

# **Impact of Holistic Approach of Managers' Systems Thinking Skills on Strategic Performance of Organization – A case of Banking Industry**

Ramesh Kumar<sup>1</sup>, Kamran Ahmed Soomro<sup>2</sup>, Muhammad Aqil<sup>3</sup>

## **Abstract:**

This study aims to examine the impact of managers' systems thinking skills on the strategic performance of an organization with moderating role of gender. Organizational strategic performance has always been a significant measurement of overall actions of all employees specifically managers. Banking managers are nowadays facing challenges to cope with increasing new systems and processes of change, complexity, interaction, flexibility and uncertainty being core areas of systems thinking skills. 218 middle-level managers of employees participated by filling the self-administrated questionnaires from the banking sectors of Pakistan. The results were generated by using Structural Equation Modeling (PLS-SEM) technique. The results showed that there is significant relationship of managers' system thinking skills on strategic performance of organization whereas gender does not moderate relationship between these variables. The study provides a model to top management and leaders that can help management to foster a positive attitude towards systems thinking skills. Further, the study also highlights that managers' systems thinking skills is most significant and companies have to ensure that all organizational processes, policies and systems must be efficient and effective to meet needs of the company's strategic performance. Implications and Avenue for future research are also suggested at the end of study.

**Keywords:** Flexibility, Complexity, Interaction, Uncertainty, Systems Thinking Skills, Strategic Performance

## **1. Introduction**

Systems thinking skills enable professionals to take a look at the favorable and unfavorable events as a progression of interconnected elements all in all. The situations in organizations are sometimes perplexing in nature because of cultural, social and political environment. Dissatisfactions in unpredictable outcomes can result from non-specialized reasons and can be tended by individual differences (Tampoe & Macmillan, 2000). The unpredictable idea of a business structure provokes

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<sup>1</sup> Research Scholar, Management Sciences, SZABIST, Karachi, rameshkumaranu2012@gmail.com

<sup>2</sup> Assistant Professor, Management Sciences, SZABIST Karachi, dr.kamran@szabist.edu.pk

<sup>3</sup> Assistant Professor, Management Sciences, SZABIST Karachi, Muhammad.aqil@szabist.edu.pk

specialists to accomplish compelling and selected choices leading to good decisions. Answers for complex systems structure should be concentrated more on fulfilling arrangements that will prompt successful and satisfactory results for the organization (Jaradat et al., 2017). Hence, to readily deal with systems thinking, an increasingly fundamental approach ought to be utilized (Keating et al., 2018). There are models that help in systems thinking skills; one of the paramount is the Iceberg Model. The Iceberg Model exemplify the various level of concept to a certain situation or organization, from the apparent events to underlying patterns of behaviors that generate, to the supporting structure and finally the mental models used by a company (Hagiwara et al., 2002). The Iceberg Model assists managers and companies to enhance their perception of a certain situation to look it within the perspective of the entire systems and not limited those to looking at just a single action or event. It is well designed to help managers to step back and recognize the different patterns of behaviors, the event which is caused due to it. The possible structures that might be reason to happen and finally, the model that is creating those structures.

Another important area of discussion is organizational performance which is very much dependent on systems thinking skills progressively turning into a specific design in the field of management plan (A. A. Jaaron & Backhouse, 2019a). Does the question arise that how managers' systems thinking skills have positive impact on organizational strategic performance? How gender with different thinking levels can significantly contribute to organization performance? Therefore, debate will be to confirm who is better male or female in making those systems thinking approaches effectively and efficiently. Second, the focal point of discussion is to check employees at the middle and senior level management of different banks play their important role because only authorized employees are the ones who are in charge of this responsibility and authority. The banking sector is one of the most significant business and financial areas in Pakistan. Because of globalization and modernization, just as expanding competition, Pakistan's banking sector faces numerous challenges, particularly given the contention and shakiness from many financial sectors. Also, work stress and increased working hours are a major cause of job dissatisfaction in the banking sector in Pakistan which can be countered by effective managers' systems thinking skills offering certain changes and programs to improve the satisfaction level among the employees (Shujat et al., 2011). Some common reasons for the success of a company are how good

organization in managers' systems thinking skills approaches by good management (Rahnama & Rahpeyma, 2015).

