

## Relationship Between Transformational Leadership and Organizational Learning Capability: Mediating Role of Knowledge Management and Organizational Culture



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**Abstract:** *The study attempts to examine the effect of transformational leadership (TL) on organizational learning capability (OLC) and also tries to investigate the mediating roles of knowledge management (KM) and organizational culture. A survey was conducted to collect data from a sample of employees employed in software houses in the capital of Pakistan (Islamabad) using a predetermined questionnaire. Simple linear regression was used for direct relationships and Process Macro model-4 was used to test indirect relationships. The study findings make it obvious that TL significantly affects OLC in the software industry. In addition, KM and organizational culture significantly mediate the relationship between TL and OLC. This study broadens the theory of ability-motivation-opportunity (AMO) by mentioning KM and organizational culture as key factors in enhancing an organization's learning capability. The study presented helpful insights for the organization's top management to ensure knowledge management activities and to maintain a harmonious environment for enhancing learning capabilities.*

**Key Words:** Ability-motivation-opportunity Theory, Organizational Learning Capability, Knowledge Management, Organizational Culture, Transformational Leadership

### Introduction

In the South Asian region, Software enterprises have faced flourishing growth by enhancing technical capabilities and business knowledge to achieve an edge over rival competitors (Khan et al., 2010). In a developing country like Pakistan, the software industry has a 30% growth rate of the total revenue of the country, subsequently generating 4.5 billion dollars in revenue each year, which is growing every year and significantly contributes to the country's GDP (P@SHA, 2008). Being a major contributor to the economy, the software industry is continuously striving for advanced technological capabilities and high-skilled manpower to endure in a competitive market. Most

of the software houses face the problem of retaining a skilled workforce which is the dilemma of the entire Globe. A skilled workforce offers creativity, knowledge, and new capabilities and adds value for achieving organizational goals and outcomes, hence software enterprises must treat skilled human resources as priceless assets and human capital, and strive to enhance their learning capabilities (Pregnotato et al., 2017).

In a knowledge-based market, like software enterprises, Organizational learning is the key to developing capacity in manpower to add value and bring innovation (Amy, 2008). Knowledge development and transforming that knowledge into

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Organizational learning is a big challenge to compete (Amy, 2008). Rapid globalization and advancements in technology require firms to keep pace with the changing environment by improving the learning of individuals and learning of entire organizations (Pasamar, et al., 2019). In the modern age of computing, firms are leaning towards creating an environment of new ideas generation and knowledge sharing for developing employees' learning abilities (Vashdi et al., 2019). Employees of software houses are now mandated to learn continuously not only for survival but also to hold a competitive position in the market (Imran et al., 2016).

Organizational learning capability (OLC) refers to a process of acquiring, processing and transforming ideas and knowledge among organizational members that significantly improve the organizational performance and outcomes (Obeidat et al., 2018). The study on hand is supported by the ability-motivation-opportunity (AMO) theory, proposing that employee development in terms of knowledge and learning capabilities is directed towards organizational performance and success (Jerez-Gómez et al., 2017). AMO theory explains the point of interest in the current study by aiming at organizational learning capabilities through magnifying transformational leadership behaviour, knowledge management and organizational culture.

Current literature on organizational learning has identified various antecedents and predecessors including organizational innovation, leadership styles and knowledge management (Muhidin et al., 2022). Xie (2018) acknowledged that transformational leadership is an important element that determines and facilitates OLC because it's the leader's role which help create a learning environment, broaden innovative thinking, and support employees for positive outcomes. Being a participative leadership style, transformational leaders, help and empower human resources to expand knowledge and gain new capabilities (Mai et al., 2022; Imran et al., 2016). Transformational leaders enthuse their followers and subordinates to enhance intellectual and learning capabilities and achieve the strategic objectives of the firm (Mai et al., 2022; Tipu et al., 2012).

Extant literature on organizational learning capability has mentioned the antecedents of OLC; however empirical research on leadership role in developing learning capabilities is yet to be explored (Sharan et al., 2023; Pasamar et al., 2019). Supermane

(2019) found that practising knowledge management along with transformational leadership as a catalyst helps in the potential development of organizational members. Kazmi et al. (2021) proposed a direction for future studies, to study knowledge management and organizational culture as intervening variables in the relationship of transformational leadership on OLC. To fill the research gap in the literature of OLC, this study pursues three objectives for the research findings. The first objective is to examine the effect of transformational leadership on OLC. The second objective attempts to examine the mediating effect of knowledge management in the relationship of transformational leadership on OLC. The third objective tries to understand the mediating effect of organizational culture on the relationship between transformational leadership and OLC.

