KNOWLEDGE SHARING PRACTICES ON PERFORMANCE:
Role of Intellectuals on South Asian Perspective

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Abstract

This study seeks to investigate empirically, the relationship of knowledge sharing (KS) practices, intellectual capital (IC) practices and performance within the banking organizations in Pakistan. It uses the amended instrument and attempts to collect data from 810 middle level managers through questionnaire of a sample of 42 banks. Structural equation model (SEM) and confirmatory factor analysis (CFA) were applied to assess the nature of relationship and overall fitness of the measurement models among the constructs. The results of confirmatory factor model reveal that all indices satisfactorily meet the thresholds which indicate a well fit of the models. Although, the results of standardized path coefficient postulates that KS and IC practices significantly contribute to banks' performance; moreover results of standardized path coefficients reveals that human capital, structural capital, and relational capital practices, partially mediate the relationship between KS driven performance. Findings of the study support that all proposed hypotheses are statistically significant (p<0.001) which indicate that IC practices substantially mediate the relationship between KS driven performance; thus corroborating the argument that IC is a valuable strategic resource to leverage the performance based activities.

Key words: Knowledge Sharing Practices, Intellectual Capital Practices, Performance.
JEL Classification: D80, O34, L25.

I. Introduction

In the present era, the rapidly changing environment with a cut-throat competition to achieve optimal performance level is a major concern for all types of organizations [Wang, et al. (2011)]. For achieving optimal performance standards, organizations are intensely shifting their activities from production to knowledge base [Drucker (1993), Powell and Snellman (2004)]. It is also a need of the hour to shift the economy to knowledge intensiveness, in order to increase productivity of the knowledge workers [Drucker (1999b)] which is a challenging task in the post-capitalistic economy [Drucker (1993)]. Resource-base view (RBV) of the organizations is the most emerging line of research which tends to determine the relationship of firms capabilities

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and resources of its performance. It postulates that firms' controllable resources bring competitive advantage for firms, because they are unique, rare and cannot be imitated and replaced [Barney (1991)]. The present research explore that organizational resources are different from capabilities. Now, resources are defined as basic units of analysis which are uniquely compiled together in a manner to create competitive advantage [Bharadwaj (2000)]. As far as capabilities are concerned, they are defined as abilities by which an organization makes, integrate and implement the firms' valuable resources. Firms resources are divided into tangible and intangible assets which are controlled, owned and accessed by organizations, permanently [Helfat and Peteraf (2003)]. Lopez and Esteves (2013) referred the capabilities as abilities which an organization possess in order to utilize the firms resources properly, for performing integrated functions to obtain specified goals and objectives.

Although, in the last couple of decades knowledge based view (KBV) which is the extension of resource based view (RBV) has provided the constructed lens to realize the stock of knowledge in firms and flow of knowledge into the firms [Decarolis and Deeds (1999)]. They also studied that stock and flow of knowledge within and out of the organizations, influence the performance outcomes positively in knowledge intensive industries; whether these are manufacturing or services concerns. One of the significant features of KBV is that, it is used in knowledge creation and as well, for knowledge application [Nonaka (1994), Grant (1996), Spender (1996)]. It determines the ability of firms to exploit new knowledge through research and development [Nonaka (1994)]. According to KBV, knowledge resources contribute significantly to enjoy superior performance than the tangible resources [Bogner and Bansal (2007)]. Therefore, in the present era substantial integration is necessary between intangible and knowledge resources for firms to survive in a competitive environment [Teece, et al. (1997), Subramaniam and Youndt (2005a), (2005b)]. According to Wang, et al. (2012), for effective distribution of knowledge and knowledge sharing (KS) among organizational members, it is imperative for firms to acquire, capture, and assimilate their knowledge for resource structuring and capacity building.

KS practice provide constructive lens to enhance organizations performance that explicitly involves the flow of knowledge from one person to another, from one group to another, within the organizations [McAdam, et al. (2012)]. Wang and Wang (2012) suggest that knowledge based capabilities of organization implant KS practices through creation, application and diffusion of knowledge. In addition, KS practices are also imperative for preserving valuable intangible resources, provide unique ways for problem solving through learning new practices and procedures that improve the competency level of organizations for sustainable performance [Hsu (2008), Law and Ngai (2008)]. Numerous studies have attempted to identify KS practices in multiple ways within the organization, such as 'formal and informal' [Taminiau, et al. (2009), Zahra, et al. (2007)]; 'explicit and implicitly' [Wang and Wang (2012), Quigley, et

al. (2007)]; 'solicit and voluntarily' [Teng and Song (2011)]; 'technology, business model and management practices' [McEvily, et al. (2000)].

However, researchers are still on impulse to uncover the KS and intellectual capital (IC) practices or to develop the optimal framework to explain the KS-driven performance. Limitation of literature and dearth of proposed optimal mediating the model have led the aims of this research, particularly in context to South Asia, more specifically in context of banking sector of Pakistan. Realizing the important role of bankers at banks, the major objective of the study is to test the mediating role of IC practices to strengthen the KS-driven performance.

After the introduction, theoretical justification and hypothesis are presented in Section II. Research Methodology is explained in Section III. Section IV provides findings of the study, while V concludes the paper, giving theoretical and practical implications, limitations and Future Research implications.

II. Theoretical Justification and Hypotheses

1. Knowledge Sharing and Intellectual Capital Practices

a) Explicit Knowledge sharing and Human Capital Practices

Knowledge collaboration is very crucial within organization among individuals and groups to ensure full use of it in order to espouse an extensive IC practices. [Hsu and Sabherwal (2012), Hsu (2008), and Karagiannis, et al. (2008)] points out that KS practices enhance the organizational performance through development of intellectual capital. IC theory states that human, structural and relational capital is knowledge assets or resources for determining performance of IC which can be used for sustainable competitive advantage. However, if KS practices restrict to a certain level and remain isolated, it would be difficult to induce the extensive IC practice within organization. As KS practices involve the flow or diffusion of specific knowledge from one individual to another or a group [Karagiannis, et al. (2008)], it is considered as crucial factor for enterprises knowledge management process [Small (2006)]. However, organization specific knowledge augments the knowledge process capability which is unique for competitors [Grant (1996)]. Explicit knowledge is a codified knowledge; therefore explicit KS practice may boost skills of receivers and senders, through discussion and feedback. It also widens the understanding of both the knowledge senders and the receivers [Ipe (2003)]. Personal contacts and interactions are important ways to share the codified knowledge. Such a practice enhances the employees' learning capabilities and the knowledge arrangements which lead to better individuals' performance [Chao et al., (2011), Huysman and de Wit (2004)] in terms of HC performance [Hsu (2008), Spender and Marr (2006)].

H1a: There exists a positive relationship between explicit KS and human capital practices.

b) *Explicit Knowledge Sharing Practices and Structural Capital Practices*

Explicit KS practices are important to share job related knowledge for both the technical and non-technical for problem solving [Karagiannis, et al. (2008)]. These practices facilitate the best utilization of management structure in a collaborative and dynamic environment for better decision making [Yoon, et al. (2011)]. Structural capital refers to institutionalize knowledge embedded in organization process like policies, technology, patents, formal procedures and culture. Organization's performance and productivity can be achieved with formalization of individual and group knowledge in terms of process technology, patents, copyrights, procedures and policies [Wang, et al. (2014)]. Further, de Pablos (2004) stated that both individual and group knowledge is implanted through institutionalization of explicit KS practices during the learning process.

