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Entrepreneurial Leadership in IT SMEs: Scale Validation and Outcomes Assessment

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Abstract

Purpose: This empirical paper attempted to validate the entrepreneurial leadership (EL) scale of Musa and Fontana (2014) in the Pakistani context. Then, it examined the link of EL with employees' Innovative Work Behavior (IWB) during four phases of the innovation process:(Idea exploration, generation, realization and implementation), and in turn with organizational performance (OP).

Design/methodology/approach: Using a questionnaire, two separate samples were utilized in this study, 139 and 304 respondents. The first was used to validate the EL scale and the second was used to test the model of EL leading to IWB and resulting in OP. Data were examined using Structural Equation Modelling in two steps (i) CFA and (ii) SEM respectively.

Findings: The 24-item and four-dimensional Entrepreneurial leadership scale created by Musa and Fontana's (2014), was revised into a 16-item and three-dimensional EL scale, in the Pakistani context. The results revealed that EL has a positive effect on IWB, which in turn has a positive effect on OP. However, the results show that the effect of EL on IWB and the effect of IWB on OP will change according to each innovation process phase.

Research implications: This study establishes an empirical relationship between four sub-dimensions of EL with IWB during each phase of the innovation process.

Practical implications: Investigating the relation between EL dimensions and IWB throughout the four phases of the innovation process, will help managers in the IT SME sector to understand

which dimension of EL should be highlighted in each phase of the innovation process to advance employees' IWB.

Originality/value: This study contributes to the literature by validating EL Scale in the context of Pakistan. This study is among the pioneer that link between the EL as a multi-dimensional measure with employees' IWB during various phases of the innovation process.

Track: Human Resource Management (Primary) and Leadership Track

Word Count: 5000 Words excluding tables and references

INTRODUCTION

In emerging economies, the sector of small- and medium-sized enterprises (SMEs) is considered as an evolving sector since 1990s, after the market policy reforms (Kabir, Naqshbandi, Abubakar & Said, 2023). The emerging economies have rapidly developed a business environment involving a sizable portion of poor consumers, along with middle and rich consumers (Xin, Khan, Dagar & Qian, 2023; Luo & Zhang, 2016). SMEs in these economies play an important role in poverty alleviation by providing job opportunities and significantly contributing to the country's GDP (Xin et al., 2023, Agyapong, 2010; Bouazza, 2015; Syed, Ahmadani, Shaikh, & Shaikh, 2012). Nevertheless, SMEs' success greatly depends upon the way they manage their competitive advantage, as approximately half of them fail within their initial five years and the ones succeeding convert themselves into larger firms (Abubakar & Said, 2023; Arasti, Zandi, & Bahmani, 2014; Bressler, 2012).

For the last two decades, the business environment has been very dynamic, uncertain, competitive, and complex. Such an environment makes it difficult for small businesses to establish or to enhance their potential and develop a competitive advantage. Therefore, the most important factor for such organizations is leadership that can guide the organization towards innovative behavior and increased performance to sustain in such an environment (Islam, Zahra, Rehman & Jamil, 2022; Dalberg, 2011; O'Regan et al., 2006). The SMEs, focusing on entrepreneurial behaviors, will not only explore new opportunities, but also motivate their employees to exhibit innovative behavior (Hlioui, Gabssi & Omri, 2022; Renko, 2012).

For SMEs to fit in the dynamics of the recent competitive environment, a need for a conceptualization of a relatively new aspect of leadership arises (Farida, Hermanto, Paulus & Leylasari, 2022, McGrath and Macmillan, 2000). There is a need to combine leadership with entrepreneurial management and orientation and calling it entrepreneurial leadership. It is described as the leader's ability to handle vulnerable market situations with an entrepreneurial approach by utilizing the available opportunities earlier than others thus having a competitive advantage for the organization (Musa & Fontana, 2014).

Entrepreneurial leadership (EL) is described as a distinctive approach that makes diverse talented employees work innovatively and create wonders especially in a small business sector (Fontana & Musa, 2017). Entrepreneurial leaders maintain the competitive edge of the organization through creativity and being extra receptive to environmental changes. They do this by focusing on employee development and enhancing the innovative process by indulging them in innovative behaviors. These behaviors are the key to organizational performance and competitive success (Sipahi Dongul & Artantas, 2022; Farida et al., 2022 Abstein and Spieth, 2014; Fontana and Musa, 2017; Janssen, 2000).

Organizations struggle to achieve superior performance and for that they adopt several models. One of the most effective models is the use of resource-based theory that propose that organizations are basically distinctive and struggle to accumulate unique and rare resources and skills that help them gain competitive advantage (Barney, 1991). The theory stresses on the importance of having unique resources to gain complete advantage that results in greater performance (Barney, 1986). The resources that organization can have can be assets, capabilities, organizational processes, organization attributes, information, and knowledge. The capabilities can be individual, group and corporate (Hooley, Broderick & Moller, 1998). The current research classifies the resources as individual capabilities such as leadership style and innovative behavior that led to performance.