Highlighting the gaps in the literature review, the association of system thinking skills was analyzed by very limited studies and the topic has grown in recent years and several aspects to address the issue of managers' creativity remained unreciprocated. The current study is an attempt to examine how an organization can achieve its strategic performance with systems thinking skills of managers. This first study carried out in Karachi, Pakistan on the banking sector of Pakistan as no prior research on this specific topic has been done in this sector i-e banking industry of Karachi, Pakistan. Additionally, moderating impact of gender will reveal whether male or female has significant influence in achieving strategic results for organization.

As far as role of gender in achieving better strategic performance is concerned, there has been ongoing discussion on this point and few examinations been done (Schuh et al., 2014). This study will further enlighten the new thoughts that how gender may make significant difference in this process and organization should focus which gender can contribute better results. The two objectives of this research are 1) to examine the impact of managers' systems thinking skills on strategic performance of organizations and 2) to analyze impact of gender between managers' systems thinking skills and strategic performance of organizations.

## **2. Literature Review and Hypotheses Development**

From last couple of decades, systems thinking skills have been known to develop company towards successful phase and it is only possible when organizations should be in a position to respond to feedback from external as well as internal stakeholders on its strategic performance (A. A. Jaaron & Backhouse, 2018). These needs to be done at dreamed strategic performance level. It is as said by R. Ackoff (2008), the utilization of systems thinking in management tasks successfully draws in the company with such condition, especially managers, to improve existing strategies and inner capacities. One core area of systems thinking skills in making an inner move in management procedures is the improvement of systems for lessening asset utilization through overhauling management activities in the best way (Dougherty & Dunne, 2011). This decrease of assets utilization coming about because of systems thinking methodologies has been depicted (Kugland et al., 2012) as an important advance toward asset utilization from financial area, and hence

accomplishing a practical future. To put it simply, the predominant idea is contributions of systems thinking (for example, proper processing and versatile decisions) can make a plan that can respond to performance changes and can likewise diminish human exhaustion and proficiency in operations. In this manner, it very well may be said that systems thinking as well as each issue that is significant by design contends that systems thinking a type of method which has highlighted the kind of effect remarkably and straightforwardly and at a similar, it happens with a blend of instinct and innovativeness (Mintzberg, 1994b).

## **2.1 Systems thinking skills, constructs and strategic performance**

Mancia et al. (2007) asserted that a perspective of systems is unseemly for the adaptability of many things to accept, as it depends on systems working with breaking points essentially cooperation between all elements of systems. Additionally, R. L. Ackoff (1999) clarified that overseeing systems parts without understanding their collaborations makes the systems weak and confront unintended results. In light of these interconnections, company's actuate relies on bigger and littler inward systems to make performance better, for example, better distribution of human and financial assets and increasingly viable help for strategic issues (Winn & Pogutz, 2013). This interconnection between elements is a basic element of systems thinking skills of management activities and its configuration (Gharajedaghi, 2006).

The systems thinking skills is to get data about the future in vibrant, intricate, and indistinct conditions that influence companies legitimately by taking initiatives from an earlier time. Effective companies need to integrate the learning they have gained and the systems they have created to adapt to future outcomes (Liedtka, 1998). Along these lines, systems thinking will settle on decisions for managers in imperative options and will furnish those with a dream of their future circumstance (Mintzberg, 1994a). Cook (2010) expressed that organizational performance is very much dependent on manager's way of thinking and systems based on that have appeared when taking the systems overall. The good systems thinking skills plays an important role towards strategic performance of an organization. Researches also suggest that systems thinking theory is a strategy that attempts to dispose of vulnerabilities just as it takes care of key issues identified with systems thinking, creativity, and vision (Bonn, 2005).

Of specific significance, there is the conduct of working environment that may drive transformational change of human assets' utilization strategies and creation of management. This

has huge positive effects on presentation of company's vision and objectives (Badham & King, 2019). What's more, managers are backing to the sustainable generation of managements who encourages employees to rapidly adjust to systems elements to actualize fundamental required changes (Wong et al., 2011). Regardless of this reality, many studies researching the effect of systems thinking on strategic performance of companies, thinking about different components of supportability was emphasized (Starik & Kanashiro, 2013). Moreover, connecting the restraints of systems thinking skills is a way to deal with the sustainable performance for the most part centered at the theoretical level without giving experimental help to these connections (Gao et al., 2012). As per system thinking theory, organizational strategic performance is more versatile in which all elements/constructs of system thinking skills constantly pursue better outcomes on regular basis (Missimer et al., 2017). The details and impact of constructs are mentioned as below:

**Change:** Prefer taking multiple perspectives into consideration, focus more on external forces, like long range plans, keep options open, and most importantly work best in a changing environment with comfort of rapidly shifting systems and situations.