H1b: There exists a positive relationship between explicit KS and structural capital practices.

c) *Explicit Knowledge Sharing Practices and Relational Capital Practices*

According to Carmeli and Azeroual (2009), when people work together then explicit KS assist them to improve their structural ties through personal interactions which indicate the interpersonal aspects of relational capital characterized by trust and trustworthiness. In addition, people in organizations have to perform diverse assignments and interpersonal aspects to help them to share explicit knowledge, information and resources, and also enable them to improve their job performance [Hsu and Fang (2009)]. KS practices involve the flow or diffusion of specific knowledge from one individual or group to another [Karagiannis, et al. (2008)] where relational ties help to share the knowledge [Carmeli and Azeroual (2009)]. Such knowledge collaboration is much important within the organization among individuals and groups to ensure full use of it in order to espouse extensive IC practices [Hsu and Sabherwal (2012)] as well, structure high quality relational capital through flow of explicit information [Wang et al. (2014)].

H1c: There exists a positive relationship between explicit KS and relational capital practices.

d) *Tacit Knowledge Sharing Practices and Intellectual Capital Practices*

Peet (2012) states that tacit knowledge is bit difficult to be classified, codified, recovered and shared with others. However, it can be contextualize through interaction of individuals and groups that clues to knowledge creation [Nonaka and Takeuchi (1995)]. Bloodgood and Chilton (2012) say that actually exchange of tacit knowledge gauges the intellectual innovation of employees thorough applied skills and experience.

In addition, such tacit knowledge practice improve the idiosyncratic and applied experiences, skills, perception, and common sense of employee which collectively work for better performance of human capital, [Wang, et al. (2014)].

H2a: There exists a positive relationship between tacit KS and human capital practices.

e)   *Tacit Knowledge Sharing Practices and Structural Capital Practices*

Tacit knowledge can be found in a variety of ways, such as emotions, intuitions and perceptions, feelings and insights [Bloodgood and Chilton (2012), Joia and Lemos (2010)]. However, in day to day activities; some tacit practices are formal like sharing of training and conference outcomes while some are informal like social and personal interactions of employees about job related tasks. Such formal practices influence employees' behavior and how the employee think and perceive to improve structural capital through adding more in the existing infrastructure, procedures, policies and learning environment [Wang, et al. (2014)].

H2b: There exists a positive relationship between tacit KS and structural capital practices.

f)   *Tacit Knowledge Sharing Practices and Relational Capital Practices*

Tacit KS practices are subjective opinions, context-specific intuitions or feelings, which are the main source of competitive advantage [Wang, et al. (2014)]. Such interactive collaboration and personal communication help to build the trust and relations within the organization [Yang and Lai (2012)] through sharing of experiences and expressing the concerns [Kong and Farrell (2010), Wu, et al. (2008)]. It means implementation of collaborative and interactional cohesion used in tacit KS which assist to enhance the mutual understanding and trust among organizational actors.

H2c: There exists a positive relationship between tacit KS and relational capital practices.

2.   Intellectual Capital Practices and Performance

The literature defines intellectual capital as intangible resource, capability and a source of competitiveness that lead to superior performance through value creation [Roos and Roos (1997), Bontis (1998), Subramaniam and Youndt (2005)]. Huang and Wu, (2010) argued that a firm competitive advantage is based on its ability to share and apply innovative knowledge that comes through better utilization of IC practices. Based on above discussion relating IC, this study concludes that IC is a knowledge base resource, which refers to intellectual skills and abilities, systematic infrastructure and relations with stakeholders that determine the competitiveness of organization

[Sharabati, et al. (2010)]. Previous research decomposes IC into three major constituents: human, structural and relational capital which are powerful tools to boost the financial and non-financial performance [Shih, et al. (2010)], Youndt, et al. (2004), Hsu and Sabherwal (2011), Sharabati, et al. (2010), Rehman, et al. (2011)].

a) *Human Capital Practices and Performance*

Today, in global dynamic environment, human capital is considered as valuable and strategic resource for competitive advantage [Bontis, et al. (2007)]. Organizations need individuals who are knowledgeable with excellent intellectual abilities for problem solving and effective decision making [Wang, et al. (2014)]. Organization's products and services are delivered by employees, so to improved efficiency and operational excellence it has a deep link with human capital performance [Cabello-Medina, et al. (2011)]. It is an integral source for competitiveness [Teece and Teece (2000)]. Firms that invest more on human capital has better human capital efficiency that turns to improve operational performance of firms [Seleim, et al. (2007), Rehman, et al. (2011), Wang, et al. (2014)]. Extant of literature suggests that human capital is a valuable source for organizations' performance; its efficiency is based on its magnitude of investment resulting high financial performance [Le Blanc, et al. (1998)].

H3: There is a positive relationship between human capital practices and banks performance.

b) *Structural Capital Practices and Performance*

Structural Capital (SC) is another important constituent of IC. It also refer to supportive infrastructure, processes and databases of organization which enable the human capital to function properly [Wang, et al. (2014)]. It is a valuable tactical asset which is a composition of non-human assets [Bontis (1998), Edvinsson and Malone (1997), Youndt, et al. (2004)]; and employees do not take off while leaving the organization at day end. Therefore, it is recognized as all procedures, organizational structures, database, systems, patents, trade mark, copy rights and technology employed to achieve better organization's performance and reputation [Bontis (1998), Youndt, et al. (2004), Karagiannis, et al. (2008), Zangoueinezh ad and Moshabaki (2009)]. Further, structural capital helps to improve overall business operations to achieve better performance in terms of higher quality and lower cost [Aramburu and Saenz (2011)]. Thus, SC has positive and significant effect on financial performance in terms of return on asset, return on equity, revenue growths and earnings per share [Mohiuddin, et al. (2006), Rehman, et al. (2011), Phusavat, et al. (2011)].

Nevertheless, SC is fundamental to improve operational performance of organization. Conversely, if an organization has poor SC, barriers to deploy necessary resources would be difficult to achieve its performance outcomes [Wang, et al. (2014)].

However, organizations that have strong SC support by fostering innovative systems and procedures, friendly culture might have better performance outcomes [De Brentani and Kleinschmidt (2004)].

H4: There exists a positive relationship between structural capital practices and banks performance.

c) *Relational Capital Practices and Performance*

A strategic alliance with internal and external stakeholders is almost inevitable which help to build long-term relations [Sharabati, et al. (2010), Hsu and Wang (2012)]. These alliances aid to explore cognitive accumulation, define better ways to things [Wang, et al. (2014)], improve business operations through learning from others [Cousins, et al. (2006)] and eventually enhance operational performance in terms of higher quality and lower cost and improve asset management and productivity [Wang, et al. (2014)]. As relational capital (RC) improves the product quality, reduce production and transaction cost and can identify employees to innovative ways for doing things [Wang, et al. (2014), Zhang and Fung (2006)]. Thus, by consolidating RC, employees can learn from others' experiences to add more innovative ways into operational procedures. Therefore, RC adds new contents in quality improvement reduce operational cost and boost productivity with responsiveness. Similarly, [Zhang and Fung (2006)] finds that flow of relational capital has significant and substantial effect on financial performance through lowering production cost and increasing responsiveness with suppliers at hospitals.