Entrepreneurial leadership can be an effective strategy for reducing disruptive sustainability because it encourages the development of innovative, sustainable business practices that minimize negative impacts on the environment and society while maximizing their organization's profitability. Entrepreneurial leaders are often driven by a desire to create positive change and are willing to take risks to achieve their objectives (Pauceanu, Rabie, Moustafa & Jiroveanu, 2021). They are also adaptable and able to pivot swiftly in response to changing circumstances. Such leaders identify new opportunities for sustainable innovation and create value for their stakeholders (Sawaeen & Ali, 2020). They also inspire and motivate their subordinates to embrace sustainability as a core value and integrate it into their daily routines (Pauceanu et al., 2021).

This conceptualization of this amazing leadership style called entrepreneurial leadership is still in its infancy. The research exploring this concept have diverse views and are still investigating the effect of entrepreneurial leadership on a variety of outcomes (Farida et al., 2022; Islam et al., 2022; Abualoush, Obeidat, Abusweilema, Khasawneh, 2022; Bagheriand Akbari, 2017; Koryak

et al., 2015; Newman, Neesham, Manville, & Tse, 2018; Imran & Aldass, 2020). There is lack of empirical research investigating the impact of entrepreneurial leadership (EL) on employee innovative work behavior (IWB) and having its effect on organizational performance (OP) (Abualoush et al., 2022; Bagheri & Akbari, 2017; Fontana & Musa, 2017). Thus, this concept and this specific relationship are required to be explored in detail specifically in the SME sector. The current research is an attempt to fill this gap and explore the path for increased organizational performance (OP). It examines the role played by different dimensions of entrepreneurial leadership (EL) on different phases of innovative work behavior (IWB) that can ultimately have a positive effect on organization's performance (OP). This study would be among the pioneer studies validating the measure of EL scale (initially conceptualized first by Musa and Fontana in 2014) in the emerging economy and the Asian context. Moreover, it is also unique and contributes to the existing theory in terms of investigating the effect of sub-dimensions of EL on multi-phases of IWB and then closing the loop by finding its effect on organizational performance.

The Context

Pakistan is one of the countries that are listed within emerging economies (Saccone, 2017) and small to medium-size enterprises have an important role in the country's success. The reason behind that is that Pakistan has a collectivist culture as relationships play an important role in their lives. The people of Pakistan are dependent upon their close relationships and rely on their social connections more than the government or financial institutions (Evason, 2016).

The country has seen many investments in small and medium-size organizations in the IT sector since 2002. The country is hosting multinational organizations collaborating with local software houses that have contributed to the economy. However, sustainability is still an issue due to lack of motivation and direction to work in innovative ways and it has received very little empirical attention (Jehan & Kapadia, 2007). The current research will focus on this gap from the context as well as knowledge and contribute to explore the path of achieving organizational performance with the help of EL and innovative behavior which has received less attention.

The IT industry of Pakistan is of the most flourishing industries in recent years. Industry is the home of high skilled and educated professionals. Most of the industry is comprised of software houses (Shahzad, Xiu and Shahbaz, 2017). Thus, making it one of the most important industries and a profitable sector in country's economy and highlighting a need to examine its characteristics

(Mathew, 2007). It is comprised of the firms ranging from small to medium size with qualified IT professionals having a lot of innovative potentials (Kranz, Hanelt, & Kolbe, 2016).

For an emerging economy like Pakistan, the software sector plays an important role as it has its contribution to the success of other sectors of the economy such as banking, manufacturing, and service. The Pakistan software exchange board (PSEB) has registered more than 10,000 tech companies by 31st December 2020 out of them 2860 were Software houses and BPO centers. The sector has seen sustained growth and PSEB is starting many initiatives to grow it further (Pakistan's IT Industry Overview, 2020). A Pakistani software engineer Mir Zafar Ali has received three Oscar awards due to his contribution to *frozen*, *Life of Pi* and *the golden compass*. Many skilled workers like him are contributing to country's technological and economic development (TechJuice, 2015).

LITERATURE REVIEW

Entrepreneurial Leadership (EL)

The modern dynamic business environment is full of opportunities and to explore them, a unique leadership style is required that differs from the traditional ones. This scenario gained the attention of the researchers, and they established a few links between leadership and entrepreneurship to identify a style having an entrepreneurial spirit (Sipahi et al., 2022; Fatoki, 2021; Coglisier and Brigham, 2004; Perren, 2000). A relatively new paradigm of leadership by the name of EL was created through an overlap of these two concepts (Fatoki, 2021; Coglisier and Brigham, 2004). EL is defined as the presence of a suitable entrepreneurial approach with the capabilities of handling vulnerable circumstances and taking a lead in utilizing opportunities to bring maximum advantage to the organization (McGrath and Macmillan, 2000). It includes both process and procedure of leadership and entrepreneurship (Li, Makhdoom & Asim, 2020; Ireland et al., 2003; Yukl, 2008). EL is described as an important conceptual development as its base is multi-subject. Its basic concepts are drawn from entrepreneurial orientation, entrepreneurship management and leadership (Chen, 2007; Mapunda, 2007; Musa and Fontana, 2017; Newman et al., 2018; Renko, El Tarabishy, Carsrud, and Brannback, 2015).

Entrepreneurial leaders are capable of influencing others to work for a common goal by motivating them to perform creatively and be more responsive to change. They create a shared vision about the potential opportunities then communicate effectively to discover and utilize them. This process leads towards developing a competitive advantage for the organizations. EL is conceptualized by Fontana and Musa (2017) as a multi-dimension scale having four dimensions; i) Strategic dimension, ii) Communicative dimension, iii) Motivational dimension, and iv) Personal and/or organizational dimension.

