

## INTELLIGENCE AND MANAGERIAL PERFORMANCE: AN INTERACTIVE ROLE OF KNOWLEDGE SHARING CULTURE

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### Abstract

*Indubitably, business organizations have gained competitive edge by promoting intelligence skills and knowledge-sharing behaviors to develop human capital. Therefore, intelligence skills and fostering knowledge-sharing behaviors have received focused attention from knowledge management practitioners, top managements, strategic managers, policy makers, business leaders, and organizational consultants with the objective of improving managers' performance level in the workplace. The focus of this investigation is to examine the influence of multiple types of intelligence on managerial performance in the context of the banking sector in a developing country. Furthermore, this investigation aims to examine the interactive role of knowledge-sharing culture in the association between multiple intelligence types and managerial performance. The cluster and simple random sampling technique have been used for data collection. Self-administrated questionnaires have been used to gather responses from 254 employees in managerial positions in Pakistan's banking sector. The study results indicate the positive impacts of cognitive, social, emotional, and cultural intelligence on managerial performance. The interactive impacts of knowledge-sharing culture strengthen the relationship between intelligence skills and managerial performance.*

**Keywords:** emotional intelligence, cognitive intelligence, social intelligence, cultural intelligence, knowledge-sharing culture, managerial performance.

**JEL Classification:** Z 000

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### Introduction

Business competition has become uncertain and dynamic with respect to technological advancement; in particular-stiff and global competition, and the selling of services in competitive markets has increased the significance of managerial intelligence. The revolution, economic crises, industrial changes, and technological breakthroughs have shifted businesses from the production era to the services era; as a result, intelligence skills are important for improving the performance and becoming a successful business manager (Aslam, Ilyas, Imran, & Rahman, 2016). At present, successful managers are focusing on integrating intelligence skills via knowledge-sharing to provide optimal solutions to problems, constructing smart and difficult business-oriented goals, supporting tactics to achieve objectives, delegating and enhancing synchronization among team players (Aslam et al., 2016). Thorndike (1920) found that the best useful machine of manufacturing factory could not effectively work because of a lack of knowledge regarding social intelligence of mechanical manager. At present, organizations have arranged different training sessions on intelligence skills to evaluate managers' pre- and post-training performance and thereby assess the influences of these sessions.

According to Boyatzis, Boyatzis, and Saatcioglu (2008), intelligent managers or leaders must effectively create, acquire and utilize knowledge to ensure the occurrence of certain successes for their business, and this process requires a specific set of skills that are known as intelligence competencies. These intelligence competencies can benefit the organization in the presence of knowledge sharing behavior. Knowledge-sharing culture is the process of sharing information, skills, and expertise among people, friends, and organization members (Xue, Bradley, & Liang, 2011). Knowledge-sharing culture can foster organizational learning, skills, competencies, innovation, organizational change, and foster in organizational performance (Aslam et al., 2016; Imran, Ilyas, Aslam, & Rahman, 2016).

However, launching information technology, fostering a knowledge intensive culture, requires changes in the structure, culture, processes, and policies of an organization (Connelly, Ford, Turel, Gallupe, & Zweig, 2014; Park & Kim, 2015). Moreover, knowledge-sharing culture is facing challenges such as unproductive infrastructure, unsocial environment, injustice, lack of appropriate and updated knowledge, low trust level, unsupportive environment and reward system of organizations (Hendriks, 1999; Holten, Hancock, Persson, Hansen, & Høgh, 2015; Hsu, 2008; Ipe, 2003; Rutten, Blaas-Franken, & Martin, 2016; Zakaria, Amelinckx, & Wilemon, 2004).

Knowledge-sharing culture is beneficial for retaining and disseminating knowledge within the organization's boundaries, in addition to developing human capital to integrate dynamic business changes (Cummings, 2003). Organizational culture and information technology are the factors that can boost employees' success and organizational performance. If organizations have knowledge sharing culture then it can provide helping hand for employees to enhance their intelligence and performance level (Wang, Sharma, & Cao, 2016). Following the same context, few successful organizations (e.g., American express, tandem computers, egon zehnder international and U.S. air force) have arranged successful knowledge sharing sessions that highlight employees' need for intelligence skills. Moreover, management, medical, educational practitioners, psychotherapists and psychologists have focused on cultural, cognitive, interpersonal and intrapersonal intelligence that positively impacts managerial performance (Aslam et al., 2016).