H5: There exists a positive relationship between relational capital practices and banks performance.

3. Knowledge Sharing Practices and Performance

a) *Explicit Knowledge Sharing Practices and Performance*

In a broad spectrum, many KS practices such as training and development, technological support, sharing of official documents and reports, are few examples to integrate the knowledge across the organization to enhance products quality and services in terms of operational optimization and customer intimacy [Wang and Wang (2012)]. Organizations integrate explicit KS practices together to improve operational performance which constitutes the primary source for financial performance. Lawson, et al. (2009), also advocates that organizations integrate an explicit KS practice which also refers to formal practices to improve products, services and business processes. However, previous studies also suggest that these formal practices within and between the organizations enable the management to identify crucial issues regarding product qual-

ity improvement and innovation, which leads the way towards better firms performance [Carr and Kaynak, (2007), Wang and Wang (2012)].

H6: There exists a positive relationship between explicit KS practices and banks' per-
formance.

b) *Tacit Knowledge Sharing Practices and Performance*

Tacit knowledge is an experimental and context specific interpersonal knowledge which enables the organizations' employees to share their experiences, intuitions and cognitions together for problem solving. It may provide massive benefits to organiza-tion [Down (2001), Akbar (2003), Matthew and Sternberg (2009)] in terms of product quality and services, improvement in existing processes, reduction in transaction cost, first mover advantage in case of earlier lunch of products and technology innovation leads to superior performance [Law and Ngai (2008), Sher and Lee (2004)]. Harold, (2008) argues that tacit knowledge in terms of technical and non-technical know-how resides in the minds of engineers, marketers and operational managers bring com-petiveness as a source of value creation for firms. Du, et al. (2007) points out that shar-ing of tacit knowledge is an important determinant of firm's performance. Likewise, Wang, et al. (2014) also points out that tacit KS enhance firm's financial performance when it is linked to cost reduction, customer management, sales and outsourcing.

H7: There exists a positive relationship between tacit KS practices and banks performance.
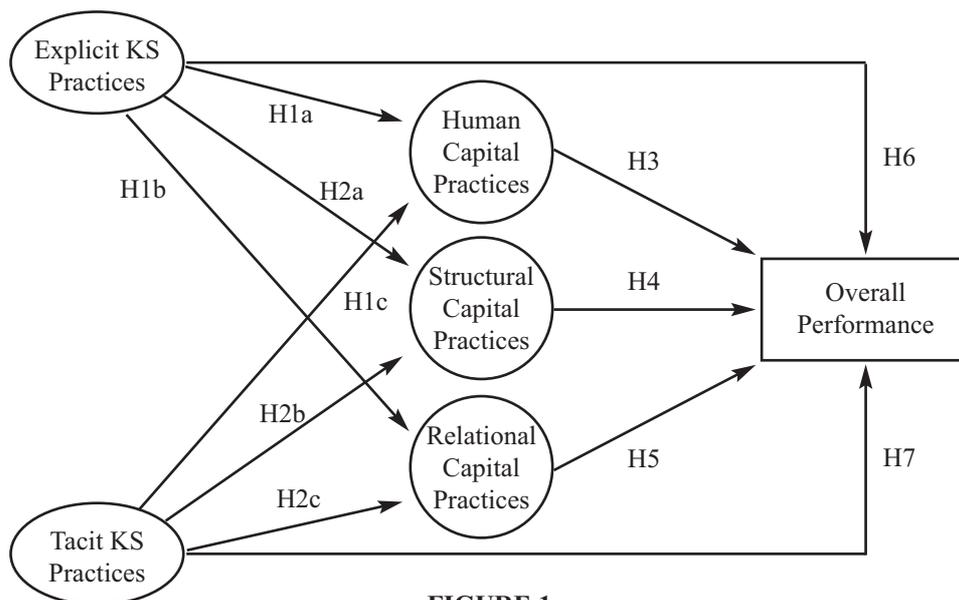
FIGURE 1

Theoretical Model of Hypotheses

III. Research Methodology

1. Data Collection

A survey instrument (questionnaire) was used to collect data from the respondents. It was specifically designed for accurate measurement of theoretical constructs, rapid data collection, extensive data analysis using radical statistical techniques and quantitatively examination of complex relationships [Gable (1994)]. A random sample was drawn from banking sector in the province of Punjab (one of the most developed and populated province of Pakistan). The sampling choice of study was based on three considerations: first, the banking sector, as one of the most high-tech sectors of Pakistan and KS plays a crucial role for knowledge related production and innovativeness to survive in a competitive environment. Second, this study will force the other high-tech industries to pay more attention for KS development to achieve competitive advantage. Third, it is expected that in the selected firms KS would improve an overall performance of firms and thus, provide the unique setting for investigating relationship between the KS practices and performance. The survey method (key informant approach) advocates that the middle and senior managers are the best source of information providers. Out of 1250 questionnaires 810 were considered for analysis and the remaining were discarded due to incomplete or same/similar response to the questions. This represents 64.8 per cent response which is comprehensive for this study. The instrument used in the study is comprised of five parts (see, Appendix). The first part of the instrument provide basic information of respondents at nominal scale; the remaining parts of the instrument attempts to capture the respondents' response about independent (KS practices), the mediating (intellectual capital practices) and the dependent variables (overall performance).

2. Instrumentation

To ensure reliability and content validity of instrument, especially for measuring the latent constructs; all measurement items were adapted from the existing literature. The KS practices were identified and adapted from the work of Wang, et al. (2014), Wang and Wang (2012), Liebowitz and Chen, (2001), and others. The measurement items for intellectual capital practices were adapted from Bontis (1998), Chen, et al. (2009), Hsu and Fang (2009), Youndt, et al. (2004), Wu, et al. (2008). HC, SC and RC practices are important components of IC performance of firms [Roos and Roos (1997), Edvinsson and Malone (1997), Sveiby (1998), Reman, et al. (2011)], and others that turns to boost the firms' performance. The study uses four items for HC practices, six items for SC practices, and four items for RC practices. All measurement items are reused or adapted from the work of Bontis (1998), Chen, et al. (2009), Hsu and Fang (2009), Youndt, et al. (2004), Wu, et al. (2008); which are modified according to the

nature of study. Based on the four value disciplines (operational excellence, customer intimacy, product leadership, and the financial achievement) the overall organizational performance is measured. The potential reason for using KS practices is to bring competitiveness which is positively associated with firms' performance [Schulz and Jobe (2001)]. All measurement items for overall performance are adapted from the work of Treacy and Wiersema (1995), Kaplan and Norton (2001a), Rai, et al. (2006), Bowersox, et al. (2000), Inman, et al. (2011), among others.

Pre-testation (pilot study) based on little revisions were made as per nature and setting of the study. A final questionnaire was developed on five point likert scale (1=strongly disagree and 5=strongly agree) after re-modification as per the feedback of participants.