## Theory and Hypothesis Development

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The framework of this study combines theories and models based on relationships between the constructs of transformational leadership, knowledge management, organizational culture and OLC. The model and theories of this study comprised AMO theory, the theory of transformational leadership proposed by (Bass, 1987), and the model of knowledge management by Alavi and Leidner (2001).

The AMO theory guides the study by intending to develop learning capabilities through enhancing leadership behaviours and knowledge management. The transformational leadership theory contributes to the study by relating the potential development process of organizational members to total organizational development (Rao, 2014). The knowledge management model sets the processes which combine cognitive and social knowledge.

## Organizational Learning Capability

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Organizational learning capability (OLC) is a concept, that focuses on the systems and processes of organizations, designed to improve an organization's capabilities by monitoring, acquiring, disseminating and sharing knowledge among members of the organization (Vashdi et al., 2019). OLC is a capability, which enables an organization to attain new knowledge, transform and share that knowledge for effective performance and success (Svetlik et al., 2007). Organizational theorists and researchers found that enhanced learning capability supports new idea experimentation, enables employees to tackle critical

problems and empowers them to make major decisions in uncertain situations. Amitay et al. (2005) found that developed learning capabilities lead to progressive organizational performance, hence organizations try their best to manage the flow of knowledge from their internal and external environments.

The research study on hand is supported and guided by AMO theory that focuses on learning behaviour which spurs the desired performances of an organization. AMO theory supports this study in many ways. 'Ability' relates to transformational leadership in the model of this study, which helps in developing abilities (Jerez-Gómez et al., 2017). *Motivation* supports Knowledge management in the model of this study, which stimulates employee efforts towards acquiring new knowledge. Finally, *opportunity* relates to the learning capabilities of organizations in the model of this study, which helps perform creative roles in jobs and hierarchies of organizations (McDermott et al., 2013). AMO theory posits a view that organizations should incorporate transformational leadership in top-level management, providing its employees, with opportunities to learn and exercise creative ideas (Vashdi et al., 2019). The framework of this research study also postulates that employees' learning capabilities and behaviours are strengthened by positive reinforcements from their leaders, effective knowledge management and positive organizational culture.

Numerous research studies have highlighted that OLC is mainly dependent on individual employees because they are the main players who monitor, acquire and share knowledge. Literature on organizational learning has mentioned five factors that elaborate this argument and highlight individual employee's role in improving overall organizational learning (Lopez-Cabrales et al., 2011; Svetlik et al., 2007). First, through experimentation, they bring new ideas for solving problems (Svetlik et al., 2007). Second, through interaction and dialogue, they discuss upcoming issues and share their experiential knowledge with other members (Rana & Chopra, 2016). Third, by exercising risk-taking ability they utilize resources to adopt new technologies and launch new projects in highly uncertain environments (Obeidat et al., 2018). Fourth, by involving in participative decision making they find and choose the best solutions or alternatives based on consensus (Jamil & Obeidat, 2019). Lastly, by interacting with stakeholders in the external environment they predict

and interpret environmental changes. These five factors explain the key role of individual employees in managing knowledge and integrating ideas to enhance organizational learning (Lopez-Cabrales et al., 2011).

Literature on organizational learning capabilities identified leadership styles, organizational culture and innovation as significant predictors of learning capabilities (Imran et al., 2016). Considering the positive impacts of transformational leadership on organizational outcomes, this study examines transformational leadership as a potential predictor of organizational learning capability. Transformational leaders strengthen organizational learning capability and help employees link their goals with their interests.

### **Transformational Leadership and Organizational Learning Capability**

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Contemporary organizations consider leadership as a strategic requisite for the development of a firm's capability and for survival in a competitive market. Transformational leaders act as facilitators in their organizations by providing learning and development opportunities to their subordinates (Bass and Riggio, 2006). Burns (1978) described transformational leadership as interactional relationships between leaders and followers, sharing mutual goals and moral support to followers are communicated by leaders. Transformational leaders provide a shared vision and encourage employees to utilize resources of knowledge and enhance their intellectual abilities. The shared vision among employees helps them to understand the policies and strategic objectives of an organization (Hassan et al., 2019).