Crowne (2009) has been analyzed the literature and found limited studies that investigated the impact of emotional, cognitive, social, and cultural intelligence on managerial job outcomes. A number of studies have been conducted to examine empirical relation in emotional intelligence and leadership-outcomes (Boyatzis, Smith, Oosten, & Woolford, 2013; Boyatzis, Good, & Massa, 2012). However, no study has been conducted to investigate the relationship between

intelligence skills and managerial performance especially in a developing country. To address this gap, this research aims to investigate the connection of multiple types of intelligence with managerial performance in workplace. Moreover, it also examines the interactive effect of knowledge-sharing culture on multiple types of intelligence and managerial performance.

### **Literature Review**

Research on competencies commenced in 1920 in an effort to facilitate the search for effective and talented people. Early work focused on abilities, skills, and cognitive intelligence (Campbell & Dunnette, 1970; McClelland, Baldwin, Bronfenbrenner, & Strodbeck, 1958; Thorndike, 1920). Earley and Ang (2003) introduced the term cultural intelligence, which encompasses the use of verbal communication, beliefs, morals, and the mind-sets of individuals to work effectively. More recently, researchers have analyzed emotional and social intelligence (Goleman, 2006; Salovey & Mayer, 1990). Emotional intelligence is described as a skill relating to recognizing, understanding, and effectively utilizing employees' emotions to boost performance in the workplace. While social intelligence is the skill of recognizing, understanding, and effectively utilizing other emotions to enhance team performance. Boyatzis et al. (2008) distinguish between social, emotional, and cognitive intelligence: social intelligence includes networking; emotional intelligence involves intrapersonal abilities, such as adaptability to change; and cognitive intelligence includes systematic thinking and problem-solving skills.

The concepts of emotional and social intelligence skills have attracted the attention of educational, management, and psychological practitioners, who approach these skills from the perspective of career success and performance (Wong & Law, 2002). Social and emotional intelligence skills can be helpful in handling environmental challenges and ensuring that professional or personal success is achieved. The concepts of social, cognitive, and emotional intelligence have been

used to increase the performance levels of employees in the workplace (Aslam et al., 2016; Boyatzis et al., 2008). For instance, emotionally intelligent managers are able to respond more effectively to the challenges of a turbulent business environment. Boyatzis, Boyatzis, and Ratti (2009) indicated that effective managers encourage knowledge sharing and new initiatives to obtain a competitive edge. On the other hand, numerous studies have argued that there is no relationship between emotional intelligence and performance (Petrides, Frederickson, & Furnham, 2004; Wirtz & Mattila, 2004).

*HI<sup>A</sup>: Emotional intelligence can foster the managerial performance.*

*HI<sup>B</sup>: Social intelligence can increase the managerial performance.*

Cognitive intelligence is related to the psychological ability to foster a problem-solving attitude, theory building, sense making, information gathering and analysis, learning by experience, and effectively utilizing advanced technology (Boyatzis, Stubbs, & Taylor, 2002). The existing literature has investigated whether cognitive intelligence is related positively to organizational citizenship behavior and performance (Chan & Schmitt, 2002; Borman & Motowidlo, 1997; Schmidt & Hunter, 1998). Furthermore, some studies have explored whether cognitive intelligence boosts performance using knowledge, skills, competencies, and procedures that are technically core skills for the completion of any job (Borman & Motowidlo, 1997). The concept of cultural intelligence has also gained attention, owing to increasingly diverse workforces and variations in languages, values, traditions, educations, backgrounds, and norms. Crowne (2009) argued that social, cultural, and emotional intelligence are significant because they enable employees and managers to raise organizational and individual performance in the workplace.