**Complexity:** Expect uncertainty, work on multi-dimensional problems, prefer a working solution, and explore the surrounding environment.

**Flexibility:** Accommodating to change, like a flexible plan, open to new thoughts, and motivated by routine. Accommodation of change or modifications in systems or approach is required.

**Interaction:** Inclined to interactions, follow a general plan, work within a team, and interested less in identifiable cause-effect relationships. It focuses on interconnectedness in coordination and communication among multiple systems and people.

**Uncertainty:** React to situations as they occur, focus on the whole, comfortable with uncertainty, believe the work environment can be difficult to control and enjoy subjectivity and nontechnical problems.

*H1: Change has positive impact on strategic performance of organization*

*H2: Complexity has positive impact on strategic performance of organization*

*H3: Flexibility has positive impact on strategic performance of organization*

*H4: Interaction has positive impact on strategic performance of organization*

*H5: Uncertainty has positive impact on strategic performance of organization*

*H6: Systems thinking skills have significant impact on strategic performance of organization*

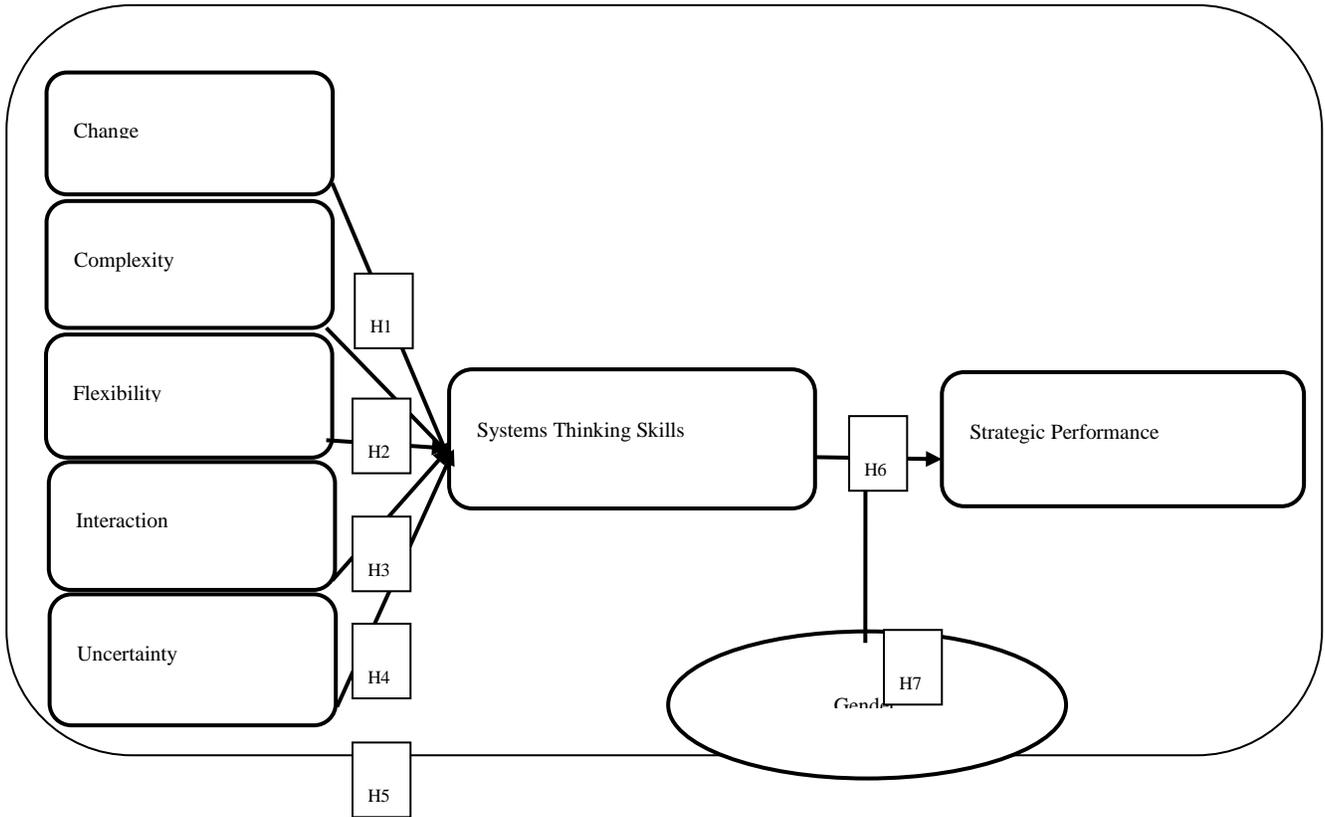
## **2.2 Systems thinking skills and gender**