IV. Findings of the Study

1. *Measurement Model Fitness*

The study employs the confirmatory factor analysis (CFA) through structural equation model (SEM). The purpose of CFA is to judge the convergent and discriminant validity for further model examination [Fornell and Larcker (1981), Hurley, et al. (1997)]. At the first stage the study has evaluated the convergent validity by assessing the value of factor loadings, (λ) should be statistically significant and larger than minimum threshold of 0.35 [Hair, et al. (1998)]. For further model investigation Bagozzi and Yi (1988) states the minimum benchmark for (C-$\alpha \geq 0.7$, AVE≥ 0.5). In general, Hair, et al. (1998) stated that all loading items (λ) should be greater than 0.35 and should have practical significance. To test the convergent validity in measurement model all loading items (λ) lie between 0.706 to 0.884 for explicit KS practices; 0.638 to 0.781 for tacit KS practices; 0.647 to 0.819 for HC practices; 0.672 to 0.799 for SC practices; 0.692 to 0.802 for RC practices; and 0.539 to 0.754 for overall performance. However, reliability ranges from 0.734 to 0.887 and value of AVE ranges between 0.823 to 0.911. Therefore, these results indicate that measurement model meet the criteria of convergent validity; demonstrating the high internal consistency which exceeds the minimum threshold of 0.70 [Nunnly and Bernstein (1994)].

At the second stage, the study also assessed the discriminant validity. Kline (2010) argued that discriminant validity refers to all items used to measure the constructs but do not estimate the theoretically unrelated constructs. Likewise the other studies, this study also use the Fornell and Larcker (1981) typology to assess the discriminant validity. This approach suggests that average variance extracted (AVE) for each construct should be larger than the squared correlation between the same constructs and any other constructs [Wang, et al. (2014)]. Table 2 suggests that square root of average variance extracted greater than the correlation of constructions (square root of AVE > correlation of constructs); hence discriminant validity is established. Therefore, both convergent and discriminant validity leads to better constructs validity in order to proceed for further analysis of the model.

TABLE 1

Factor Loadings and Internal Reliability Testing

Constructs	Measurement Items	Mean	SD	Standard Loading	Cronbach alpha's (C-α)	Average Variance Extracted (AVE)
Explicit KS Practices	EKSP1	3.470	11.021	0.706	0.887	0.911
	EKSP2	3.601	0.974	0.835		
	EKSP3	3.694	11.023	0.884		
	EKSP4	3.541	0.951	0.862		
	EKSP5	3.493	11.038	0.861		
Tacit KS Practices	TKSP1	3.589	0.989	0.638	0.8	0.841
	TKSP2	3.476	0.882	0.685		
	TKSP3	3.475	0.910	0.743		
	TKSP4	3.589	0.953	0.781		
	TKSP5	3.623	0.900	0.716		
	TKSP6	3.657	11.005	0.686		
HC Practices	HCP1	3.640	0.962	0.748	0.734	0.846
	HCP2	3.667	0.935	0.819		
	HCP3	3.321	11.044	0.647		
	HCP4	3.561	11.019	0.773		
SC Practices	SCP1	3.673	0.989	0.73	0.836	0.861
	SCP2	3.527	0.999	0.734		
	SCP3	3.568	11.047	0.672		
	SCP4	3.517	11.136	0.737		
	SCP5	3.613	0.976	0.781		
	SCP6	3.641	11.022	0.799		
RC Practices	RCP1	3.565	0.947	0.692	0.747	0.869
	RCP2	3.733	0.942	0.802		
	RCP3	3.749	11.979	0.767		
	RCP4	3.841	0.883	0.757		
Overall Performance	OE1	3.707	0.997	0.706	0.873	0.823
	OE2	3.680	0.92	0.646		
	OE3	3.707	0.997	0.709		
	CI1	3.681	0.921	0.754		
	CI2	3.674	0.939	0.654		
	PL1	3.753	0.946	0.657		
	PL2	3.784	0.924	0.699		
	FE1	3.785	0.937	0.724		
	FE2	0.754	0.998	0.681		
	FE3	0.693	0.975	0.539		

TABLE 2

Inter-correlation, Means, and Standardizations between the Constructs

Variables	EKSP	TKSP	HCP	SCP	RCP	OP
EKSP	0.911	-	-	-	-	-
TKSP	0.082*	0.841	-	-	-	-
HCP	0.108**	0.443**	0.846	-	-	-
SCP	0.150**	0.558**	0.649**	0.861	-	-
RCP	0.147**	0.488*	0.488**	0.626**	0.869	-
OP	0.201**	0.441**	0.441**	0.564**	0.488**	0.823

Note: Diagonal value: Square root of the AVE, Non-diagonal value: Correlation. **Correlation is significant at the 0.01 level (2-tailed), *Correlation is significant at the 0.05 level (2-tailed).

Actually this has two measurement models. At third stage, the study evaluates the fitness of model I and II by estimating: (1) absolute fit measures, and (2) incremental fit measures, and (III) parsimonious fit measures. Table 3 demonstrates the overall fit indices of CFA results of two models with scores, and recommend cut-off value which suggest that all values, satisfactory met the level of fit indices. Thus, it confirms that models are fit and suitable for testing the proposed hypotheses.

Table 4 presents the results of structural model using standardized path coefficients which shows the relationship among latent variables. The first hypothesis (H1a) suggests that there exist a relationship of explicit KS practices with HC practices. The ef-

TABLE 3

CFA Results of Models Fitness for Explicit and Tacit KS Practices

Fit Index	Scores*	Scores**	Standardized cut-off value
Absolute fit measures			
$\chi2/df$	2.803	2.422	$\leq 2a; \leq 5b$
GFI	0.926	0.934	$\geq 0.90a; \geq 0.80$
RMSEA	0.047	0.042	$< 0.08a; < 0.1$
Incremental fit measures			
NFI	0.92	0.922	$\geq 0.90a$
AGFI	0.903	0.914	$\geq 0.90a; \geq 0.80b$
CFI	0.947	0.952	$\geq 0.90a$
Parsimonious fit measures			
PGFI	0.709	0.721	The higher, the better
PNFI	0.753	0.759	The higher, the better

Notes: Acceptability Criterion: [a]acceptable; [b]marginal. *Presents the score fit indices of CFA model-I for explicit KS-driven performance, **Presents the score fit indices of CFA model-II for tacit KS-driven performance.

TABLE 4

Standardized Path Coefficients

Hypothesis		Estimates	P-value	S.E	Remarks
H1a	EKSP→HCP	0.108*	< 0.001	0.033	Supported
H1b	EKSP→SCP	0.130*	< 0.001	0.029	Supported
H1c	EKSP→RCP	0.110*	< 0.001	0.027	Supported
H2a	TKSP→HCP	0.624*	< 0.001	0.059	Supported
H2b	TKSP→SCP	0.711*	< 0.001	0.058	Supported
H2c	TKSP→RCP	0.611*	< 0.001	0.056	Supported
H3	HCP→OP	0.707*	< 0.001	0.059	Supported
H4	SCP→OP	0.721*	< 0.001	0.071	Supported
H5	RCP→OP	0.846*	< 0.001	0.08	Supported
H6	EKSP→OP	0.175*	< 0.001	0.067	Supported
H7	TKSP→OP	0.641*	< 0.001	0.067	Supported

Note: *significant at the 0.001 level (2-tailed), **significant at the 0.05 level (2-tailed).

fect of explicit KS practices on HC practices is 0.108 at (p<0.001); thus, it supports the hypothesis H1a. Likewise, hypotheses H1b, H1c, H1d and so on, hypothesis H7 indicate that both explicit and tacit KS practices significantly influence the intermediate measures and overall performance; and further intermediate measures positively linked with performance outcomes.