*HI<sup>C</sup>: Cognitive intelligence can raise the managerial performance.*

*HI<sup>D</sup>: Cultural intelligence can improve the managerial performance.*

Organizational culture and information technology are factors that can boost employees' success and organizational performance (Imran et al., 2016; Zakaria et al., 2004). Knowledge-sharing culture—described as shared attitudes, values, and beliefs—is linked with knowledge creation and sharing (Reid, 2003). Knowledge-

sharing culture is the process of sharing information, skills, and expertise among people, friends, and organizational members (Xue et al., 2011), and has been shown to be an effective tool that can facilitate knowledge creation, sharing, and utilization and can also improve the performance of employees (Gurteen, 1999). To succeed in a dynamic business market, organizations need to maintain and increase their competitive edge. A knowledge-sharing culture can play a role in this by facilitating the search for optimal solutions of problems, effective decision-making, efficiency, innovativeness, and cost-effectiveness (Gurteen, 1999; Smith & McKeen, 2003). However, in Pakistan and other developing countries, the reality is that a knowledge-sharing culture faces numerous business challenges, such as an unproductive infrastructure, unsocial environments, injustice, a lack of appropriate and updated knowledge, low trust levels, and ineffective culture and reward systems. To my knowledge, no study has investigated whether a knowledge-sharing culture can raise the usage and intensity of the intelligence skills required for managerial performance in the workplace.

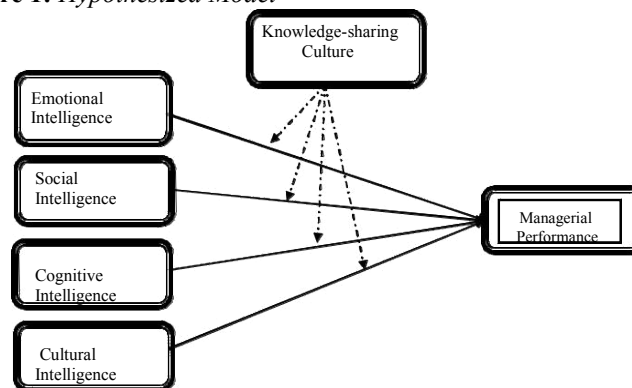
*H2<sup>A</sup>: Knowledge-sharing culture can moderate the association between emotional intelligence and managerial performance.*

*H2<sup>B</sup>: Knowledge-sharing culture moderates the relationship between social intelligence and managerial performance.*

*H2<sup>C</sup>: Knowledge-sharing culture can moderate the link between cognitive intelligence and managerial performance.*

*H2<sup>D</sup>: Knowledge-sharing culture moderates relationship between cultural intelligence and managerial performance.*

**Figure 1: Hypothesized Model**



### **Research Methodology**

This research has aimed to examine the causes and effects of various intelligence skills on managerial performance in the context of private banking sector in a developing country. The ontological and epistemological assumptions are single and objective reality, development of hypotheses based on existing theories, acceptable and unbiased knowledge using various human senses. This is an associational study because it aims to find association between proposed hypotheses using quantitative method (Burns & Grove, 1993; Robson, 2002). Moreover, this research has pursued positivistic way by utilizing deductive reasoning approach for examine the theoretical framework. Data have been gathered once because cross-sectional research has many benefits such as quick, cheap, and data can gather quickly from large population (Mann, 2003).

#### *Sampling Procedure*

Researchers have selected private sector banks using cluster sampling technique. For data collection purpose, the region of Lahore, Islamabad, Bahawalpur, and Multan have been selected using cluster sampling. From these selected regions, a number of banks have been randomly selected such as united bank limited (UBL), Allied bank limited (ABL), Muslim commercial bank limited (MCB), Bank Alfalah limited (BAL), faysal bank limited (FBL), Askari bank limited (ABL) and Habib bank Limited. Sampling frame is known because researchers acquired the list of employees from human resource departments of banking organizations. Employees are randomly selected that are working on the positions of Area Managers, Assistant Vice President, Managers, and Operational Managers. Sample size is determined (n=330) using online calculator and 330 sample size is aligned with previous study (Carmeli, 2003) and lowest acceptable standard of Hair (2010). Thompson (2012) has highlighted the significance of simple random sampling, all elements of population is

equally important thus sample size has fair representation of actual population.

#### *Instrumentation*

A Questionnaire technique has been used and that technique focused on scales that are developed by well-known scholars. These famous scales are adopted and adapted using Delphi approach. Delphi approach has used to adapt the scales with the experience of banking experts. Furthermore, to examine the validity of self-administrated questionnaire, confirmatory factor analysis (CFA) has been performed using AMOS-21.