The focus of Strategic dimension of EL is mainly on thinking strategically which may give leader a sense of direction for the organization. Moreover, this dimension takes into consideration the available resources, business model and adopted strategy to set up of all-inclusive system for the organization. (Musa & Fontana, 2014). Second, the communicative dimension deals with the process of having a shared vision throughout the organization. Furthermore, it is comprised of the ability of leader to deal with conflict, influence others and create knowledge (Cogliser & Brigham, 2004; Musa & Fontana, 2014). Third, the motivational dimension focuses on the process of motivation, understanding organizational needs and maintains entrepreneurial spirit among the followers (Fontana & Musa, 2017).

The last dimension is personal and/or organizational. It deals with the characteristic of stability, creativeness, discipline, and fair resource allocation. Stability means a person being stable emotionally, having organizational excitement, and devotion to activities of entrepreneurial nature. Creativity here means having creative expertise needed for resource management. Discipline in the organization is about constructing a bridge to connect entrepreneurship and strategic management. Fair resource allocation is coordinating the skills and resources needed within an organization to have an improved system of information management. These four dimensions of EL encourage the innovative process resulting in the IWB of the individuals in the organization (Fontana and Musa, 2017).

Innovative Work Behavior (IWB)

In the current competitiveness era, where economic scenarios are changing dynamically, employees became the center of attention (Afsar & Umrani, 2020). Innovation is only possible with the cooperation of individual workers because organizational performance is the product of innovation grounded on individuals' (Rafique, Hou, Chudhery, Waheed, Zia & Chan, 2022).

Innovative behaviors of employees are deemed essential as they become the basis of success and sustainable survival (Zhang, Liu, & Yang, 2021). In terms of organizational effectiveness such behaviors are also considered very important (Wang, Dong, Ye, & Feng, 2023; Abstein et al., 2014; Janssen, 2000). To adopt innovative behaviors, employees need to be ready to involve in a change process, accept an uncertain path, and accept newness (Montes et al., 2004). Moreover, how development process of creativity in ideas, product, and practice is facilitated also constitute innovative behavior (Messmann, 2022; Farr and Ford, 1990).

IWB can be portrayed as a self-initiated activity intended towards improving current circumstances or having new alternatives (Nguyen, Nguyen, Truong, Nguyen, & Nguyen, 2023; Abstein and Spieth, 2014). Such activity is carried out by the enthusiastic and competent employees and those are the ones indulging in such behaviors (Parker et al., 2006). In the past, the concepts of IWB and creativity have been used interchangeably even though there is a difference between the two (Atwater & Carmeli, 2009; Anderson, Potočník and Zhou, 2014; Scott and Bruce, 1994). Creativity is one component of IWB that deals with development of new and valuable ideas and concepts (Abstein and Spieth, 2014; West, 2002). However, a broader perspective is taken by IWB as it includes not only idea creation but a realization of the idea and productions of innovative outputs (Afsar et al., 2014).

Conceptualization of IWB is a multi-phase construct that has four phases namely: i) idea exploration, ii) idea generation, iii) idea realization (also called championing) and iv) idea implementation (De Jong and Den Hartog, 2008; Perry-Smith & Mannucci, 2017). The component of creativity is covered in the first two phases: idea exploration and generation while the innovative output is created in the last two phases: idea realization and implementation (De Jong and Den Hartog, 2008).

Idea exploration is an effort of identifying new opportunities or to improve prevailing circumstances (De Jong and Den Hartog, 2010). Idea Generation is based on the previous phase, and it deals with the development of the earlier identified ideas. A solution is created at this phase (De Jong and Den Hartog, 2008). Idea realization deals with making the identified idea a reality by promoting the idea by bringing relevant persons together (Van de Ven, 1986; Veenendaal and Bondarouk, 2015); the identification and mobilization of supportive influential allies is a key to success in this phase. Idea Implementation phase converts the idea into a function or a course of

action; this process requires teamwork to embed this new idea into the regular work routine (De Jong and Den Hartog, 2010; Veenendaal and Bondarouk, 2015).

Organizational Performance (OP)

Organizations play a vital role in the growth and development of any economy (Ullah, Hameed & Mahmood, 2023; Grossman and Helpman, 1993). Organizational performance is an important factor as it is linked with better life quality (Aremu and Adeyemi, 2011). This variable gained the attention of management researchers as it is essential for maintaining a position in the current competitive market (Richards et al., 2009). Both academicians and practitioners have considered it as a critical dependent variable in management research. Despite its importance, there is still no consensus on how it is defined and every different researcher holds different perspectives (Kirby, 2005). However, this variable is contextual. It can take different perspectives in different contexts. Value creation is the main essence of an organization's performance. A generic view of organizational performance describes it as a relationship between organizational resources including human and capital and their utilization to achieve a common goal (Barney, 2001).

Hypotheses Development

For organization's long-term survival, the employees must be motivated to behave innovatively. Innovative behavior is one of the important factors that contributes to organization's competitive edge. Engaging and motivating their employees to exhibit innovative behavior is nowadays a continuous struggle for the organizations.

Recently the EL emerged as a relatively new model of leadership that influences several outcomes of organizational and individual level (Koryak et al., 2015; Newman et al., 2018). Innovation and creativity are considered as one important factor in this regards (Chen, 2007). It is a process that includes the identification of new opportunities and taking entrepreneurial initiatives for a better future. EL is explained as a process aimed at value creation by combining available resources with innovation to exploit an opportunity (Darling et al., 2007).