Under general rules, men are commonly more likely than women to get rewards. This shows up in managers' recommendations for reward, advancement, and bonus, and happens despite equivalent performance appraisal. Regardless, this predisposition against women doesn't develop with less emphasis on individual legitimacy (Castilla & Benard, 2010). However, legitimacy plans are normal and reviews uncover around 90% of firms utilize this system (Heneman & Werner, 2005). It lies in accidentally activating gender orientation generalizations and inclinations, specifically when stressing merit. Rules that underscore individual legitimacy and gender orientation balance increment trust in one's capacity to settle on certain choices (Ellemers, 2014). Along these lines, they deceive employees into depending on their stereotypic desires without seeing that what they do. At the point when employees by one way or another are persuaded they are impartial, they are less disposed to screen the accuracy of their impressions (Moore & Tenbrunsel, 2014). In this manner, the very conviction that individual authenticity is the main significant paradigm—and can be judged dispassionately makes individuals less careful for inclination. Management at that point neglects to stifle decisions that may lead them to incline toward male over female applicants in contracting or advancement (Derks et al., 2011). Systems thinking as one explanation behind the under image of female pioneers is along these lines not so much new. However, by far most of essential examinations on this topic were already done somewhere in the 1970s and were somewhat hypothetical and explorative.

*H7: Gender moderates relationship between systems thinking skills and strategic performance of organization*

## **2.3 Theoretical Foundation**

The model in Figure 1 shows the conceptual framework of this study. Five constructs of System Thinking Skills (H6), which is the independent variable, have a significant impact on Strategic Performance of banks. Additionally, all constructs Change (H1), Complexity (H2), Flexibility (H3), Interaction (H4) and Uncertainty (H5) have a positive impact on strategic performance. Gender is the moderator in the relationship between system thinking skills and strategic performance of organization (H7).



**Figure 1 Conceptual Framework**

### 3. Research Methodology

This study requires testing of the different hypotheses, therefore; a quantitative approach is more suitable. The cross-sectional study was conducted in Karachi, Pakistan and responses from manager level employees of different banks were collected for data analysis. Total of 250 close-ended questionnaires were distributed after the approval of concern supervisors. After one week a request reminder was also sent to those who did not submit the questionnaires and finally, 218 questionnaires were received. The non-probability sample technique was used. The final responses were analyzed using Smart PLS software.

### 3.1 Measurement of Variables

A synopsis of the various scales to measure the different constructs is as below:

Change was adopted by asking the bank respondents to give their rating on a four-item scale adopted from (Nagahi et al., 2019), with scales ranging from 1 (strongly disagree) to 5 (strongly agree). The scales have been previously applied to measure impact of change. An example of a question asked on the scale is “*I prefer to take time and think from many perspectives before going for any change.*”

Complexity was measured on four-item scale adopted from (Nagahi et al., 2019), by asking the bank respondents to give their opinion with scales ranging from 1 to 5. The scales have also been previously applied to measure impact of complexity. An example of a question asked in the scale is “*Exploring in difficult situations is my interest and motivating others to become part of it.*”

Flexibility was adopted by asking the bank employees to give their rating on a four-item scale adopted from (Nagahi et al., 2019), with scales ranging from 1 to 5. The scales have also been previously used to measure impact of flexibility. An example of a question asked in the scale is “*I am flexible working with different employees of different departments at organization*”