2. *Mediation Analysis*

For analyzing the mediation analysis, first the direct effect of independent variable on dependent variable and indirect effect of independent variable on dependent variable are examined through mediating variables. Table 5 presents the direct effect of independent variable (i.e., both explicit and tacit KS practices) on dependent variable (i.e., overall performance), which is statistically significant at (p<0.001) and thus confirms the first assumption of mediation [Baron and Kenny (1986)].

TABLE 5

Direct Effect (Before mediating Variables)

Variables	Beta Estimate	S.E	C.R	P-value	Result
EKSP→OP	0.175	0.034	5.143	0	significant
TKSP→OP	0.641	0.064	9.974	0	significant

TABLE 6

Indirect Effect of Explicit Knowledge Sharing Practices
on Banks' Performance through IC Practices as a Mediator

Variables	Beta Estimate	S.E	C.R	P-value	Result
EKSP→OP	0.104	0.029	3.627	0.000	Significant
EKSP→HCP	0.108	0.033	3.317	0.000	Significant
HCP→OP	0.635	0.059	10.843	0.000	Significant
EKSP→OP	0.076	0.028	2.751	0.006	Significant
EKSP→SCP	0.134	0.03	4.457	0.000	Significant
SCP→OP	0.722	0.063	11.473	0.000	Significant
EKSP→OP	0.082	0.029	2.840	0.005	Significant
EKSP→RCP	0.115	0.028	4.149	0.000	Significant
RCP→OP	0.758	0.077	9.868	0.000	Significant

Tables 6 and 7 present the indirect effect of explicit and tacit KS practices on performance of banks using IC's practices as mediating variables. While testing the mediating role of IC's practices (i.e., HC, SC and RC practices), Table 6 shows the effect of explicit KS practices on performance reduced from 0.175 to 0.104, 0.175 to 0.076, and 0.175 to 0.082, respectively; which still remain significant (p<0.01). Thus, it indicates that all IC's practices partially mediate the relationship between explicit KS practices and the banks' performance. Further, the effect of explicit KS

TABLE 7

Indirect Effect of Tacit Knowledge Sharing Practices
on Banks' Performance through IC Practices as a Mediator

Variables	Beta Estimate	S.E	C.R	P-value	Result
TKSP→OP	0.321	0.059	5.437	0.000	Significant
TKSP→HCP	0.627	0.058	10.774	0.000	Significant
HCP→OP	0.498	0.06	8.279	0.000	Significant
TKSP→OP	0.196	0.063	3.124	0.002	Significant
TKSP→SCP	0.727	0.059	12.426	0.000	Significant
SCP→OP	0.606	0.069	8.801	0.000	Significant
TKSP→OP	0.28	0.064	4.406	0.000	Significant
TKSP→RCP	0.617	0.056	11.054	0.000	Significant
RCP→OP	0.559	0.075	7.425	0.000	Significant

TABLE 8

Scale Level Fit Indices for Structural Model of
Explicit KS Practices with IC's Practices as a Mediator

Fit Indices	Scores*	Scores**	Scores***	Recommended Thresholds
Absolute Fit Measures				
χ^2/df	3.686	3.259	3.801	≤ 2a; ≤ 5b
GFI	0.938	0.942	0.938	≥ 0.90a; ≥ 0.80
RMSEA	0.058	0.053	0.059	< 0.08a; < 0.1
Incremental Fit Measures				
NFI	0.936	0.94	0.933	≥ 0.90a
AGFI	0.912	0.917	0.911	≥ 0.90a; ≥0.80b
CFI	0.952	0.957	0.95	≥ 0.90a
Parsimonious Fit Measures				
PGFI	0.657	0.659	0.656	The higher, the better
PNFI	0.724	0.72	0.722	The higher, the better

Note: Acceptability Criterion: [a]acceptable; [b]marginal,. *presents scores of fit indices for structural model of explicit KS-driven performance using HCP as mediator, **presents scores of fit indices the structural model of explicit KS-driven performance using SCP as mediator, ***presents scores of fit indices the structural model of explicit KS-driven performance using RCP as mediator.

practices on intermediate measures and intermediate measures on overall performance of banks are positively associated at (p<0.001). Similarly, Table 7 represents indirect effect of tacit KS practices on organizational performance through mediating role of IC's practices. The table also indicate that while examining indirect effect, the value of beta estimate reduces from 0.641 to 0.321, 0.641 to 0.196, and 0.641 to 0.280, respectively; and it remain statistically significant (P<0.01) which confirms that all three IC's practices partially mediate the relationship between tacit KS practices and the banks' performance.

Tables 8 and 9 reveals that results of scale level fit the indices for structural models of explicit and tacit KS practices, with intermediate measure to assess the fitness of measurement models using various fit indices. The study assessed the fitness of structural models at scale through estimating: (1) Absolute fit measures, (2) Incremental fit measures, and (3) Parsimonious fit measures. The tables present the overall fit indices of structural model at scale level with scores and recommended cut-off values. Thus, it suggests that all values, satisfactory meet the levels of fit indices. Thus, it confirms that the models are fit and hence suitable for testing the proposed hypotheses, as discussed above.

TABLE 9

Scale Level Fit Indices for Structural Model of
Tacit KS Practices with IC's Practices as Mediator

Fit Indices	Scores*	Scores**	Scores***	Recommended Thresholds
Absolute Fit Measures				
χ2/df	2.031	2.291	2.510	≤ 2a; ≤ 5b
GFI	0.964	0.957	0.955	≥ 0.90a; ≥ 0.80
RMSEA	0.036	0.04	0.043	< 0.08a; < 0.1
Incremental Fit Measures				
NFI	0.943	0.95	0.945	≥ 0.90a
AGFI	0.956	0.938	0.937	≥ 0.90a; ≥ 0.80b
CFI	0.977	0.971	0.966	≥ 0.90a
Parsimonious Fit Measures				
PGFI	0.672	0.669	0.682	The higher, the better
PNFI	0.733	0.725	0.743	The higher, the better

Note: Acceptability Criterion: ᵃacceptable; ᵇmarginal. *presents scores of fit indices for structural model of tacit KS-driven performance using HCP as mediator, **presents scores of fit indices the structural model of tacit KS-driven performance using SCP as mediator, ***presents scores of fit indices the structural model of tacit KS-driven performance using RCP as mediator.

TABLE 10

Direct, Indirect and Total Effect Analysis

Predictor/ Dependent	EKSP	TKSP	HCP	SCP	RCP	OP
Direct Effects						
EKSP			0.108	0.130	0.110	0.175
TKSP			0.624	0.710	0.611	0.641
HCP						0.707
SCP						0.721
RCP						0.846
Indirect Effects						
EKSP via HCP						0.104
EKSP via SCP						0.076
EKSP via RCP						0.082
TKSP via HCP						0.321
TKSP via SCP						0.196
TKSP via RCP						0.280
Total Effects						
EKSP						0.437
TKSP						1.438

V. Discussion of the Study

This study provides some valuable insights which are consistent with Wang, et al. (2014). First, results of the research postulate that tacit KS practices contribute more significantly towards intermediate measures; namely the human capital practices, structural capital practices and relational capital practices, as compared to the explicit KS practices. These results are partially consistent with Wang, et al. (2014). Second, the results indicate that all intermediate measures partially mediate the KS driven performance. These are unique findings in the context of this study.