Past literature proposes EL as a powerful style that enhances IWB of the followers by promoting competitiveness and thus resulting in organizational growth (Li, Makhdoom, and Asim, 2020; Bagheri and Akbari, 2017; Kim et al., 2017; Leitch, et.al., 2013; Renko et. al, 2015). These leaders build the atmosphere to encourage employees to develop new ideas and provide support to

face the challenges while implementing them (Bagheri and Akbari, 2017; Kim et al., 2017; Li, Makhdoom, and Asim, 2020; Renko et al., 2015). The important traits of EL evident though its dimensions contain stimulate employee's innovation process (Fontana and Musa, 2017). Based on the above arguments and on the need of exploring the relationship in detail, it is hypothesized that the sub-dimensions of EL have a positive impact on the multi-phases of IWB as below:

H₁: Strategic dimension of EL dimensions have a positive impact on dimensions of IWB.

H₂: Communication dimension of EL dimensions positively impact dimensions of IWB.

H₃: Motivation dimension of EL dimensions have a positive impact on dimensions of IWB.

H₄: Personal/ organizational dimension of EL positively impact dimensions of IWB.

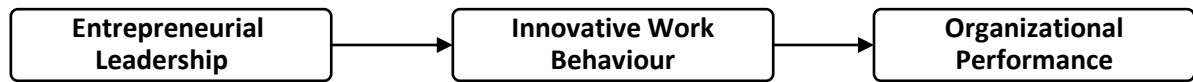
Previous researchers have attempted to examine the impacts of EL on-business performance in different approaches. Some researchers have suggested a positive relationship between entrepreneurial orientation and business performance (Merlo and Auh, 2009; Sharma and Dave, 2011; Tajudin et al., 2014; Zainol et al., 2018). Also, some researchers have combined entrepreneurial orientation with leadership attributes to measure EL and they found a positive relationship between them and the business performance (Hayat and Riaz, 2011; Imran and Aldass, 2020; VanZyl and Mathur-Helm, 2007). Moreover, some other researchers have examined the strength of the relationship between entrepreneurial orientation and organizational performance by the moderating role of leadership behaviors (Engelen et al., 2012). Furthermore, other researchers have examined the indirect effect of EL on organizational performance (Huang et al., 2014). The current research highlights indirect link connecting EL and organizational performance.

IWB at an individual level can produce various organizational outcomes. Organizational performance is considered as the most important and most useful outcome of IWB (Janssen, 2000). As organizations are striving for competitive advantage and focusing on high organizational performance thus, they increasingly rely on their employees to exhibit IWB (Abstein and Spieth, 2014). For sustainable competitive advantage and increased organizational performance, IWB is considered as the most important factor (Shanker et.al., 2017).

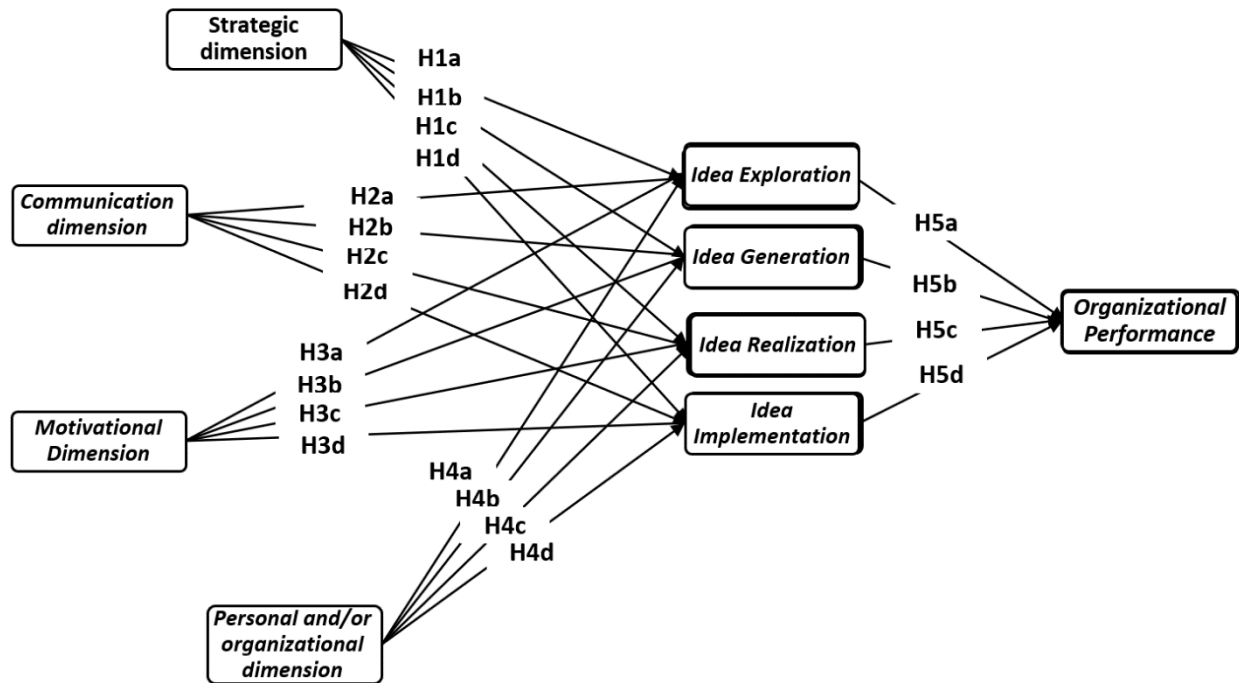
The researchers in the area of IWB have suggested that the most important motivation for the people to innovate is their expectation of better performance. Organizations introduce the latest technologies and work methods to improve their performance as they believe them to be better