Research studies theorized transformational leadership as a significant antecedent of OLC (Van et al., 2018; Alsabbagh & Khalil, 2016). Transformational leadership style is comprised of four distinct dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. These dimensions of transformational leadership encourage the learning environment in organizations and develop the competencies of organizational members to get better economic value (Sharan et al., 2023). By 'idealized influence' leaders enthuse the workforce to think creatively, get updated knowledge and try out attained knowledge with new ideas (Trung et al., 2014). Through 'inspirational motivation' they encourage the workforce by communicating potential challenges and enabling them to cope with these challenges optimistically (Amy,

2008). Through 'intellectual stimulation' they enable employees to utilize knowledge resources and involve them in decision-making for learning. Through 'individual consideration' they continuously become aware of the learning needs of employees (Vashdi et al., 2019). On the basis of the above discussions following hypothesis is articulated.

### Hypothesis 1

Transformational leadership has a significant positive effect on OLC.

### Knowledge Management as Mediator between Transformational Leadership and OLC

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In the contemporary informational world, knowledge management plays a vital role in creating, renewing, sharing and applying knowledge in the operations of organizations to improve competences and capabilities (Barrett & Sexton, 2005). Knowledge management is an ongoing process of managing knowledge to anticipate potential needs, utilize existing knowledge, and get hold of new opportunities (Carrillo et al., 2004). Researchers viewed knowledge management from different viewpoints and classified knowledge management into different dimensions, comprising knowledge acquisition, knowledge conversion, knowledge dissemination, and knowledge application (Muhidin et al., 2022; Cui et al., 2005).

Garcia-Morales (2008) and colleagues, found that all the dimensions of transformational leadership significantly affect knowledge management. The model role of a transformational leader guides the shared vision of goals and articulates ways to achieve these goals through knowledge management and learning (Nguyen et al., 2021; Senge et al., 1994). Su et al. (2004) argued that firms cannot develop organizational learning capabilities without knowledge management and found that organizational learning capability is significantly predicted by knowledge management. Although knowledge management plays a vital role in influencing organizational outcomes, its impact through transformational leadership has strong consequences (Chaithanapat et al., 2022; Supermane, 2019). Summing up the above discussions formulate the second hypothesis of the research study on hand.

### Hypothesis 2

Knowledge management mediates the relationship

between transformational leadership and OLC.

### Organizational Culture as a Mediator between Transformational Leadership and OLC

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Organizational culture is comprised of mutual beliefs and shared values of organizational members that have a strong influence over the attitudes and behaviours of the entire workforce (Jaskyte & Dressler, 2004). Organizational culture is key for keeping pace with rapid globalization, and it is impossible to conceive creative activities without an effective organizational culture (Valencia et al., 2010).

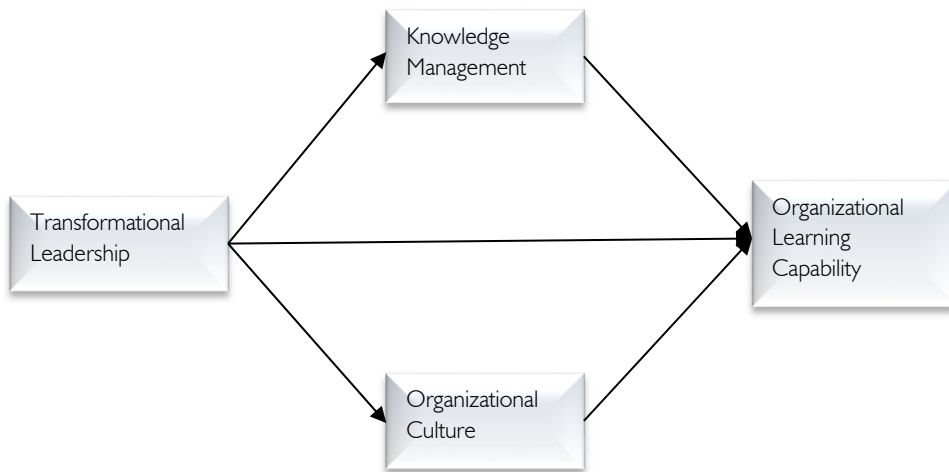
According to Denison's Model (2000), organizational culture is classified into four indicating traits: involvement, consistency, adaptability, and mission. Involvement occurs when employees consider themselves as part of the organization's body and feel that their role in decision-making is linked with their job and organizational goals (Denison et al., 2006). Consistency takes place when leaders and followers reach a mutual agreement to coordinate and integrate activities (Denison et al., 2006). Adaptability is accommodated by internal integration and external compliance with changing environments (Denison et al., 2006). Organizations with clear missions have a firm understanding of strategic goals and organizational objectives (Denison et al., 2006).