The scale of emotional and social intelligence was taken from the study of Bar On, Tranel, Denburg, and Bechara (2003) and adapted to fulfill the aims of this study. Additionally, it includes four sub scales such as general mood, stress management, intrapersonal, adaptability, and interpersonal. Cognitive intelligence scales was taken from Wechsler (2008) study and adapted for this study. While cultural intelligence scale was measured using the scale of Ang et al. (2007). Cultural intelligence scale has 4 sub-scales: behavioral, meta-cognitive, cognitive, and motivational approach.

To measure the managerial performance in banking sector, the scale has been adopted from earlier study (Guentel, Surprenant, & Bubeck, 1984; Igbaria & Tan, 1997). Finally, knowledge-sharing culture has been measured using the adopted scale of Gold and Malhotra (2001).

#### *Data analysis Techniques*

There are several statistical tests performed to grasp the results of empirical/explanatory study. First, Confirmatory factor analysis (CFA) has carried out to investigate the validity of a proposed model. Second, reliability analysis was performed to find the internal



consistency of adapted scales. Third, descriptive analysis was conducted to find correlation, mean, and standard deviation values. Fourth, multiple regression analysis (MRA) performed to examine the proposed research hypotheses. Finally, Aguinis (2004) moderation test with Aiken, West, and Reno (1991) interaction term has been conducted to find the results of moderation.

#### *Procedure*

Self-administrated questionnaires have sent to the employees of banking sector. Almost 300 questionnaires were disseminated by hand and mail to obtain rapid and utmost response. Out of 330 questionnaires, 270 are received. Of these, 16 questionnaires are rejected due to having greater than 10% of missing values (Hair, 2010). For data analysis, 254 questionnaires were valid and resulted 76.97% response rate.

The significant aspect of randomly selected sample is 28% females and 72% are males. Therefore, it is indicating the male dominance in the top positions in private banking sector. Furthermore, the majority of respondents are operational managers (55%) and managers (31%). 119 managers having the experience of 6 to 10 years, 156 respondents hold masters' degree and remaining employees hold bachelor and MS/Mphil degrees.

### **Results**

#### *Confirmatory Factor Analysis (CFA)*

CFA was performed to examine the validity of model-fit. There are various standards that can be used to measure the validity of mode-fit. These standards are given by Byrne (2013), namely the "Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Root-Mean Square Error of Approximation (RMSEA), Goodness of Fit Index (GFI), and Adjusted Goodness of Fit Index (AGFI)". CFI, AFGI, TLI, and GFI values should 0.90 or above. RMSEA standard value is 0.80 or below,

whereas CMIN/df standard benchmark is less than 3 (Byrne, 2013; Hair, Black, Babin, Anderson, & Tatham, 2006; Harrington, 2008). The statistics of model-fit were weak at initial stage thus modifications indices values were calculated and examined to get strong model-fit (See Table 1).

**Table 1:**

*CFA Statistics*

Particulars	CMIN/DF	CFI	TLI	RMSEA	GFI	AGFI
Weak Model Fit	4.879	.631	.611	.090	.659	.701
Good Model Fit	3.11	0.901	0.914	.054	.921	.931
Threshold	≤3	>0.90	>0.90	<0.080	>0.90	>0.90

#### *Descriptive and Reliability Analysis*

The descriptive, correlation, and reliability analysis are performed to extract the general tendency, strength of relationship, and internal consistency among items and variables used in theoretical model of this study. The mean values of this study are indicating the responses fall between neutral to agree. Furthermore, the mean values highlight the positive trend as well as a curve that might be positively skewed. The standard deviation of the data indicated that all values deviate normally from their mean values. Pearson correlation analysis indicated the medium and strong relationship as per the standards given by Cohen (2013). George and Mallery (2003) explained that Cronbach alpha values should be above 0.6. It is found that the internal consistency of all the constructs fall between the ranges of 0.781 to 0.890 (See Table 2).