1. *Knowledge Sharing Practices, Intellectual Capital Practices and Performance*

Consistent with the expectations this study provides strong empirical support that all components of IC practices (i.e., HC practices, SC practices, and RC practices) significantly (β= 0.707, p<0.01; β=0.721, p<0.01; β=0.846, p<0.01) contribute in determining the overall performance of banks (Table 4). Findings of the study uncover that the explicit KS practices contribute to overall performance of banks in presence of the intermediate measures (i.e., intellectual capital practices). With respect to the isolated effect of HC, SC and RC practices on overall performance of banks, the results postulate that HC practices [(i.e., suitable work experience (HCP1)], well-design training programs (HCP2), and employees creativeness (HCP4) significantly (β=0.196, p<0.01; β=0.204, p<0.01; β=0.219, p<0.01) contribute to enhance the performance of banks. However, (HCP3) developing new ideas and knowledge also positively (β=0.044) contributes but the relationship is not statistically significant (P>0.10). Nevertheless, the results also postulate that employees' creativity influences the performance of banks more significantly. Findings of our study are consistent with Wang, et al. (2014) who suggest that employees' experience, professional skills, well-design training programs, development of innovative and creative ideas and knowledge, will enhance overall performance of the banks [Skaggs and Youndt (2004), Ling and Jaw (2006), Bontis, et al. (2007)]. Given the findings of the study, it is suggested that banks with knowledgeable individuals, excellent capability for problem solving and ability to make effective decisions help to improve performance which is a source of competitive advantage and is consistent with other studies [Bontis, et al. (2007), Campbell, et al. (2012)]. Based on the results, it can be expected that quality of products and services help to improve the operational performance of banks which is deeply concerned with HC efficiency [Cabello-Medina, et al. (2011)]. Thus, it is one of the important aspect of IC and firms to grasp its significance through improving efficiency to enjoy better performance outcomes [Le Blanc, et al. (1998), Bontis (1998), Wang, et al. (2011), Seleim, et al. (2007), Ling and Jaw (2006), Youndt, et al. (2004), Martinez-Torres (2006)].

However, in case of individual effect of explicit KS practices on HC practices, the results indicate that EKSP2 and EKSP4 (i.e., frequently collected reports and official

documents from others at their work and frequently offered, a variety of training and development programs) are significantly associated (β=.214, p<0.01 and β=0.105, p<0.01) with HC practices. Further results reveal that investment on IT systems for knowledge sharing is significantly (P<0.05) but inversely (β=-0.116) related to human capital practices. Therefore, it can be concluded that explicit KS practices improve performance and learning of employees when they interact with each other for explicit KS; hence the findings are consistent with other studies [Huysman and de Wit (2004), Chao, et al. (2011)]. The findings also provide substantial support to the agreement of [Spender and Marr (2006), Hsu (2008)] who found that KS help to nourish HC. Further, results corroborate with previous study of Wang, et al. (2014), who indicates that HC practices are one of the important ingredient of IC practices and partially mediate the relationship between explicit KS practices and performance of banks.

a)   *Explicit Knowledge Sharing Practices, Structural Capital Practices and Performance*

The results presented in (Appendix A-8) indicates that structural capital practices significantly (β=.564; p<0.001) contributes in determining the overall performance of banks. This provides considerable support to researches [Martinez-Torres (2006), Youndt, et al. (2004), Zangoueinezhad and Moshabaki (2009), de Pablos (2004), Phusavat, et al. (2011)] and postulates that effective structural capital provide considerable support to working process and procedures, which tends to facilitate communication, problem solving, reduction in cost, improving the product quality; which consequently boost both the operational and financial performance of banks.

Regarding individual effect of SC practices on performance the results indicate that SCP1, SCP2, SCP3, SCP4 and SCP6 significantly (β=.139, p<0.01, β=.224, p<0.01, β=.088, p<0.05, β=.189, p<0.01, β=.109, p<0.01) influence the performance of banks. These results are consistent with Wang, et al. (2014) which indicates that efficient operations procedures, quick to respond, flexible organization culture, ease to assess the information and high tendency of collaboration bring numerous benefits in terms of both the operational and financial performance. The results are also consistent with Zangoueinezhad and Moshabaki, (2009).

With respect to relationship of explicit KS practices with SC practices, results also indicate that explicit KS practices significantly (β=.150, p<0.01) influence the SC practices (Appendix A-2); whereas individual analysis of explicit KS practices reveal that EKSP2 'frequently collects reports and official documents from others at their work' are significantly (β=.227, p<0.01) associated with structural capital. These findings are consistent with Carmeli and Azeroual (2009) and Karagiannis, et al. (2008) who found that KS practices institutionalize the SC of the firms. Nevertheless, the findings also provide interesting insights that positive change in SC, e.g., 'better design and utilization of management structures' and 'institutionalization of knowledge embedded in organizations structures, procedures, technology and culture' assist in formal KS in

form of official documents and reports which are prepared and collected by the colleagues. Thus, the results indicate that positive improvement in SC aids in explicit KS. Therefore, it may be expected that SC is an essential component of IC to mediate relationship between the explicit KS practices and performance of banks, consistent with de Pablos (2004) and Wang, et al. (2014).

b) *Explicit Knowledge Practices, Relational Capital Practices, and Performance*

RC is a third crucial component of IC, the analysis of which demonstrates that RC practices are positively (β=.488, p<0.01) associated with an overall performance of banks. Further, the findings claim that RC practices significantly influence the performance of banks and similarly to other components of IC (see, Appendix A-9). This indicates that by maintaining strategic alliance with stakeholders, a bank can explore new ways of doing business, learn something new from others experience, reduce the transaction cost and turn to be more innovative [Dewhurst and Navarro (2004)]. However, with regard to the isolated effect of RC practices on performance of banks, results also postulate that all RC practices significantly influence in determining performance of the banks (Appendix A-9). Further, it provides evidence that effective collaboration and communication, strategic interaction with customers, suppliers, partners, and stakeholders, help to reduce the production cost, improve production process and quality, boost productivity and resultantly add momentum to overall performance outcomes; i.e., operational and financial performance [Cousins, et al. (2006), Germain, et al. (2011)]. The findings are also similar to Zhang and Fung (2006), Wang, et al. (2014) who stated that relational capital is an essential determinant for evaluating operational and financial achievements and thus, it supports the hypothesis H6c.

Nevertheless, with respect to relationship of explicit KS practices with RC, the analysis reveals that both the isolated and integrated explicit KS practices significantly influence the performance of banks (Appendix A-3). This suggests that positive improvement in RC is an important source to share knowledge and information within and outside the organization [Wang, et al. (2014)]. Such structural ties provide momentum to KS tendency which resultantly improve job performance of employee [Hu (2009)]. In table 2, the results of inter-correlation among the constructs indicate that explicit KS practices significantly (β=.147; p<0.01) associated with RC practices. Whereas, with respect to individual effect of explicit KS practices on RC practices, the results postulate that out of five practices EKSP2, EKSP3 and EKSP4 have weak positive relationship (β=.142; β=.043; β=.080) with relational capital practices (See Appendix A-3). However, EKSP2 is more significant related to RCP and relatively to others.