Interaction was measured on four-item scale adopted from (Nagahi et al., 2019), by asking the bank employees to give their opinion with scales ranging from 1 to 5. The scales have also been previously used to measure impact of interaction. An example of a question asked in the scale is “*Working in team is my foremost priority.*”

Participants were asked to rate the extent to which managers is involved in a series of behaviors related to varying aspects of uncertainty (Nagahi et al., 2019). Scales ranging from 1 to 5 was taken. The scales have also been previously used to measure impact of uncertainty. An example of a question asked in the scale is “*I always keep me and team calm cool when certain uncertainty situations arise*”

Strategic Performance was measured on four-item scale, by asking the bank employees to give their opinion with scales ranging from 1 to 5. In particular, the factors are achieving strategic objectives, expansion and diversification of business, awareness of organizational future goals and alignment with policies and vision (Jaradat et al., 2017). The scales have also been previously used

to measure impact of organization performance. An example of a question asked on the scale is “*My organization has been successful in achieving its strategic objectives.*”

#### **4. Data Analysis and Results**

The data were collected with support of close-ended questionnaires, coding and organization of data was properly done to have accurate results. The observations derived are presented in two divisions (Chin, 1998). The first part focuses on the reliability and validity of the scales because it is important to check the validity of the measurement models before beginning to analyze the hypothesis (Bollen & Busse, 2001). The second part focuses on the assessment of the structural equation model.

##### **4.1 Profile Analysis**

A review of the profiles given in Table 1 below highlights the demographic information that the majority of the respondents were male (53.7%). Age group highlights the fact that the majority of the respondents fell in the age group of 25 to 34 years (59.5%).

***Table 1 Profile analysis***

Categories		Percent
Gender	Male	53.7%
	Female	46.3%
Age	Under 24	3.5%
	25-34	59.5%
	35-44	32.5%
	Above 44	4.5%

##### **4.2 Factor Loadings, Composite Reliability and Convergent Validity**

The validity of the measurement model refers to the fact that whether the markers of a variable measure what they are due to measuring whereas reliability provides internal consistency of scale. Measurement model takes into account loadings, convergent validity, composite reliability and Discriminant validity. Outer Loadings measures if all the items are significantly loaded on their respective constructs and should be 0.7 or higher, with a range of 0.6 to 0.7 being acceptable. Table

2 provides the outer loadings of all the 23 constructs used in the study. Other than CH1, CL2, FL4, IT4 and UN1 all the indicators have a loading of 0.70 and above. All the 23 variables have a loading of over 0.5 which is acceptable.

Composite reliability is also calculated that shows the internal stability and uniformity of each construct and assesses the overall reliability of all the markers of the same construct. Chi & Pan (2012) have proposed the composite reliability value of 0.7 to be acceptable. Table 2 highlights that the composite reliability of all the constructs used in this study is above 0.7. For average variance extracted (AVE), Fornell and Larcker (1981) suggest 0.5 as acceptable for AVE. Table 2 shows the AVE values for all the constructs used in this study are in the acceptable range.

**Table 2 Factor Loadings, Composite Reliability, and Convergent Validity**

Construct	Item	Loadings	Composite Reliability	AVE
Change	CH1	0.686	0.835	0.559
	CH2	0.763		
	CH3	0.793		
	CH4	0.744		
Complexity	CL2	0.593	0.764	0.523
	CL3	0.784		
	CL4	0.776		
Flexibility	FL1	0.775	0.832	0.557
	FL2	0.842		
	FL3	0.738		
	FL4	0.609		
Interaction	IT1	0.792	0.833	0.558
	IT2	0.818		
	IT3	0.750		
	IT4	0.611		
Uncertainty	UN1	0.612	0.816	0.528
	UN2	0.775		
	UN3	0.799		
	UN4	0.705		
Strategic Performance	SP1	0.800	0.874	0.635
	SP2	0.821		
	SP3	0.800		

Discriminant Validity, observes how easily two dissimilar constructs can be differentiated. It is measured through cross loading and Fornell-Larcker Test. Another measure of Discriminant validity is the Fornell-Larcker Criterion. Ab Hamid et al. (2017) explains that this method compares the square root of the average variance extracted (AVE) with co-relation of other constructs. Table III shows the result of this measure for this study and are acceptable.