**Table 2:**  
*Descriptive and Reliability Results*

Variables Description	Mean	Std. D	1	2	3	4	5	6
(1) Emotional Intelligence	3.33	.961	(.890)					
(2) Social Intelligence	3.25	1.01	.531**	(.814)				
(3) Cognitive Intelligence	3.19	1.13	.391**	.475**	(.812)			
(4) Cultural Intelligence	3.38	1.11	.479**	.453**	.458*	(.793)		
(5) KS Culture	3.41	.089	.458**	.392**	.374**	.483**	(.839)	
(6) Managerial Performance	3.51	.839	.447**	.490**	.464**	.389**	.451**	-

### *Multiple regression analysis (MRA)*

MRA was conducted to investigate whether or not various intelligence skills have any association with managerial performance. In Table 3, R<sup>2</sup>-value (.515) indicates that there is noteworthy variation in managerial performance because of emotional, social, cognitive and cultural intelligence. Furthermore, P, T and un-standardized  $\beta$  values indicate the statistically strong and valid association between managerial performance, emotional and cognitive intelligence ( $\beta = 0.714$ , T= 10.69, p<0.000;  $\beta = 0.551$ , T= 6.92, p<0.000). Moreover, P, T and un-standardized  $\beta$  values reveal the statistically medium relationship between managerial performance and social and cultural intelligence (See table 3).

**Table 3:**  
*Multiple Regression Test*

	Managerial Performance				
	R <sup>2</sup>	F-value	Un-Std. $\beta$	T-value	P-value
	.515	88.755			
<b>Emotional Intelligence</b>			0.714	10.69	0.000
<b>Social Intelligence</b>			0.429	5.81	0.001
<b>Cognitive Intelligence</b>			0.551	6.92	0.000
<b>Cultural Intelligence</b>			0.357	3.89	0.004

Note: P<.005, Hypotheses acceptance decision is based on  $\beta$ , T and P values.

### Moderation Analysis

Multiple moderated test was performed by following the specific guidelines of Aguinis (2004) with Aiken et al. (1991) interaction term. In Table 04, the moderating effect of knowledge-sharing culture was examined in the association of intelligence (emotional and cognitive) and managerial performance. The outcomes of moderation test indicated that the knowledge-sharing culture strengthened the association between emotional intelligence and managerial performance ( $R^2=4.9\%$ ,  $p<0.001$ ). Following the same results, the knowledge-sharing culture also strengthened the association between cognitive intelligence and managerial performance ( $R^2=4.4\%$ ,  $p<0.001$ ). However, the knowledge-sharing culture has stronger moderating effect on the relationship between emotional intelligence and managerial performance than other types of intelligence.

Table 4:

<i>Moderation effects of KSC on EI-CI and MP</i>							
Constructs	R <sup>2</sup>	Adj. R <sup>2</sup>	F-value	$\beta$ -value	S.E.E	T-Value	Sig.
EI-KSC-MP	0.542	0.536	84.48				***
EI-MP				0.68	0.01	10.01	***
KSC- MP				0.69	0.02	10.89	***
EI-KSC-EI*KSC-MP	0.591	0.583	92.11				***
EI*KSC-MP				0.569	0.02	8.19	***
CI-KSC- MP	0.509	0.496	78.85				***
CI-MP				0.555	0.04	8.09	***
KSC-MP				0.599	0.03	9.04	***
CI-KSC-CI*KSC-MP	0.553	0.541	82.34				***
CI*KSC-MP				0.581	0.01	8.49	***

Notes: EI=Emotional Intelligence, KSC=Knowledge-sharing culture, MP=Managerial performance, CI=Cognitive intelligence, S.E.E= Standard Error of Estimate, \*\*\* $p<0.001$

In Table 05, the moderating effect of the knowledge-sharing culture was examined in the association of intelligence skills (social and cultural) and managerial performance. The outcomes indicated that the knowledge-sharing culture strengthened the association between social intelligence and managerial performance ( $R^2=3.1\%$ ,  $p<0.001$ ). Similarly, the knowledge-sharing culture also strengthened

the association between cultural intelligence and managerial performance ( $R^2=2\%$ ,  $p<0.001$ ).