than the existing ones (Abrahamson, 1991; Janssen, 2000; Wolfe, 1994; Yuan and Woodman, 2010). However, this relationship still needs an in-depth exploration. Thus, based on the argument developed above the following hypotheses are formulated that the multi-phases of IWB have a positive impact on organizational performance as below:

H₅: IWB dimensions positively impact Organization performance.



(a) Basic Model



(b) Full Model

Figure 1: Conceptualized Model

METHODOLOGY

This research was conducted in two phases. Phase I aimed at validating Entrepreneurial Leadership scale in Pakistani context. Phase II aimed at exploring the impact of Entrepreneurial Leadership on organizational performance through IWB as a path analysis.

RESULTS

Validity of EL questionnaire (ELQ) in Pakistani Context

As discussed above, the objective of phase I of the research was validation of ELQ. To meet this objective, researchers translated ELQ from English into Urdu language. Afterward, the scale was once again translated back following the procedure recommended by Brislin (1970). The ELQ was reviewed by professionals and academicians for content and face validity.

After examining the face and content validity of ELQ, CFA was used to evaluate the factorial validity of the items which was found to be extremely poor (Byrne, 2009; Chen, 2007). Thus, in this study, the researchers applied exploratory factor analysis with Varimax rotation to analyze the factors of this scale and to examine internal consistency using Cronbach alpha (Byrne, 2009).

The results of exploratory factor analysis revealed three dimensions of ELQ in the Pakistani context (Table I) instead of four dimensions by Musa and Fontana (2014). A single component emerged by combining two dimensions of EL (i.e., personal/organizational, and motivational). The results further revealed that a few items were having low loadings and thus were removed. Finally, the ELQ scale comprised of three dimensions and sixteen items, i.e., personal/organizational, and motivational combined into one having five items, there items for communicative and eight items for strategic dimension.

The values of reliability using Cronbach's alpha for the revised scale for both samples were 0.94 and 0.93, representing good inter-item consistency (i.e. Cronbach's alpha > 0.70).

Table I. EFA sample I

Items	EL Dimensions		
	SD	P/MD	CD
ENTL5	.743		
ENTL4	.731		
ENTL8	.713		
ENTL3	.710		
ENTL2	.682		

ENTL6	.668		
ENTL7	.655		
ENTL1	.574		
ENTL16		.837	
ENTL20		.834	
ENTL17		.823	
ENTL19		.818	
ENTL22		.576	
ENTL11			.945
ENTL12			.938
ENTL14			.925
Alpha	(0.863)	(0.888)	(0.992)
Eigenvalue	6.812	2.139	1.636
%Variance	42.575	55.947	66.170

Note: SD = Strategic dimension; P/MD = Persona/Motivational dimension; CD= Communicative dimension;

Third, confirmatory analysis was done on EL Construct for both samples to validate its measure. The results showed that all ELQ items (i.e., ENTL1-ENTL16) had standardized factor loading (SFL) > 0.50 and t-value > 2.0. Furthermore, the results showed acceptable fit indices for both samples in Phase I and Phase II (Table II). The RMSEA for samples in study I and Study II were 0.070 and 0.069, respectively. Model fitness indices, such as CFI, NFI, GOFI, and IFI were also calculated. The values of these measures were greater than or close to 0.90. This indicated that the 3 factor model of ELQ achieved a good model fit which is in line with the psychometric requirement to validate a measure of a construct.

Table II. Fit indices for EL, IWB & OP

Fit indices	Sample I		Sample II		
	24-ItemEL	16-ItemEL	EL	IWB	OP
χ^2 / df	7.207	2.790	1.674	3.629	4.057
RMSEA	0.143	0.070	0.069	0.073	0.080
NFI - Normed fit index	0.752	0.954	0.939	0.900	0.901
CFI - Comparative fit index	0.778	0.970	0.974	0.908	0.921
IFI - Incremental fit index	0.779	0.979	0.975	0.909	0.922
RFI - Relative fit index	0.722	0.944	0.926	0.899	0.888
GOFI - Goodness of fit index	0.804	0.901	0.870	0.926	0.933

1.1 Model Testing

Initially CFA was done for the construct of entrepreneurial leadership, later the analysis was also performed for individual variables, i.e., organizational performance (OP) and innovative work behavior (IWB) constructs. And then the theoretical model was tested.

CFA results for IWB scale indicated that the items included in the scale had standard factor loading greater than 0.50 and t-values greater than 2.0. Thus, all items were included. Table III displays the results of the fit indices of the IWB. The value of RMSEA was 0.073, while values of CFI, NFI, GOFI, RFI and IFI were greater than 0.90. This indicated that overall the model achieved a good fit.

Similarly, CFA was conducted on 11-items of organizational performance scale. From this scale, 3 items namely OP3, OP4 and OP11 had to be deleted due to cross-loadings. Thus, the final analysis was conducted on remaining eight items.