**Table 3 Fornell- Larcker Criterion**

	CH	CL	FL	IT	SP	UN
CH	<b>0.748</b>					
CL	0.482	<b>0.723</b>				
FL	0.443	0.475	<b>0.746</b>			
IT	0.642	0.461	0.488	<b>0.747</b>		
SP	0.507	0.489	0.387	0.417	<b>0.797</b>	
UN	0.511	0.558	0.486	0.556	0.470	<b>0.726</b>

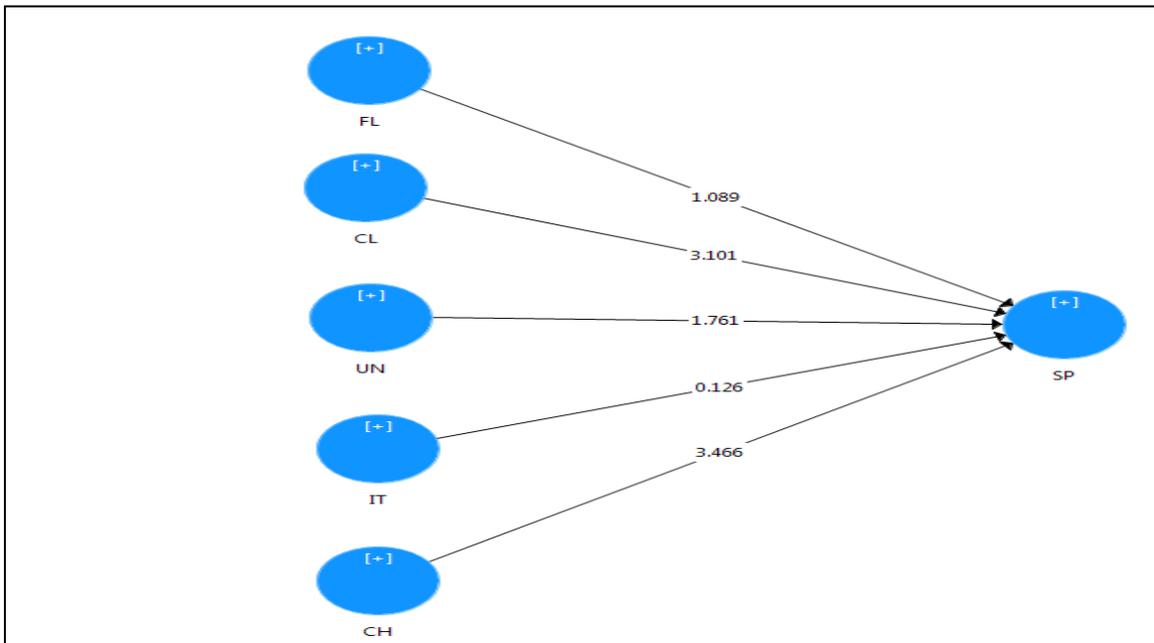
### 4.3 Testing the Direct and Indirect Relationships

Table 4 and Figure 2 depict the relationships between the independent variable (STS), the dependent variables (SP).

**Table 4 Relation between Independent and Dependent Variables**

Hypothesis	Relationship	OS	SD	T Values	P Values	Decision
H1	CH -> SP	0.276	0.080	3.466	0.000	Supported
H2	CL -> SP	0.226	0.073	3.101	0.002	Supported
H3	FL -> SP	0.073	0.067	1.089	0.277	Not Supported
H4	IT -> SP	0.010	0.083	0.126	0.900	Not Supported
H5	UN -> SP	0.161	0.091	1.761	0.079	Not Supported
H6	STS -> SP	0.613	0.045	13.647	0.000	Supported

Based on the above results, we find that change (H1) and complexity (H2) has a positive impact on strategic performance (t-value >1.96, p<0.05). However, it does not have a positive impact on flexibility (H3), interaction (H4) and uncertainty (H5) (t-value<0.196, p>0.05). On taking all constructs together that is systems thinking skills has a positive impact on strategic performance (H6) (0.000, p<0.05). It can also be deduced from the above that there exists a direct relationship between the independent and dependent variables.