Based on these results, it can be viewed that with more investment on RCP, there will be a tendency to share and collect the official documents within and outside the organization. Therefore, the study has a unique finding which indicates that structural ties (closeness and frequent interactions) strengthens the aspects of relational capital

(trustworthiness), consistent with Carmeli and Azeroual (2009) and inconsistent with Wang, et al. (2014). It means that structural ties increase the employees' willingness to share knowledge prepared by them and embed it in form of reports and official documents. Thus, it may be suggested that relational capital is also an important mediator for explicit KS driven performance of banks. Moreover, the findings highlight that high quality of RC is likely to increase the propensity of KS.

2. *Tacit Knowledge Sharing Practices, Intellectual Capital Practices, and Performance*

a) *Tacit Knowledge Sharing Practices, Human Capital Practices, and Performance*

Prior discussion shed light that human capital practices significantly evaluates the performance of banks which is consistent with Skaggs and Youndt (2004), Ling and Jaw (2006), Bontis, et al. (2007), Wang, et al. (2014). Similarly, the results indicate that tacit KS practices are positively linked with performance, and are consistent with notion of researches e.g., Wang, et al. (2014), Sher and Lee (2004). However, with respect to mediating the role of HC practices with tacit KS-driven performance, the results reveal that both individual and combined effect of tacit KS are significantly linked with HC practices. It is worth mentioning that all tacit KS practices, significantly influence the human capital practices and are in align with Wang, et al. (2014) because it provides foundation of socialization to add the momentum in tacit KS.

The results are much consistent with previous researches [Nonaka and Takeuchi (1995), Holste and Fields (2010)] who postulate that human experience reside the minds and employees' willingness which are key factors to share the tacit knowledge. Further, the results specify that all tacit KS practices positively influence the HC practices, whereas TKSP1, TKSP2, TKSP5 and TKSP6 are significantly ($p<0.01$, $p<0.10$, $p<0.01$, $p<0.01$, respectively) related to HCP. It is also found that learning from the past mistakes influence the human capital ($\beta=0.214$, $p<0.01$) more expressively which suggests that when employees perform new task, they share knowledge of their past failures which is crucial to execute at their new assignment, more efficiently. Nevertheless, it may be expected from the findings that tacit knowledge originates through human interactions; therefore, it is a source of knowledge creation [Nonaka and Takeuchi (1995)]. Hence, it suggests that through sharing of tacit knowledge, HC gets hands-on skills, distinctive experience and learn new ways to perform better with a joint cognitive innovativeness [Bloodgood and Chilton (2012)] which supports the hypothesis H2k. Moreover, this study is in agreement with Wang, et al., (2014) as it indicates that tacit KS practices are more significant ($\beta=.443$ vs $\beta=.108$). It influences the HC practices than the explicit KS practices and thus turns to be a more significant mediator in the tacit KS driven performance.

b) *Tacit Knowledge Sharing Practices, Structural Capital Practices, and Performance*

With respect to the impact of tacit KS practices and SC practices on overall performance of banks, this study highlights that both the tacit KS practices and SC practices significantly explains the performance of banks which is consistent with Down (2001), Akbar (2003), Matthew and Sternberg (2009), Harold (2008), de Pablos (2004), Aramburu and Saenz (2011), Zangoueinezhad and Moshabaki (2009), Phusavat, et al. (2011). This indicates that tacit KS practices directly influence the performance of banks in terms of efficiency of products, improves reliability of delivery process, customer satisfaction, product quality, cost management and the functionality of products. As a result, banks integrate SC in their overall business process which does not only innovate the knowledge creation process but also provides better competitive position by yielding improved quality, reduction in cost which leads to better operational performance and finally turns to improve the financial performance. In view of the above notion, this study proves that tacit KS practices are significantly associated with SC practices and turns to SC as an important mediator in tacit KS driven performance. The results also indicate that tacit KS practices have greater effect on SC practices than the explicit KS practices (see, Appendix A-5). This suggest that tacit KS practices changes the way of individuals perceive and behave by adding new content to the existing structural capital, e.g., routine, culture, procedure or learning system. Therefore, the study finds that SC practices partially mediate in tacit KS driven performance.

c) *Tacit Knowledge Sharing Practices, Structual Relational Capital Practices, and Performance*

While evaluating the relationship of HC practices with overall performance of banks, the analysis reveals that relational capital practices are positively associated with overall performance of banks and are consistent with Cousins, et al. (2006), Germain, et al. (2011), Wang, et al. (2014). Earlier discussion highlights that tacit KS practices significantly determine the overall performance of banks which is also similar to Wang, et al. (2014), Sher and Lee (2004) and Law and Ngai (2008). However, with respect to relationship of tacit KS practices with relational capital practices this study indicates that both isolated and integrated effects of tacit KS practices is significantly linked with relational capital of banks (Appendix-6). Therefore, as far as the isolated impact of tacit KS practices on RC is concerned, the results reveal that five out of six practices (i.e. TKSP1, TKSP2, TKSP4, TKSP5 and TKSP6) are significant (β=0.154, p<0.01; β=0.122, p<0.01, β=0.106, p<0.05, β=0.164, p<0.01, β=0.176, p<0.01) which influence the relational capital. Thus, the results set the evidence that strategic relationship with internal and external stakeholders increase the tendency to share and collect tacit knowledge embedded in the form of experience, expertise, know-where and know-whom. This suggests that RC is very important source to share tacit knowledge,

as well as the source to connect internal intellectual resources with external stakeholders [Kong and Farrell (2010), and Collins and Hitt (2006)]. Nevertheless, the positive relationship of tacit KS practices with RC supports the hypothesis (H2m) and also imply that embedded flow of knowledge is likely to construct the RC productively, consistent with Wang et al., (2014). According to Table 7 the RC, partially mediate the relationship between the tacit KS and performance thus implying that banks actively maintained collaborative programs and the interactional dynamics for tacit KS based on mutual understanding, cohesion and trust for tacit KS-driven performance.

V.   Conclusion

1.   *Theoretical Implications*

This study provides valuable insight for academicians and practitioners; which suggest that managers need to build effective knowledge management (KM) mechanism and take more initiatives to speed-up investment on KM resources because it will help to consolidate IC development which in return increase the performance of banks. Further, both KS and IC practices will produce significant impact on overall performance when they are aligned together. This would enable the organization to respond rapidly in ever changing environment. This tested an empirical relationship and reveals that banks which are more involved in IC practice would get better the results than those which are key competitors. The positive relationship of KS practices with IC practices is also new finding in the field of knowledge management in context to this study. Tested mediating model confirm that KS practices are not only directly associated with performance but also indirectly adds to performance of banks through strengthening the IC. These findings are consistent with Wang, et al. (2014).

