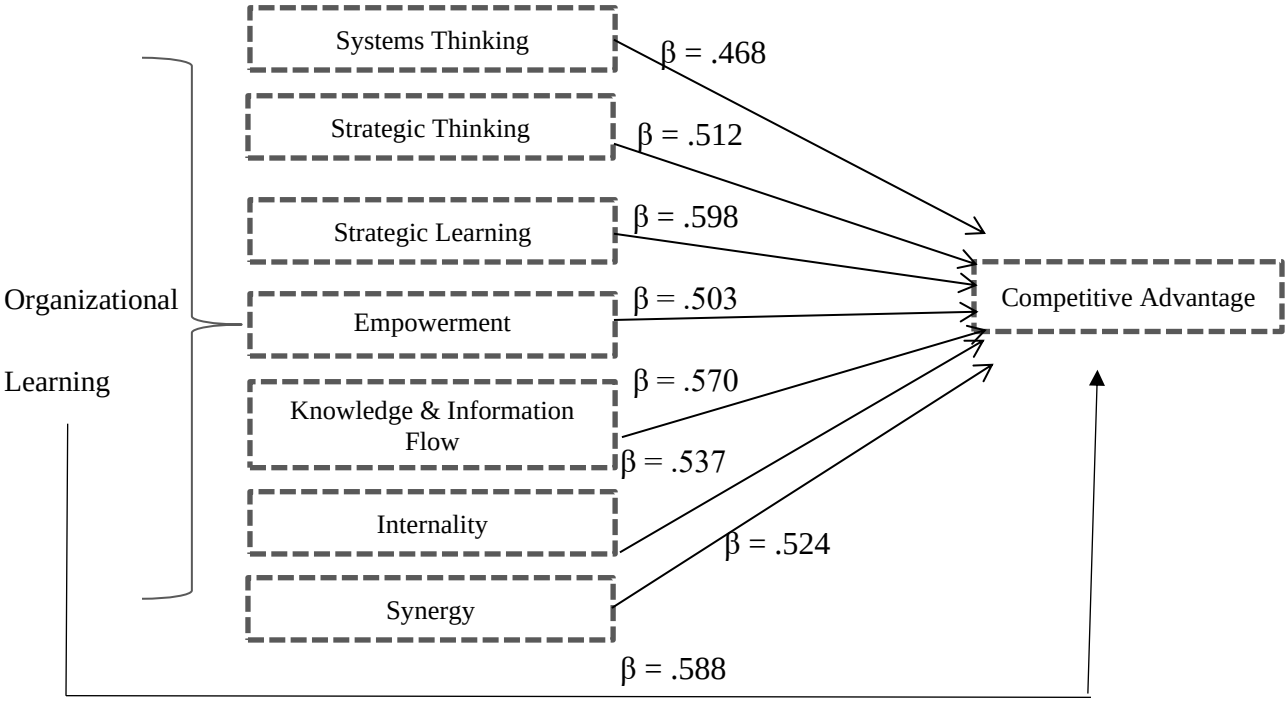

Figure2. Linear Regression Results

Regression equation is derived based upon the results from regression analysis. Equation 1. represents the regression equation of the model.

Competitive Advantage = $\beta 0 + \beta (i - n) + \varepsilon$ (1)

where i = 1, 2… n number of variables, β0 is the point of intercept, β is the slope of each

variable and ε is the error term.

Equation 2 elaborates the regression equation with respect to study model.

$$\mathbf{CA} = \beta 0 + \beta 1 + \beta 2 + \beta 3 + \beta 4 + \beta 5 + \beta 6 + \beta 7 + \varepsilon \quad (2)$$

Equation 3 represents the dimensions along with their respective slope values.

$$\mathbf{CA} = 0.608 + 0.468ST + 0.512StrTh + 0.598StLrng + 0.503Emp + 0.570KIF + 0.537Int + 0.524SYN + \varepsilon \quad (3)$$

Multiple regression analysis is conducted to measure the effect of organizational learning as a single variable on competitive advantage. Analysis on the results shows a R value of 0.707, with change in $R^2 = 0.500$, Beta value of 0.588, and significance value of 0.000. The aggregate effect of organizational learning on competitive advantage is calculated above and results confirms the positive and significant relationship between the variables of the study.

The next step in the analysis series is the step wise regression to extract the best fit combination variables. Stepwise multiple regression is significant in identifying the most relevant explanatory variables within the model that shows maximum variance in the dependent variable. Linear and multiple regression are conducted on the study model to measure the relationship among variables for all eight hypotheses of the study. Table 5. Represents step – wise regression analysis results.