Any change in the system and structure of an organization requires changes in the culture of the organization (Lau & Ngo, 2004). In general, leadership initiates changes in organizations and determines the strategies and culture for bringing changes in an organization (Rowold & Rohmann, 2009; Koranteng et al., 2022). Transformational leadership practised by top management contribute to an overall environment of learning and innovation (Wibowo et al., 2023). Summing up the aforementioned discussions, the following hypothesis is formulated.

### Hypothesis 3

Organizational Culture mediates the relationship between transformational leadership and OLC.

## Research Model



The research model of the study is developed from previous theoretical work. In this model, transformational leadership is the independent variable, organizational learning capability is the dependent variable, and knowledge management and organizational culture are mediating variables.

## Research Design

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Software companies attain a competitive advantage by developing business knowledge and creative skills. Software companies in Pakistan strive to improve technological capabilities to keep pace with dynamic market needs. Companies focus on skilled workforce because they help in adding value and achieving organizational objectives (Pregolato et al., 2017). Excessive competition in the software industry compels companies to continuously improve the learning capabilities of their employees. Keeping in view such competition in industry, Software companies in Islamabad, Pakistan were selected as the study population. The main reasons for selecting Islamabad are: it is the capital of the country has the largest number of registered software houses and is a business hub for the entire country's economy.

A survey of closed-ended questionnaires was used to collect primary data for this quantitative research approach. The multi-wave data were collected from employees working in software houses in the Capital.

## Sampling Technique

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Due to the large population, data was collected through a multi-stage sampling using both Cluster and random sampling in the sampling design. The first stage comprised a listing of registered software houses in Islamabad obtained from P@SHA. According to P@SHA, registered companies operating in Islamabad were 192. Grounded on systematic random sampling, half of the software houses were selected for data collection ( $n=96$ ). The second stage comprised selecting four random employees from each software house ( $96 \times 4 = 384$ ). Data collection was carried out through personal visits and an online LinkedIn portal.

The survey was carried out in two stages with a time lag of 1 month. The confidentiality of respondents was won through our commitment and promise. Two surveys were designed for two stages of the survey. The first survey was designed to get employees' demographic data, transformational leadership and knowledge management. The second survey was designed to get reports regarding organizational culture and organizational learning capability. In the first survey, we received 322 (83.85% response rate) completely filled questionnaires. In the second survey, we got 301 (78.38% response rate) completely filled reports.

## Research Measures

The questionnaire comprised 62 closed-ended items ranked on a five-point Likert scale was used to collect data from the respondents. A 12-item multi-factor leadership scale (MLQ-5x), developed by Bass & Avolio (1997), was used to measure the construct of transformational leadership. A 26-item KM-scale developed by Alavi and Leidner (2001), was used to measure knowledge management. A 12-item scale developed by Preskill (1990), was used to measure organizational culture. A 16-item scale developed by Svetlik (2007), was used to measure organizational learning capability.

## Data analysis

The hypothesis relationship in this study was analyzed through SPSS using the regression and Process approach of Preacher and Hayes (2004). Simple linear regression was used for directly investigating the direct effect of the independent variable on the dependent variable (H1), whereas Process Macro Model 4 by

Preacher and Hayes (2004) was applied for mediating analysis (H2, H3). Various scholars claim that the Process Macro approach developed by Preacher and Hayes (2004) is comparatively easy and carries some more procedural benefits than Baron and Kenny's (1986) model.

## Descriptive Analysis

Respondents have been categorized on the basis of age, gender and experience. Gender-wise, 280 (93 %) males and 21(.07%) females have responded to our questionnaire, which shows that male respondents are comparatively more in number than female respondents. Age-wise, maximum responses have been received from a category of employees which range between 17-28 years with 65.7% of the total respondents. Similarly, on the basis of experience, maximum responses have been collected from employees who range from 1-10 years with 64.8% of the total sample.