This research submits that both explicit and tacit KS practices add more benefits to organization through strengthening components of IC. In relation to individual and combined effects of explicit KS practices on human capital practices; and the human capital practices on overall performance of banks, the underlying exploration provides significant contribution to the field of knowledge management. Significant relationship of explicit KS practices with HCP indicates that HCP will be strengthened when employees collect reports and official documents acquiring training and development. These are unique findings which are somewhat consistent with Karagiannis, et al. (2008) and Hsu (2008). However, in relation to direct and individual effect of HCP with overall performance of banks, the research indicates that HCP significantly determine the performance. This study finds postulate that suitable work experience, excellent professional skill and employees' creativity will enhance the overall performance of banks. These findings are in agreement with Bontis, et al. (2007) and Skaggs and Youndt (2004). Thus it suggests that human capital is a significant mediator for explicit KS-driven performance [Wang, et al. (2014)].

2.   *Practical Implications*

Finally, this research presents some interesting insights for management practitioners who are more concerned with IC for KS-driven performance. The proposed mediating role of IC indicates that managers should do more rather than just structuring the appropriate KS initiatives. They have to clearly endorse the effects of IC on firms' performance among organizational members. Undoubtedly, suitable work experience, professional skill and creativity are indispensable for human capital performance. However, practitioners should deeply emphasize on the above elements to obtain better results which should more specifically develop new ideas and knowledge that would add more momentum for KS-driven performance. The implication for this study is that management need to pay more intention to institutionalize knowledge, such as routine procedures and other structural capital through supportive infrastructure process, database and manuals which would not only enable the human capital to function properly but will also strengthen the explicit KS driven performance [Youndt, et al. (2004)]. The productivity of knowledge workers desire strong SC that restructures the work spontaneously to become part of the system [Drucker (1999a)]. Therefore, banks should be conscious regarding exploration and investment on SC initiatives, e.g., systems and programs (succession training programs, support culture, recruitment programs etc), R&D (continuous re-development of new products and services based on research, innovative system and procedures, etc), and intellectual property rights to smooth KS driven performance.

3.   *Limitations and Future Research Implications*

This study has strong theoretical and empirical practical implications which are consistent with the existing literature and calls for future research as this study also has limitations. Primarily, this study is based on cross-sectional research design, whereas future research may employ longitudinal design to drawn causal inferences. Secondly, it considers the banking sector as a sample which is on the knowledge incentive to draw inference from the results. However, future researchers should consider the high-tech sectors like software, pharmaceutical and chemical, etc. These sectors may provide more strong relationship between KS, IC and performance than the financial sector. Finally this research makes a significant contribution in the context of study through exploring the underlying relationship. However, it does not consider the role of other critical success factors of knowledge management, like KM strategy and KM process capabilities. Future research may explore more insights through investigating these success factors to draw strong inferences.

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APPENDIX

TABLE A-1

Direct Relationship between Explicit KS Practices and HC Practices

Independent Variables	Dependent Variables			
	HCP1	HCP2	HCP3	HCP4
Explicit KS Practices	0.068**	0.111**	0.015	0.111**
t-statistics	2.016	3.388	0.397	3.118
Adjusted R^2	0.004	0.013	-0.001	0.011
F-statistics	4.006**	11.478*	0.158*	9.721*

Note: *, ** and *** represents the significance level at 1%, 5% and 10%, respectively.

TABLE A-2

Direct Relationship between Explicit KS Practices and SC Practices

Independent Variables	Dependent Variables					
	SC1	SC2	SC3	SC4	SC5	SC6
Explicit KS Practices	0.075**	0.096*	0.095*	0.146*	0.126*	0.144*
t-statistics	2.169	2.747	2.602	3.695	3.685	4.053
Adjusted R^2	0.005	0.008	0.007	0.015	0.015	0.019
F-statistics	4.707**	7.547**	6.769*	13.651*	13.582*	16.424*

Note: *, ** and *** represents the significance level at 1%, 5% and 10%, respectively.

TABLE A-3

Direct Relationship between Explicit KS Practices and RC Practices

Independent Variables	Dependent Variables			
	RC1	RC2	RC3	RC4
Explicit KS Practices	0.097*	0.088*	0.103*	0.119*
t-statistics	2.931	2.664	3.312	3.871
Adjusted R^2	0.009	0.007	0.012	0.017
F-statistics	8.590*	7.096*	10.967*	14.984*

Note: *, ** and *** represents the significance level at 1%, 5% and 10%, respectively.

TABLE A-4

Direct Relationship between Tacit KS Practices and HC Practices

Independent Variables	Dependent Variables			
	HCP1	HCP2	HCP3	HCP4
Tacit KS Practices	0.312*	0.362*	0.261*	0.361*
t-statistics	9.731	11.926	7.322	10.785
Adjusted R^2	0.104	0.149	0.061	0.125
F-statistics	94.691*	142.235*	53.610*	116.317*

Note: *, ** and *** represents the significance level at 1%, 5% and 10%, respectively.

TABLE A-5

Direct Relationship between Tacit KS Practices and SC Practices

Independent Variables	Dependent Variables					
	SC1	SC2	SC3	SC4	SC5	SC6
Tacit KS Practices	0.441*	0.430*	0.398*	0.395*	0.398*	0.484*
t-statistics	14.219	13.553	11.666	10.53	12.663	15.284
Adjusted R^2	0.199	0.184	0.143	0.12	0.165	0.223
F-statistics	202.186*	183.696*	136.106*	110.884*	12.663*	233.602*

Note: *, ** and *** represents the significance level at 1%, 5% and 10%, respectively.

TABLE A-6

Direct Relationship between Tacit KS Practices and RC Practices

Independent Variables	Dependent Variables			
	RC1	RC2	RC3	RC4
Tacit KS Practices	0.443*	0.343*	0.286*	0.295*
t-statistics	15.039	11.099	9.628	10.04
Adjusted R^2	0.218	0.131	0.102	0.11
F-statistics	226.158*	123.191*	92.699*	100.800*

Note: *, ** and *** represents the significance level at 1%, 5% and 10%, respectively.

TABLE A-7

Multiple Regression Analysis to Find the Individual Effect
of HC Practices on Overall Performance of Banks

Dependent Variables	Independent Variables			
	HCP1	HCP2	HCP3	HCP4
Overall Performance	0.196*	0.204*	0.044	0.219*
t-statistics	4.900	4.688	1.332	5.95
Adjusted R^2	0.254			
F-statistics	69.806*			

Note: *, ** and *** represents the significance level at 1%, 5% and 10%, respectively.

TABLE A-8

Multiple Regression Analysis to Find the Individual Effect
of SC Practices on Overall Performance of Banks

Dependent Variables	Independent Variables					
	SC1	SC2	SC3	SC4	SC5	SC6
Overall Performance	0.139*	0.224*	0.088**	0.189*	-0.011	0.109*
t-statistics	3.74	5.83	2.528	5.535	-0.266	2.704
Adjusted R^2	0.33					
F-statistics	67.384*					

Note: *, ** and *** represents the significance level at 1%, 5% and 10%, respectively.

TABLE A-9

Multiple Regression Analysis to Find the Individual Effect
of RC Practices on Overall Performance of Banks

Dependent Variables	Independent Variables			
	RCP1	RCP2	RCP3	RCP4
Overall Performance	0.232*	0.075***	0.303*	0.109*
t-statistics	6.299	1.843	7.285	2.637
Adjusted R^2	0.25			
F-statistics	68.278*			

Note: *, ** and *** represents the significance level at 1%, 5% and 10%, respectively.