Table 5. Step- wise Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.748[a]	.560	.558	.637
2	.797[b]	.636	.634	.581
3	.810[c]	.656	.653	.565
4	.814[d]	.663	.659	.560

a. Predictors: (Constant), Strategic Learning

b. Predictors: (Constant), Strategic Learning, Knowledge & Information Flow

c. Predictors: (Constant), Strategic Learning, Knowledge & Information Flow, Internality

d. Predictors: (Constant), Strategic Learning, Knowledge & Information Flow, Internality, Synergy

e. Dependent variable: Competitive advantage.

Table. 5 explains the four models best fit in explaining variance. It is observed that strategic learning alone shows 56% variance in competitive advantage, with F- statistics of 432.352, t- value of 20.793 and R value of 0.748. Strategic learning together with knowledge and informational flow show 63.6 % of variance with competitive advantage.

The collective analysis conducted using step – wise regression analysis highlighted that from all the dimensions of organizational learning, strategic learning has the maximum contribution towards competitive advantage followed by knowledge and information flow. Therefore, it is presented that organizations must pay focus on strategic learning and knowledge and information flow within the organization while designing organizational strategies for competitiveness and learning. Competitive advantage is regressed on organizational learning to observe the relationship. The results show a significant and positive relationship with t- value of 18.449. p is <0.000 at 0.01, R- value of 0.707. A 58.8% of variance in competitive advantage is explained by organizational learning. The results indicates that organizational learning significantly and positively effects on competitive advantage and accepting hypothesis.

Conclusion

The research investigated organizational learning and its impact on competitive advantage under the theoretical underpinning of Akhtar et.al OL –CA model. Empirical evidence supports the relationship of theoretical dimensions of organizational learning with competitive advantage in line with literature by Namada (2018), Camisón (2011). Linear, multiple, and stepwise regression tests are conducted to analyze the impact among variables. All seven dimensions of organizational learning found significant at p- value < 0.001, accepting H1 to H7. Results of the hypothesis supports OL-CA model by Akhter et, al even in the academic sector of Pakistan. Previous studies applying OL-CA model in petroleum, pharmaceutical and banking sector concluded the significant effect of organizational learning on competitive advantage and called for further research by application of OL-CA model on other sectors for generalizability of results. This instant study confirms the positive and significant effect of organizational learning in achieving competitive advantage in the academic sector of Pakistan, fulfilling the first two research questions of the study.

This study further conducted a step – wise regression test to fulfill the third objective and question of the study. The step- wise regression test highlighted four models that significantly predicted competitive advantage achievement through organizational learning. Strategic thinking has the maximum contribution towards competitive advantage followed by knowledge and information flow. Strategic learning alone explains 56.2% of variance in competitive advantage followed by the second most significant model of strategic learning and knowledge and information flow management together explained 63.6 % of variance in competitive advantage.

Theoretical and Practical Implications

The study presents the theoretical and practical implications by identifying the two

constructs of organization learning that is strategic learning and flow of knowledge and information within employees of the academic sector of Pakistan significantly influence in the achievement of competitive advantage. Academic sectors who want to excel in organizational learning and intelligence must put emphasis on strategic learning and the flow of knowledge both vertical and horizontal within the organizations. This organizational learning further has a direct impact on the achievement of competitive advantage. Deans, Head of departments and quality assurance departments must cater – inn strategic learning with the flow of knowledge and information to become competitive. By doing this a learning culture will originate, where employees are encouraged to conduct experiment and participate in decision-making. Training in the discipline of strategic learning and thinking is recommended, along with the focus of knowledge sharing in inter and intra teams. This evidence is supported from the academic sector of Pakistan.

Limitations and Future Directions

This research contributed to existing OL-CA model (2010) in the academic sector of Pakistan. The study has some limitations also. The scope of the study is limited to Islamabad capital territory only and the data is collected cross – sectionally (one point in time). This may give mis - leading results when generalized in other areas that have varied culture and norms because of causality. It is recommended for future researchers to include higher education institutes outside the capital territory and collect the data at multiple points in time. Furthermore, it is recommended to apply the same model in other industries that receives less attention in Pakistan research including police department, security agencies, pharmaceutical sector and medical institutions to pertain generalization of results and OL-CA model.

Annexure:

Organizational Learning	Competitive Advantage
Independent Variable - Dimensions ***Senge (2006, 1990)***	**Dependant Variable -Dimensions** ***Escring-Tena & Bou-Llusar (2005)***
Systems Thinking	Market Share
Strategic Thinking	Brand Image
Strategic Learning	Research and Development Innovation Budget
Empowerment	Economic Performance
Knowledge and Information Flow	Economic Cost
Internality	Reputation
Synergy	

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