Table I

*Demographics of respondents*

Demographics	Scale	Frequency	Percentage	Cumulative Percent
Gender	Male	280	93	93
	Female	21	.07	100.0
	Total	301	100.0	
Age	17-28	198	65.7	65.7
	29-40	80	26.6	92.3
	41 & Above	23	7.7	100
	Total	301	100.0	
Experience	1-10	195	64.8	64.8
	11-20	90	29.9	94.7
	21 & Above	16	5.3	100
	Total	301	100.0	100.0

### Reliability Analysis

The value of Cronbach's has been used to measure the internal consistency of the variables which range between 0 and 1. According to Nunnally (1978), a scale is considered reliable, if the value of Cronbach's is found equal to or more than 0.7.

In this study, the Alpha value of all variables is greater than 0.7 i.e. Transformational Leadership (.88), Organizational Learning (.81), Knowledge Management (.87) and Organizational Culture (.84) which indicates that all measurement variables are reliable.

Table 2

Variables	Items	Alpha score	Comments
Transformational Leadership	26	.88	Reliable
Organizational Learning	16	.81	Reliable
Knowledge Management	16	.87	Reliable
Organizational Culture	12	.84	Reliable

### Hypotheses testing: Hypothesis I

Simple linear regression was used to test Hypothesis I through SPSS. The coefficient path demonstrates that transformational leadership significantly predicts

organizational learning capabilities ( $\beta = .369$ ,  $P = 0.000$ ), explaining that a high level of transformational leadership will raise the learning capabilities of employees in organizations.

Table 3

Regression analysis: Coefficients<sup>a</sup>

Model	Unstandardized Coefficients		Standardized Coefficients	
	B	Std. Error	Beta	t
(Constant)	2.259	.100		22.698.000
TL	.369	.030	.582	12.407.000

R: .58R-square: .34, F-value: 153.94, Sig-value: .000

Dependent Variable: OLC

### Mediation Analysis

This study assessed the mediating effects of knowledge management and Organizational Culture on the relationship between transformational leadership and OLC. The findings revealed a significant indirect effect of transformational leadership on OLC through the mediation of knowledge management, supporting H2

( $b=0.202$ ,  $t=4.068$ ). The study also found a significant indirect effect of transformational leadership on OLC through the mediation of organizational culture, supporting H3 ( $b= 0.169$ ,  $t= 4.362$ ). Hence, both knowledge management and Organizational Culture, fully mediated the relationship between Transformational Leadership and OLC. A summary of mediating effects is presented in the Table below.

Table 4

Total Effect	Direct Effect	Relationship	Indirect Effect	Confidence Interval		Conclusion
				LLCI	ULCI	
0.369 (0.000)	-0.-002 (0.948)	H2: TL->KM-> OLC	0.202	0.154	0.256	Full Mediation

Total Effect	Direct Effect	Relationship	Indirect Effect	Confidence Interval	Conclusion
		H3: TL->OrgCulture->OLC	0.169	0.126 0.215	Full Mediation

## Conclusion

This study has focused on three main objectives. In the first objective, the study examined the effect of transformational leadership on OLC. The second and third objectives examined the mediating effects of knowledge management and organizational culture between transformational leadership and OLC.

In literature, various studies have indeed contributed significantly to promoting organizational learning capability (Munyoro et al., 2016; Obschonka et al., 2016; Williams and Nadin, 2012). However, these research studies are mostly conducted in developed markets while emerging markets have rarely been studied in this context. Moreover, the mediating roles of knowledge management and organizational culture are also missing in prior literature. This study has attempted to investigate the indirect effects of Transformational Leadership on Organizational Learning capability through mediating roles of knowledge management and Organizational Culture. Additionally, current research is carried out in an emerging economy which can provide better insights into the current literature.

The findings of the study on hand, show that transformational leadership has a significant effect on OLC in the software industry of Islamabad, Pakistan. The findings support the results of prior studies which claimed that leaders/managers/owners should consider their employees as valuable assets and motivate them toward learning and development by aligning the firm's long-term strategic vision with their capabilities (Pasamar et al., 2019; Jyoti et al., 2017; Imran et al., 2016). The significant and positive role of transformational leadership in creating organizational learning environment has been focused in several developed countries such as Spain (Pasamar et al., 2019), Korea (Le & Lei, 2017), China (Liao et al., 2017) and USA (Xie, 2019).