Table II displays the results of the fit indices of organizational performance. The value of RMSEA was 0.078, while values of CFI, NFI, GOFI, RFI and IFI were greater than 0.90 (except RFI, which was also closed to 0.90). This indicated that overall, the model achieved a good fit.

Table III: Descriptive Statistics & Correlation Matrix (N=304)

	Variables	Mean	SD	I	II	III	IV	V	VI	VII	VIII
II	SD	3.39	0.80	-							
III	P/MD	3.62	0.99	.488**	-						
IIII	CD	3.59	1.07	.407**	.498**	-					
IIV	IE	3.47	0.83	.553**	.376**	.356**	-				
IV	IIMP	3.55	0.83	.641**	.482**	.422**	.568**	-			
VVI	IG	3.45	0.91	.575**	.436**	.308**	.528**	.557**	-		
VVII	IC	3.49	0.92	.577**	.443**	.323**	.557**	.607**	.568**	-	

VVIII	OP	3.35	0.80	.572**	.446**	.368**	.418**	.536**	.453**	.466**	-
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**, P< 0.01 level (2-tailed).

Note: SD = Strategic dimension; P/MD = Persona/Motivational dimension; CD= Communicative dimension; IE = Idea Exploration; IIMP= Idea Implementation; IG= Idea Generation; IC= Idea Championing; OP= Organizational Performance

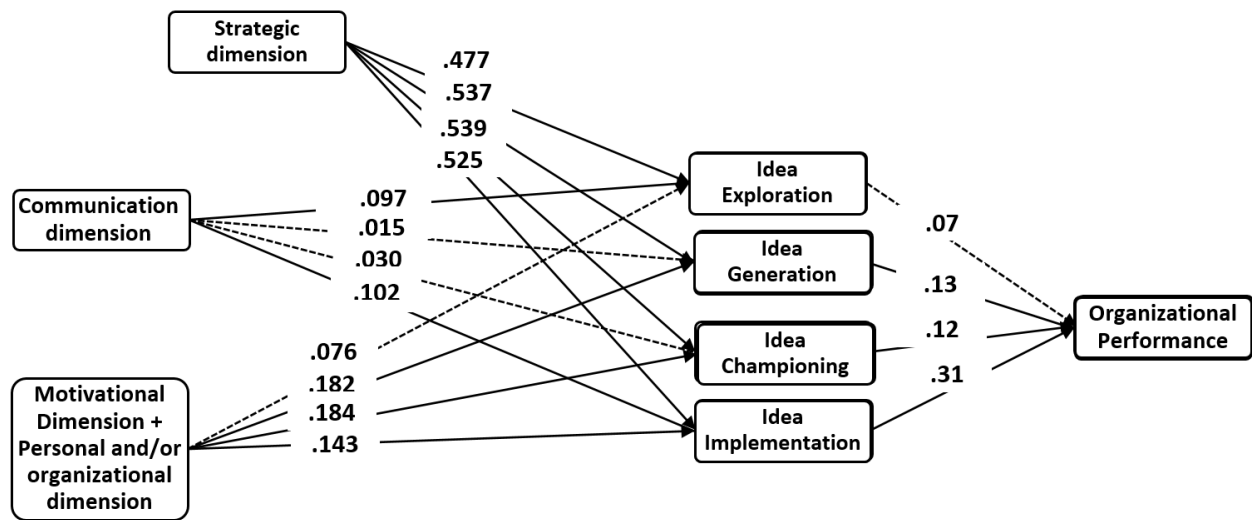
Table III displays the correlation matrix and descriptive statistics. According to this table all the constructs are positively related.

To examine the common method bias, Harman's test was utilized to establish common method variance (CMV). Table IV explains that the variance of the first factor shows the total variance of 34.64%, which reflects that CMV is unlikely to be a problem.

Table IV: Results of CMV Analysis

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	14.880	33.067	33.067	14.880	33.067	33.067
Total Variance 64.387						

Hypotheses were tested using structural equation modeling. The following diagram represents the study model and explains all the relationships among variables. In study II the conceptual model exhibits a good fit with CFI (0.915), GFI (0.922), IFI (0.907), and NFI 0.901 (Byrne, 2009).



Notes: Path coefficients are standardized partial regression.

Key: - - - -> = Insignificant paths

————> = Significant paths

Figure II. Relationship Model

Table V. Hypotheses Testing (N=304)

	Paths		S. Estimate	S.E.	C.R.	p-Values	Remarks
H _{1a}	SD	---> IE	.477	.057	8.308	.000	Accepted
H _{1b}	SD	---> IG	.537	.061	8.755	.000	Accepted
H _{1c}	SD	---> IC	.539	.062	8.711	.000	Accepted
H _{1d}	SD	---> IIMP	.525	.051	10.194	.000	Accepted
H _{2a}	CD	---> IE	.097	.043	2.243	.025	Accepted
H _{2b}	CD	---> IG	.015	.046	.333	.739	Rejected
H _{2c}	CD	---> IC	.030	.046	.643	.520	Rejected
H _{2d}	CD	---> IIMP	.102	.039	2.634	.008	Accepted

Table V. Hypotheses Testing (N=304)