**Table 5:**  
*Moderation effects of KSC on SI-CLI and MP*

Relationships between constructs	R <sup>2</sup>	Adj. R <sup>2</sup>	F-value	β-value	S.E.E	T-value	Sig.
SI-KSC-MP	0.421	0.410	52.39				***
SI-MP				0.51	0.03	7.33	***
KSC-MP				0.54	0.02	7.89	***
SI-KSC-SI*KSC-MP	0.452	0.431	54.98				***
SI*KSC-MP				0.468	0.02	6.14	***
CLI-KSC-MP	0.389	0.375	48.85				***
CLI-MP				0.392	0.01	5.09	***
KSC- MP				0.419	0.05	5.93	***
CLI-KSC-CLI*KSC-MP	0.409	0.413	50.40				***
CLI*KSC-MP				0.439	0.06	6.46	***

Notes: SI=Social Intelligence, KSC=Knowledge-sharing culture, MP=Managerial performance, CLI=Cultural intelligence, S.E.E= Standard Error of Estimate, \*\*\* $p<0.001$

## Discussion

This research was performed to investigate linkage of intelligence such as cultural, emotional, cognitive, and social intelligence with managerial performance. To achieve the objectives of this study, self-administrated questionnaires have been adapted with the help of banking experts. CFA indicated the good validity and model-fit for proposed measurement model. Pearson correlation test was indicated the strong and medium strength of relations between intelligence skills and managerial performance. The results of correlation test exhibited that emotional and cognitive intelligence has strong positive association with managerial performance.

MRA has performed to examine the simultaneous effects of cultural, emotional, cognitive, and social intelligence on managerial performance. It has been found that emotional and cognitive intelligence are statistically strong predictors of managerial performance compared to social and cultural competencies. Furthermore, it has been proved that emotionally and cognitively strong managers can foster the performance level in workplace. These

intelligence competencies can lead to develop differentiation between an effective manager and ordinary manager (Aslam et al., 2016; Goleman, 2006; Goleman & Boyatzis, 2008).

Prior studies indicated the strong positive association between cognitive, emotional, and social intelligence with organizational and individual success (Goleman, 2006; Goleman & Boyatzis, 2008). It is the first study that has selected the multiple intelligence types and its effects on managerial performance using the interactive effect of knowledge sharing-culture. Knowledge-sharing culture can foster organizational learning, enhance skills and competencies, innovation, organizational change, and increase in organizational performance (Aslam et al., 2016; Imran et al., 2016). Consequently, it is confirmed empirically that organizations and employees should familiar with these competencies so that employees might be improved their performance level by using intelligence skills in the workplace (Fox & Spector, 2000).

### **Conclusion**

Organizations currently face a turbulent business environment involving technological breakthroughs, strong business competition, firm downsizing, mergers and acquisitions, deregulation, and global recession. Intelligence skills such as emotional, cognitive, cultural and social are crucial to raise individuals' ability to successfully face these challenges, improve their performance, and become successful business leaders. With this in mind, this research will be of particular value to strategic managers regarding the significance to conduct trainings on competencies needed to gain competitive advantage. These competencies are useful for business leaders to devise optimal solutions to problems, help to construct smart and business-oriented goals, and provide the necessary support to achieve objectives, delegate effectively, and enhance synchronicity among team members.

### **Implications**

This research will contribute to the literature related to intelligence, the knowledge-sharing culture, and performance. Currently, limited research has been conducted to investigate the impact of multiple intelligence skills on managerial performance in the context of the services sector in a developing country. Many empirical studies have been performed to investigate the relationship between leadership outcomes and emotional intelligence (Boyatzis, Good, & Massa, 2012; Boyatzis, Smith, Oosten, & Woolford, 2013). However, limited studies have investigated how various intelligence skills can improve managerial performance in the workplace. Furthermore, no prior study has examined the moderating impact of the knowledge-sharing culture in terms of the relationship between multiple intelligence skills and managerial performance. Organizations that are constantly cooperating with their customers must have employees who are talented and intelligent to survive in a dynamic business environment. Thus, this study can inform key management figures and organizations regarding the significance of the competencies needed to gain competitive advantage.

### **Limitations and Recommendations**

In terms of limitations, this research does not cover the entire banking sector, but focuses on the private sector only and the key cities of Punjab. Thus, future studies should cover the entire banking or insurance sector to increase the generalizability of results. Furthermore, future studies can be conducted in more than one service sector. In addition, this research gathered data at one point of time, thus it can raise the issue of causality. To overcome the potential for causality, a longitudinal study would be beneficial for future research.

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