Many scholars have investigated the relationship between transformational leadership and OLC in Western developed countries (Xie, 2018; Amy, 2008). Transformational leaders have the capability to inspire the workforce to learn more skills and knowledge for the success and development of the firms (Vashdi et al., 2019; Van der Voet, 2014).

Various scholars have declared transformational leadership as a critical variable for the learning capabilities of employees in organizations (Sharan et al., 2023). Jamil and Obeidat (2018), established a positive association of transformational leadership and OLC. According to them, transformational leadership is a paramount source of inspiration for the workforce to gain new knowledge and strengthen their abilities through stimulating cognitive patterns (Van, 2014). Le and Lei (2017) found that transformational leaders inspire their followers by widening their horizons and providing opportunities to try new experiments by exercising creativity and innovation.

The findings of this study also indicated that knowledge management has a significant mediating effect on the relationship between Transformational Leadership and OLC. This result is consistent with previous findings in the literature (Kılıç & Uludağ, 2021; Imran, et al., 2016; Nabi, et al., 2022; Nampulsuksan & Wonglorsaichon, 2020). Imran et al., 2016 established a mediation effect of knowledge management between transformational leadership and OLC with partial mediation. Similarly, Nabi, et al., (2022) pointed out that the leaders' transformational abilities enhance the Knowledge-sharing capability of employees which ultimately improves radical innovation. In line with this, Kılıç & Uludağ (2021) conducted a study in northern Cyprus and confirmed the mediating influence of knowledge management between transformational leadership and the overall performance of organizations. Moreover, Nampulsuksan & Wonglorsaichon (2020) used Knowledge management capabilities as a mediating variable in their study and found that Transformational leadership affects Knowledge management which further leads toward firm performance.

The findings of the study also indicated that organizational culture significantly mediates the relationship between Transformational Leadership and OLC. These findings are consistent with prior findings in the literature (Koranteng et al., 2022) which claim that organizational culture is a critical mediating factor affecting leadership styles and OLC association. They also concluded that the more transformational leadership style will be followed; the more

organizational culture will be created which ultimately will lead toward higher level learning in the organization. Jung et al. (2003) pointed out that transformational leadership, directly and indirectly, influence organizational innovative behaviour through organizational culture. They affirm that transformational leaders have a key role in developing vision, setting organizational goals and developing a learning culture aligned with OLC. These results clearly supported AMO theory providing a guiding framework whereby the leaders or managers apply various kinds of practices to enhance employees' potential to learn, transfer and share knowledge in their institute (Vashdi et al., 2019).

### **Recommendations**

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On the basis of the study findings, this study recommends that companies must develop their top-managers' TL attributes to handle and solve all management issues in the organization. Managers should also enhance TL practices, by applying multiple strategies and setting their priorities like starting knowledge-sharing sessions and events to motivate employees to share knowledge, and experience and discuss better ways of making a knowledgeable and friendly organizational culture.

Moreover, keeping in view the employee's engagement with the internet, it will be much better to provide them with online and offline knowledge-sharing environments through various social groups, where leaders may welcome them to share their opinions, and ideas with their colleagues. This practice will lead to overall learning at the organizational level

and ultimately will create new knowledge and value creation to make better the firm competitive position.

### **Limitations and Future Directions**

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The present research has several limitations that are worthy of future research and can possibly guide and direct scholars for further investigation. First, the study was limited to the geographical location of only one city i.e. the capital of Pakistan. So, in future, scholars can conduct a nationwide study to get better insights. Second, the study was carried out in software houses. Thus, the same research model can be tested in different cultural and business contexts like the banking sector, education sector, NGOs etc. to compare and validate the findings in a broader spectrum. Third, this study has used a single method i.e. Survey for data collection. So, multiple/mixed methods can be used to collect data in future studies. Fourth, current research has used Knowledge Management & Organizational Culture as mediating variables between TL and organizational learning capability. So, these variables can also be used as moderating variables in further studies. The same model can also be used by changing/replacing some variables of the present study such as the inclusion of innovative work behaviour or Organizational Learning Capability as a mediating variable. Similarly, Knowledge Management & Organizational Culture can also be used as dependent variables. Finally, this research has concentrated on transformational leadership only. In fact, there are other types of leadership as well like integrative leadership or credible leadership which need to be examined in relation to Knowledge Management Capability and Organizational Culture.

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