	Paths			S. Estimate	S.E.	C.R.	p-Values	Remarks
H _{3a}	P/MD	--->	IE	.076	.049	1.561	.118	Rejected
H _{3b}	P/MD	--->	IG	.182	.052	3.483	.000	Accepted
H _{3c}	P/MD	--->	IC	.184	.053	3.504	.000	Accepted
H _{3d}	P/MD	--->	IIMP	.143	.044	3.274	.001	Accepted
H _{5a}	IE	--->	OP	.073	.050	1.455	.146	Rejected
H _{5b}	IG	--->	OP	.135	.047	2.898	.004	Accepted
H _{5c}	IC	--->	OP	.123	.052	2.352	.019	Accepted
H _{5d}	IIMP	--->	OP	.311	.060	5.215	.000	Accepted

Note: SD = Strategic dimension; P/MD = Persona/Motivational dimension; CD= Communicative dimension; IE = Idea Exploration; IIMP= Idea Implementation; IG= Idea Generation; IC= Idea Championing; OP= Organizational Performance

Table V reveal the dimension wise hypotheses testing. The results were used to examine the sub-hypotheses of H₁, H₂, H₃, H₄ and H₅. First, H₁ is examined by considering each of its sub-hypotheses:

H_{1a}: Strategic dimension has a positive impact on idea exploration.

H_{1b}: Strategic dimension has a positive impact on idea generation

H_{1c}: Strategic dimension has a positive impact on idea realization

H_{1d}: Strategic dimension has a positive impact on idea implementation

The results indicate that strategic dimension of EL positively and significantly impact all dimensions of IWB; idea exploration (.477), idea generation (.537), idea realization (.539) and idea implementation (.525) thereby, supporting H_{1a}- H_{1d}.

Second, H₂ is examined by considering its four sub-hypotheses:

H_{2a}: Communicative dimension has a positive impact on idea exploration

H_{2b}: Communicative dimension has a positive impact on idea generation

H_{2c}: Communicative dimension has a positive impact on idea realization

H_{2d}: Communicative dimension has a positive impact on idea implementation

The results indicate that communicative dimension of entrepreneurial leadership has a positive and significant though effect on two of the dimensions of innovative work behavior; idea exploration (.097) and idea implementation (.012) thereby, supporting H_{2a} and H_{2d} whereas, having an insignificant effect on idea generation (.15) and idea realization (.30) thus rejecting H_{2b} and H_{2c}.

Next, the hypothesis that was examined was the combination of the two dimensions of entrepreneurial leadership Motivation and personal and or organizations. These dimensions were found to be one in the current context. Thus, H₃ (a combination of H₃ and H₄) is examined by considering its sub-hypotheses:

H_{3a}: Personal/Motivational dimension has a positive impact on idea exploration

H_{3b}: Personal/Motivational dimension has a positive impact on idea generation

H_{3c}: Personal/Motivational dimension has a positive impact on idea realization

H_{3d}: Personal/Motivational dimension has a positive impact on idea implementation

The results indicate that personal/motivational dimension of entrepreneurial leadership has a positive and significant though effect on three of the dimensions of innovative work behavior; idea generation (.182), idea realization (.184) and idea implementation (.143) thereby, supporting H_{3b} H_{3d} and H_{3d} whereas, having an insignificant effect on idea exploration (.076) and thus rejecting H_{3a}.

In last step the sub hypotheses of H₅ were examined;

H_{5a}: Idea exploration positively impact Organizational performance

H_{5b}: Idea generation positively impact Organizational performance

H_{5c}: Idea realization positively impact Organizational performance

H_{5d}: Idea implementation h positively impact Organizational performance

The results indicate that three dimension of innovative work behavior has a positive and significant on organizational performance; idea generation (.135), idea realization (.123) and idea implementation (.311) thereby, supporting H_{5b} H_{5d} and H_{5d} whereas, leaving the effect of idea exploration on organizational performance unsupported (.073) and thus rejecting H_{5a}.

2. DISCUSSIONS

This study tries to validate the EL scale introduced by Fontana and Musa (2014). Originally, the four-dimension scale was developed and validated in the financial services industry within the European Context. There is a necessity for more empirical evidence to validate this recent scale within other sectors and different contexts (Fontana and Musa, 2017). This study validated the scale within the IT SMEs in Pakistani context and findings show that the EL scale has emerged as a three-dimension scale instead of four as originally conceptualized. The reason behind validating the scale in Pakistani context was due to the cultural element of the country. Pakistan has a collectivist culture as people believe in relationships. They rely on their close networks and in this scenario the SMEs are a popular sector where a leader with an entrepreneurial quality would be heavily relied upon (Evason, 2016). As Pakistani business culture is relationship oriented the entrepreneurial leaders can be successful in creating opportunities and that is the reason that the two dimensions of entrepreneurial leadership scale, motivation and personal/organizational characteristics were combined as they are seen in one way and that was relationship.

Since the emergence of EL concept in 2000 by McGrath and MacMillan (2000), many researchers attempted to examine the link between EL and IWB (e.g. Bagheri 2017; Fontana and Musa, 2017; Li et al., 2020). Some studies have examined the link between EL as one dimension with IWB as one dimension (e.g. Li et al., 2020). Other studies have examined the link between EL as one dimension with IWB during the four phases of the innovation process (e.g. Bagheri, 2017; Bagheri and Akbari, 2017; Fontana and Musa, 2017). However, few studies have examined the link between the EL as a multi-dimension measurement with employees' IWB during the various phases of innovation process namely idea exploration, generation, championing, and implementation. This study is trying to explore and further explain these links.