**Figure 2 – Constructs and Dependent Variables**

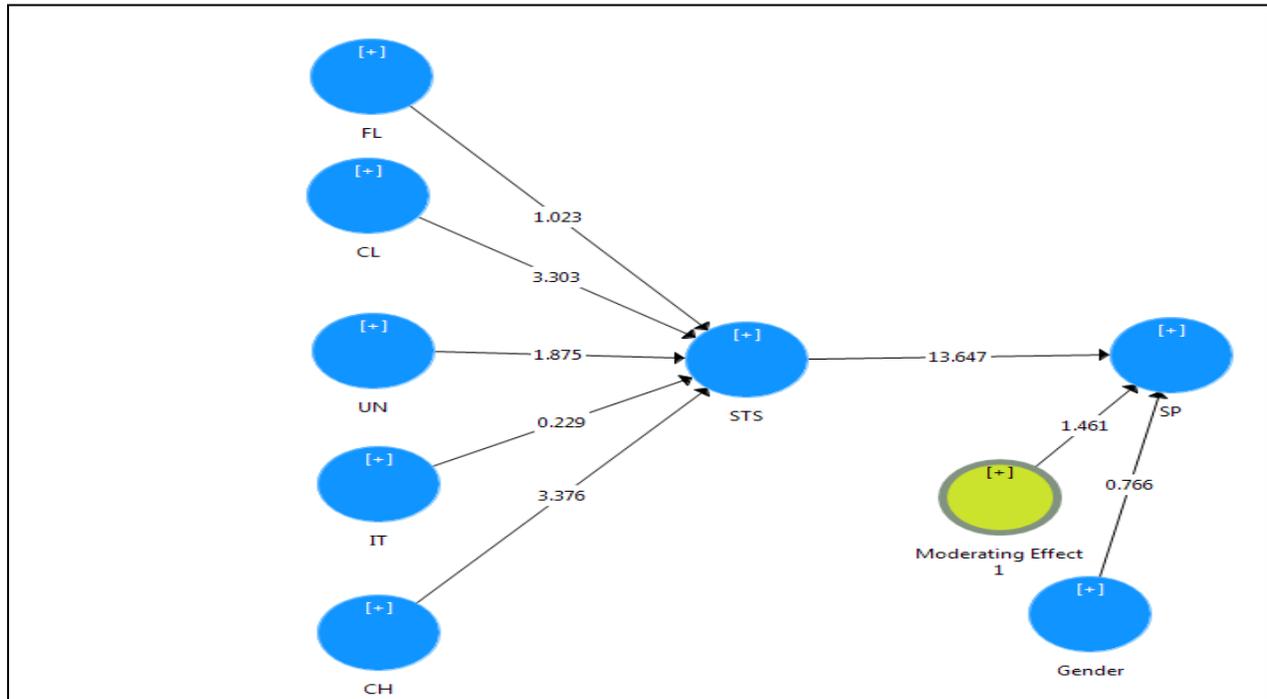
#### 4.4 Impact of Moderating Variable

Table 5 and Figure 3 show the interaction between systems thinking skills and strategic performance. Gender is the moderating variable here and based on the data, it is evident that the hypothesis gender acts as a moderator in the relation of between systems thinking skills with strategic performance is not supported.

**Table 5 Impact of Moderating Variable**

Hypothesis	Relationship	OS	SD	T Value	P Values	Decision
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H7	Moderating Effect of Gender on -> SP	-0.066	0.045	1.461	0.144	Not Supported
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**Figure 3- The Impact of Moderating Variable**

### 5. Discussion

This study aimed at examining relationship between managers’ systems thinking skills and organization strategic performance with moderating role of gender in banking industry of Karachi, Pakistan. System thinking skills enables managers and top management to decide on holistic level as a progression of interconnected outcomes all in all. Systems thinking is considered as intellectual knowledge and fitness – a capacity to think or examine things that prompts superior performance for organization (Boyatzis & Goleman, 2007). Failures and successes in the systems is of eye-catching elements from different perspectives that management has to take into account and can be treated by cautious attention and actions of managers. Solutions to complex systems

issues are nowadays of focal point on fulfilling arrangements; that will prompt the desirable and satisfactory outcomes for companies leading to good strategic performance (Jaradat et al., 2017).