The finding of this study revealed that EL has a positive influence on IWB. These findings are consistent with the previous studies (e.g. Bagheri, 2017; Bagheri and Akbari, 2017; Fontana and Musa, 2017; Li et al., 2020). Results show that the most important antecedent of IWB across different dimensions of EL is the strategic dimension. Since the strategic orientations direct and generate the activities of the firm and influence the behaviors that are related to firm performance (Gatignon and Xuereb, 1997). The strategic entrepreneurial orientation was also found to generate a fertile context for open innovation (Cheng and Huizingh, 2014). This may justify why the

strategic dimension was crucial in influencing employees' IWB in all phases of the innovation process. So, our findings confirm previous studies by indicating the importance of strategic EL for IWB.

On the other hand, interestingly, the communication dimension of EL found to affect only the first phase (Idea exploration) and the last phase (Idea Implication) of the innovation process. This implies that the nature of communication will vary considerably according to whether the innovation process is in the first/last phase (requiring considerable communication) or in the second/third phase (relatively require little communication).

Moreover, this study explores the effect of employees' IWB throughout the four phases of the innovation process on organizational performance in IT SMEs. The results show that idea exploration has no effect on the OP; and idea implementation has the strongest effect on OP.

3. THEORETICAL CONTRIBUTIONS

The current study is unique in many aspects. It is drawn upon the resource- based theory. It contributes to the theory in many ways. First of all it investigates the impact of resources in the form of capabilities to boost organizational performance. The effect of an individual level capability Entrepreneurial Leadership style was found on another individual level capability innovative work behavior and then its effect was found on performance. This path has been explored in dimensional level rather than uni-dimensionally. The innovation process is a multi-phase process that still lacks a clear understanding. This study extends EL and organizational innovation management research. It investigates the links between each dimension of EL with each phase of the IWB. The study shows that the strategic dimension of EL has an impact on IWB in all phases of the innovation process. These findings suggest that organizational leaders need to be strategic-oriented entrepreneurs.

The communication dimension of EL, in contrast, has no impact on idea generation and championship phases, the second and the third phases of the innovation process. It has an impact on both idea exploration and idea implementation. This implies that the first and last phases of the innovation process are requiring considerable communication skills from the EL. These skills may include the ability to 1) control self-emotion and recognize other-emotion, 2) influence members through effective persuasion, 3) foster positive organization climate, 4) manage conflict, and 5)

encourage members of the organization to participate in the organization activities and decision making (Fontana and Musa, 2017).

The motivational, personal, and organizational dimension of EL has no impact on idea exploration, the first phase. This is a unique contribution as this dimension has emerged with a combination of two of the initially operationalized dimensions. There is a need of further exploration to understand this relationship.

Secondly, and other theoretical contribution is in extending EL research by improving over the four-dimension EL scale of Musa and Fontana (2014) in several ways. It provides factorial validity evidence for the scale in Asian culture. It also shows that the EL scale in Asian context is a three-dimensional scale though in European context it is conceptualized as a four-dimensional scale. This gives an essential contribution to literature.

Thirdly, previous studies have confirmed IWB as a driving force for OP (Zhou et al., 2005; Lin et al., 2008; Cheng and Huizingh, 2014). This study is also providing empirical support for that IWB plays an important role in organizational performance. It also extends IWB and OP research by understanding the effect of the phase specific IWB on OP. It shows that the idea exploration phase has no impact on organizational performance, and the idea implementation as the critical antecedent of OP.

Lastly, this research is an attempt to contribute to the existing literature by providing an in-depth understanding of the IT SMEs.

4. IMPLICATIONS

IWB can be enhanced and boosted through strengthening the EL Style. First, the IT SMEs need to emphasize the fundamental role of entrepreneurial managers in enhancing the IWB of their employees that is in turn essential to performance. This can be achieved by highlighting the strategic, communication, and motivation, personal and organizational roles of managers.

Second, this study can guide management in identifying and emphasizing various aspects of EL required in each phase of IWB to make it easier and more explicit. In the Idea Exploration

phase, the strategic (e.g., providing a sense of destiny and direction to employees) and communication dimensions (e.g., managing emotion and conflict) are crucial. In both Idea Generation and Idea Championing phases, both strategic dimension and motivational, personal, and organizational dimension (e.g., self-confidence, and managing resources) are crucial. In Idea Implementation, all dimensions of EL are required.

Third, management may also utilize the instrument to assess individuals to select managers with EL capability to promote the EL style in the organization.

Fourth, managers should appreciate the fact that poor organizational performance is related to the lack of employee's IWB specifically idea implementation.

5. LIMITATIONS AND FUTURE RESEARCH

Despite its important contributions in validating the scale of EL in the Asian context, some limitations must be highlighted. Cross-sectional data were collected from IT SMEs in a single country through self-reported measures using a uni-polar Likert scale. As such, to address these issues, further research may validate the EL scale and test the model using a longitudinal research design and a bipolar scale in different sectors and countries. Future researchers may also use a qualitative research methodology in collecting data for more insight into the process of innovation. Despite, its limitations; this study contributes to the innovation literature by empirically validating that EL stimulates IWB.

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