Recently, systems thinking skills is of high importance by top management because it influences overall performance of company at starting level of managers. After all, they are the one who are involved in day-to-day operations. The principles of systems thinking help in designing new processes and functions which improve organization performance. Results indicated that systems thinking skills has significant impact on overall organization strategic performance and hypothesis is accepted with T-value greater than 1.96 and P-values less than 0.05. Furthermore, five different hypotheses were tested to check relationship with each construct of system thinking skills on strategic performance, out of those two constructs (change and complexity) has direct impact whereas remaining three constructs (flexibility, interaction and uncertainty) showed weak relationship on strategic performance. Further, it is seen that organizational strategic performance has always been a significant measurement on overall actions of all employees. Stephens in her book stated that positive or negative inputs of different gender thinking skills at all times influence the performance independently thus policies, trends and behaviors are in discussion to measure the performance and outcome accordingly. Therefore, gender as moderator in this study was taken to see whether strategic performance will be affected if manager is male or female but based on results it showed that either working manager is of any gender it has not exaggerated on perceived organization performance thus hypothesis is rejected T value is lower than 1.96 and p-value is greater than 0.05. However, there exists a significant relationship between systems thinking skills and strategic performance but moderator does not throw in any significant moderating effect.

## **6. Conclusion**

The current study also suggests that banks firmly identified with the reflection, ability and thinking skills. Thinking incorporates control of processes, arrangement of ideas and methods for critical thinking, scanning for reasons and deciding. Systems thinking skills is fundamental for each bank manager in his/her daily work, with a sight to the future results as it merits thinking about whether more precautions ought to be put if events are good and should try to make those best in the future. Supposing if events are negative then banks managers have to revise their patterns, trends and thinking behaviors along with mindsets. One of the approaches to improve the nature of

consequences of an action is to upgrade the nature of thinking like how you think, how you act, the manner by which you are (Fukuda et al., 1998). Lastly, this research has been made in giving overall insight to organizations of Pakistan that the world has changed drastically and new ways of thinking processes are in force by Eastern and European countries so it's time to think differently if organizations want to have a competitive edge in market. Systems thinking skill is one of the most important steps towards success of companies and accomplishment of its mission and vision.

## **7. Research Implications**

This research would certainly help entrepreneurs, policymakers and decision-makers of different companies and industries. It will act as a valuable source for management of organizations who are involved in creating and making their companies competitive in market and always look forward to achieve high level of strategic performance. The importance of managers' systems thinking skills without any doubt leads to betterment of organization and every employee under his/her supervision should know the overall objectives of company (McGurk et al., 2007). This research further highlights the role of managerial level leaders in the entire interaction. Bank managers can have important insight from this research to understand how five components/constructs leading to managers' system thinking skills impact on the whole strategic performance of a bank. Competition among the banking industry in Pakistan has been on threshold level due to quick technological innovation. State bank of Pakistan also imposes new rules and regulations on banking industry. These transformations especially in Karachi has changed way of thinking skills and managers are more active towards their core responsibilities. In this competitive world, managers are forced to tackle much greater diversity of problems (R. L. Ackoff, 1999). They have to ensure that all organizational processes, policies and systems are efficient and effective enough to meet needs of company's strategic performance. Changes in managers' thinking level require them to respond positively and eliminate discrimination which hindrances overall mechanism and organizations' activities.

Additionally, the current study of this research not only helps managers in their professional life but personal level as well. A person at every stage of career must be aware of when and how to take decisions that will make them victorious in life. For example, scales of questions which were filled by respondents on change, complexity, interaction, flexibility and

uncertainly would realize them where they stand and whether they can be good assets for bank after evaluating their strengths and weakness.

## **8. Limitations and Future Research Directions**

The current study has been limited to the only banking sector of Pakistan. As whole population was not approachable due to limited time frame, therefore, a sample of 250 respondents was targeted but only 218 employees from banking sector within Karachi took their time to fill up the questionnaire. A significant limitation in this study is the emergence of Halo Error due to the responses from the participants based on judgments rather than facts (Speklé & Widener, 2018). This has affected the linkage amongst the variables and can profess to be counterfeit results of general positive responses. This halo error may be seen in the responses collected in which a lower Cronbach's alpha values of 0.6 in one construct Complexity. Another important limitation could be the perception of the respondents, which is of major concern. The current research is cross-sectional and is limited to four months only; hence it is not possible to cover all aspects related to the area. Therefore, longitudinal research on the same area is suggested. Further, it is recommended to adopt other moderating variables as gender does not moderate the relationship between managers' system thinking skills on strategic performance. The mediating variables can also be taken to check the relationship between systems thinking skills and strategic performance.

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